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A Market Share Model for FMCG Brands in South Africa

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A research report submitted to the Faculty of Commerce, Law and Management, University of the Witwatersrand, in partial fulfilment of the requirements for the degree of Master of Business Administration

Johannesburg, March 2009

ABSTRACT

Marketing, as a discipline, is becoming increasingly business orientated with a focus on internal profitability, growth and revenue projection being closely linked to marketing activities and their impact on market share.

Despite the utilisation of market share as a key measure for performance, very little understanding exists on how marketing levers impact market share, and the relative strength of the impact.

It is in this environment that the researcher seeks to develop a prediction tool in the form of a market share model for FMCG brands in South Africa.

In order to develop a model, consumer choice behaviour was explored, the key marketing activities focusing on McCarthy's (1993) 4P's were identified that impact market share, and a Conceptual Market Share Model was developed that integrated the plethora of literature into a visual representation of the relationships and inter-relationships between the numerous marketing mix variables. While a total of twenty-one variables were identified as having an impact on market share, the key levers were identified as advertising intensity, brand equity, penetration and distribution, consumption, loyal customers, structural price change, price promotion, depth of promotion and stockpiling.

A review of the commonly available quantitative data in South Africa which included Nielsens Nitro, Nielsens Homepanel and Adex, determined that the majority of key identified variables were available with the exception of sales promotion activities, namely price promotion, depth of promotion and stockpiling.

An MCI Model was utilised for the purposes of developing a market share model with quantitative single-intersect data from three independent FMCG categories' being used in order to compare results across categories. A number of permutations of the model were done for each category with an

Adjusted MCI Model being developed that incorporated growth indicators as moderators to specific variables.

As a managerial tool, some questions were raised regarding the reliability of the MCI Model due to high variances between brands' actual market share and estimated share, as well as the negligible impact advertising spend was found to have on market share which is contrary to the body of literature. However, the model did provide insights into the key levers that impact market share and how each category has unique category drivers that are specific to that market environment and competitive set.

As such, their was a partial acceptance of the proposition in terms of the proposed marketing mix variables and the development of a market share model for FMCG brands in South Africa.

DECLARATION

I Deborah Shepard declare that this research report is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

Deborah Shepard

Signed at Wits Business School.

On the 31st day of March 2009.

DEDICATION

To all my family and friends who have walked the path with me.

ACKNOWLEDGEMENTS

To my supervisor, Dr. Anthony Stacey, who encouraged lively debate and guided me along a path that I would never have had the courage to travel without his knowledge, support and encouragement.

I would also like to thank those organisations that agreed to provide raw data in order for the market share model to be developed.

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CHAPTER 1: INTRODUCTION

1.1. Purpose of the Study

The purpose of this research is to develop a generic market share model that quantifies the relative competitive marketing mix sensitivities for Fast Moving Consumer Good (FMCG) brands in South Africa.

1.2. Context of the Study

Former CEO of General Electric, Jack Welsh became legendary for his view that a company should be number one or two in an industry or not play at all "When you're number four or five in a market, when number one sneezes, you get pneumonia. When you're number one, you control your destiny." (Slater, 2002: 33).

This focus on market leadership has gained popularity since then and is now considered one of the key performance indicators when evaluating a brand. This has, in part, been fuelled by the increasing amount of literature and awareness in organisations regarding the implications of gaining market share which include incremental sales that drive economies of scale and profitability, the impact of brand equity and customer loyalty on market share and future earnings potential as well as a thorough understanding of the investment required to drive market share gains (Stewart, 2008).

Inherent in the wording "market leadership" is the implication that there is only one market leader within any given industry. This suggests a competitive market environment where many players strive to gain dominance, with each brand implementing marketing mix strategies in the pursuit of this goal. Despite the plethora of literature on factors that impact market share, there seems to be no conclusive literature on the marketing levers and their relative impact that may be utilised to ensure a market leader position. It is in this arena where the greatest potential for discovery exists.

1.3. Problem Statement

The purpose of this research is to develop a generic market share model that quantifies the relative competitive marketing mix sensitivities for Fast Moving Consumer Good (FMCG) brands in South Africa.

1.4. Significance of the Study

Identifying the key levers which will increase market share has proved difficult for many brands with the costs of experimentation and research being high.

It is this environment that the researcher aims to develop a market share model that identifies the relative marketing mix sensitivities within a competitive environment utilising the vast amount of quantitative information that organizations already purchase. This model can then be utilised as an ongoing managerial tool to facilitate a greater in depth understanding of how to influence variables that impact market share.

"The core of a model of market behaviour will be an equation…which specifies the probability of choices (e.g., brand, frequency or volume of purchases) as a function of the objective market environment of the consumer" (McFadden, 1980: S14).

1.5. Delimitations of the Study

This research will be limited to:

- Assessing FMCG brands across three product categories.
- Aggregated brand sensitivities as opposed to sub-segment or single product sensitivities.
- Quantitative secondary information available in South Africa.

This research will not:

- Attempt to assess the impact of cross category influences such as cannibalisation or substitutes.
- Attempt to determine the impact economic factors may have on consumers' response to marketing mix variables.

1.6. Definition of Terms

Affordability is the amount of money consumers have relative to the price (Hofmeyr and Parton, 2006).

Brand Equity is the positive differential effect or preference that knowing the brand name has on the customer response to a product in relation to its competitors when the competitive set is basically identical (Kotler, 2003).

Evolving Prices is defined as the regular practice of offering discounts (Srinivasan, Leszczyc and Bass, 2000).

Distribution Depth can be measured as the percentage of shelf space or percentage of store inventory (Olver and Farris, 1989)

Distribution Breadth can be measured as "the percentage of stores that stock the item or brand" (Olver and Farris, 1989: 53).

A **heuristic** is an approach utilised by people when making decisions based on simple rules that allow for limited information search without trying to compute the optimal stopping point (Gigerenzer and Todd, 1999).

Loyalty is the share of households that are devoted to a brand within a particular category. This loyalty is exhibited behaviourally through repeat purchase patterns (Baldinger, Blair and Echambadi, 2002).

Market Share is a percentage of the volume or value a brand holds within a specific category or market versus its competitive set (Kotler, 2003).

Penetration is the number of households that buy a brand within a particular category (Baldinger, Blair and Echambadi, 2002).

Price Index is a "brand's unit price expressed as a percentage of average unit price in the product category" (Baldinger, Blair and Echambadi, 2002: 8).

Price Promotion or Temporary Price Change is a short-term promotion with a discount value being offered off a regular price (Srinivasan, Leszczyc and Bass, 2000; Jedidi, Mela and Gupta, 1999).

Structural Price Changes is a permanent increase or decrease in the price resulting in a new regular price (Srinivasan, Leszczyc and Bass, 2000).

Value Proposition is a cluster of benefits the brand promises to deliver (Kotler, 2003).

1.7. Assumptions

- It is assumed that data available in South Africa in a quantitative format has a sufficient level of integrity for findings to be useful and able to be generalized.
- It is assumed that quantitative data may be gained from multiple sources and incongruent periods (within a maximum allowed variance of 3 months) without compromising the integrity of the findings.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

With numerous brands in a competitive marketplace and an increasing focus on market share and its impact on profitability, it is important to understand the link between consumers, their choice behaviour, marketing activities and the impact on brand purchase decisions.

It is in this context that consumer utility maximisation is explored (Bell, Chiang and Padmanabhan, 1999), marketing variables are identified and literature is reviewed that identifies the relative impact these factors may have on market share for the purpose of developing a market share model for FMCG brands in South Africa.

2.2 Consumers and Choice Behaviour

Consumers are essentially utility maximizing individuals who operate under a budget constraint (Bell, Chiang and Padmanabhan, 1999) with trade-offs being made that determines the relative price a consumer is willing to pay for one brand versus another brand within the same competitive group.

Within the FMCG environment, very little differentiation exists between competing products. This suggests that consumers make purchase decisions based on their perception of a brand rather than the comparative functional attributes of the product. The influence branding has on consumer choice contradicts conventional utility theory which is based on the maximisation of functions of probability and value (Brandstätter, Gigerenzer, Hertwig, 2006) and brings in concepts such as emotions, reference points (Gigerenzer and Selten, 2001) as well as heuristics that act as moderating factors on the concept of bounded rationality (Simon, 1991) and utility maximisation.

However, despite these moderating factors, consumers do essentially have preferences when it comes to brand choice, that are a combination of

rational and emotional utility maximisation decisions (Bell, Chiang and Padmanabhan, 1999).

This concept of consumer preference is based on Manksi and Lerman's (1977) Random Utility Theory which proposes that choice is a consequence of a utility maximising decision rule. As such, given a choice situation, a consumer will select a brand that has the highest associated utility from his or her choice set.

Andrews and Manrai (1999) expand on this with the notion of Random Independent Utility Maximisation that assumes that consumers have compensatory decision making processes that will balance out both negative and positive attributes that amalgamate into a preference.

This builds on Rao's (1984) proposal that consumers utilise individual choice to choose amongst a set of brands that can be described as "multi-attributed alternatives". The perceived positions of these alternative brands are assessed by consumers based on marketing touchpoints.

"Any information about a brand's image isn't affected by the brand alone. How people feel about competitor brands directly influences how they interpret information about their own brands" (Hofmeyr and Parton, 2006: 12).

Key to this proposal is the central idea that consumers have a repertoire of brands with choice, in terms of the purchase decision, being influenced by ongoing activities. These activities impact the consumers' perception of the brand based on various touch points as a result of an organisations' marketing strategy.

The integration of utility maximisation, compensatory decisions and the introduction of how marketing activities influence consumer choice behaviour are of critical importance, as it is necessary to understand that few brands satisfy all consumer needs. As a result, compensatory decision making processes are utilised to determine an overall preference. It is in this arena that marketers employ marketing mix variables to influence the consumers' purchase decision, and thus, market share.

2.3 Marketing Mix Variables

At the centre of any marketing strategy is the development and implementation of a plan that meets an organisations' objectives. These objectives normally centre on internal measures such as revenue, volume, growth and profitability (Stewart, 2008) while the most commonly used external measure is market share (Kotler, 2003).

Market share is widely recognised as a primary goal in marketing plans as it is seen as a measure of competitive performance, profitability, as well as a means of allocation regarding marketing investment depending on the organisations strategy to maintain share, harvest share or build share (Buzzel and Wiersema, 1980). Share building, in particular, has significant implications with regards to allocation of investment as it often requires increased resources with regards to Research and Development (R & D), marketing activity, working capital and equipment (Buzzel and Wiersema, 1980).

Due to an increasing realisation that market share has a direct relationship with internal measures such as growth and profitability (Stewart, 2008), the task of identifying key variables that influence market share has received much attention. McCarthy's (1960) concept of four key marketing mix variables, namely product, place, price, promotion (4 P's), has gained global recognition (Waterschoot and Van den Bulte, 1992) with this model being utilised as platform on which other theories have evolved. More recent work has attempted to expand the 4 P's with variables such as physical evidence, participants, process and service (Vignali and Davies, 1994; Waterschoot and Van den Bulte, 1992) being added to McCarthy's (1960) proposal. However, for the purposes of this research, McCarthy's (1960) theory will be utilised due to the area of research focussing on fast moving consumer goods which renders the additional suggested variables largely superfluous.

McCarthy's (1993) proposal of four key marketing mix variables includes the identification of factors that embody each of these categories.

Promotion	Price	Place	Product
Advertising	List Price	Coverage (Distribution)	Brand Name
Sales Promotion	Discounts	Channels	Quality
Sales Force	Allowances	Assortments	Product Variety
Public Relations	Payment Period	Locations	Sizes
Direct Marketing	Credit Terms	Inventory	Features
		Transport	Packaging
			Design
			Services
			Warrenties
			Returns

Figure 1: McCarthy's 4 P's of Marketing (1993)

The marketing mix variables represent the sellers' view of tools available to influence the buyer and therefore market share (Kotler, 2003). The area of interest for this research is not only in identifying the relevant marketing mix variables, but also in how significant their impact is on the dependent variable, market share, within a competitive environment.

"At the core of a brand manager's strategy is an understanding of how changes in marketing mix affect the performance of his own brand and the other brands in the market place. At the same time, he must also understand how changes in the marketing mixes of other brands will affect the performance of his own brand. The usual summary measure of the effects of marketing mix changes or brand performance is some form of elasticity" (Gruca and Klemz, 1988: 49).

The concept of market mix variable elasticity proposed by Gruca and Klemz (1988) is essential as it highlights that brands operate in a competitive environment and thus have cross elasticity. This implies that any action undertaken by a competitor brand will impact your own brands' market share. In addition, Gruca and Klemz (1988) assert that all brands have self elasticity which infers that a brands action impacts its own market share. Gruca and Klemz (1998) further suggest that each brand within a competitive market place has its own strengths with key attributes such as product positioning, quality, advertising, amongst other factors, varying regarding the impact on market share which result in asymmetric cross-elasticities between brands. This supports Andrews and Manrai's (1999) Random Independent Maximisation theory as well as Rao's (1984) proposal that individuals choose amongst a set

of multi-attributed alternatives. However, Gruca and Klemz (1988) build on these two perspectives by incorporating the way in which both brand and competitive marketing mix variables can impact a brand's market share.

"With an understanding of asymmetric marketing mix elasticities, a brand manager can identify strong competitors and vulnerable brands as well as assess cannibalisation" (Gruca and Klemz, 1988: 50).

2.4 Marketing Mix Variables Impact on Market Share

2.4.1 Introduction

Now that the four key marketing mix variables promotion, price, place and product (McCarthy, 1993) have been established as key inputs, it is important to understand what the key drivers of the activities are and how they relatively impact market share.

The reviewed literature explores the key drivers within each variable, identifies relationships between multiple variables and provides insight on the relative impact each activity or variable has on market share.

Finally, a Conceptual Market Share Model is devised that illustrates the above in a visual format.

2.4.2 Promotion's Impact on Market Share

Research into promotional marketing mix variables includes two key areas, namely advertising and sales promotions. The remaining promotion variables suggested by McCarthy (1993) - sales force, public relations and direct marketing, have not been included in the literature review as a scan of literature focussing on FMCG products revealed that these factors are not key contributors to driving market share.

Allocating resources to advertising versus sales promotion is a task that many marketers find daunting as there does not seem to be any clear understanding

of the relative impact these two variables have on market share. Generally, it is understood that advertising builds a brand in the long-term, while sales promotions are short-term tactics that may be utilised against competitors to increase volume in the short-term.

A review of the literature aims to solve this dilemma while also delineating the short-term and long-term impact of these variables and their interaction with market share.

2.4.2.1 Advertising

When people think of big brands, most consumers think of advertising, whether it is on television, print, radio or on outdoor billboards. This is because advertising is the best mass market medium for communicating to a target market and thus, becomes a key variable utilised by marketers to influence consumer choice.

Although there are a number of theories about how advertising works, most share a common assumption that advertising works by changing consumer attitudes about a brand (Miller and Berry, 1998). The AIDA model proposed by Joyce (1967) asserts that consumers transition from awareness to interest to desire and then to action, with advertising being utilised as the mechanism to create a brand shift that results in action by influencing brand perceptions (Miller and Berry, 1998). The AIDA model (Joyce, 1967) infers two key roles of advertising, an informational role to make consumers aware of the product as well as a persuasive role to create the desire to purchase (Ehrenberg, 2000).

The two roles of advertising described by Ehrenberg (2000) have their roots linked to two schools of thought that emerged in the 1970's. The first theory is based on economics of information theory where advertising increases consumer knowledge about alternatives (Nelson, 1974). This relates to the creation of consumer awareness described in Joyce's (1967) AIDA model with a focus on providing information. The second theory concerns a market power model where advertising is viewed as a means of differentiating a brand from its competitors and thus decreases substitutability (Bain, 1956; Comanor,

1974). This infers that advertising is persuasive in its role and creates desire for the product advertised.

Mitra and Lynch (1995) interrogated the two schools of thought by developing a model that considers variables: advertising as information that impacts the consideration set, advertising as information about brand attributes that affects brand preference, relative strength of brand preference, number of brands and price elasticity. The results from Mitra and Lynch (1995) indicated that there was no unilateral answer to the effect of advertising on price elasticity. The study found a bias towards the information school particularly where consumers had to rely on memory to generate alternatives such as in service offerings. However, in product related markets where consumers make a choice at the point of purchase, the research found that advertising increases differentiation (Mitra and Lynch, 1995).

Wills and Mueller (1989) corroborated the market power theory (Bain 1956; Comanor and Wilson 1979) by exploring the impact that advertising intensity has on market share. The study found that the quantity of advertising, and to a lesser degree, product quality, had a positive effect on price versus unadvertised brands, but that advertising reaches a point of decreasing returns where the marginal impact of advertising declines as advertising expenditure increases past a certain point (Wills and Mueller, 1989). In the same study, Wills and Mueller (1989) identified the size of the market as an influencing factor on advertising. The results showed that the bigger the market in terms of monetary value, the more scope for more brands and advertising to be used as a strategy (Wills and Mueller, 1989).

Jedidi, Mela and Gupta (1999) conducted a study that endeavoured to determine and compare the short-term and long-term effects of advertising on consumer purchase behaviour with a model that utilised eight years of disaggregate data within one category. Jedidi, Mela and Gupta (1999) found that advertising had a positive long-term effect on a brand's value and choice, but had no significant effect on reducing consumer price sensitivity. This is contrary to economic theory as well as to previous studies that found that

increased brand equity reduced consumer price sensitivity (Mitra and Lynch, 1995). This may be attributed to the intensity of price promotions in a particular category as previous studies have shown that, dependent on the intensity of both brand and category promotions, consumers may become more price sensitive within certain categories (Jedidi, Mela and Gupta, 1999).

Dekimpe and Hanssens (1995) further investigate the link between advertising and sales by utilising persistence modelling to ascertain the long-run effectiveness of marketing. Interestingly, Dekimpe and Hanssens (1995) found that different advertising mediums had different short term and long term effects. They suggested that the long term effect of television and radio advertising could be attributed to being image drivers, while print had a more short-term effect based on this medium being utilised primarily to communicate price promotions. As this data was based on internal data from a large home-improvement chain in the USA, it may be argued that different results could be derived dependent on how print media is utilised. For cosmetic or fragrance houses, for example, utilising print media as an image driver is a key communication strategy.

Gatignon (1984) drew attention to the impact that competitive rivalry has on moderating the advertising effect. Gatignon (1984) proposes that brand advertising may result in competitor brands altering their strategies with regards to advertising, price and availability which would impact the consumers purchase decision. Interestingly, the research found that advertising increased price sensitivity of consumers (Gatignon, 1984), but as the research was conducted on the airline industry that has a service orientated offering, this supports the work of Mitra and Lynch (1995) that found that increased access to information within a service industry increased price sensitivity.

Karray and MartÍn-Herrán (2008) continued to investigate the effect competitive rivalry and the introduction of private labels had within an FMCG marketplace. Their results provide similar findings to Mitra and Lynch (1995) in that increased advertising offers information of the product category and therefore increases demand (Karray, and MartÍn-Herrán, 2008). However, where Karray and MartÍn-

Herrán (2008) differ from Mitra and Lynch (1995) is that they draw a distinction between complementary advertising that has a category demand effect and persuasive advertising that is intended to increase differentiation. Karray and MartÍn-Herrán (2008) found that persuasive advertisings' effect was dependent on the competitive reaction as well as the cross competitive effect. This implies that brands that communicate effectively do create differentiation in the minds of consumers resulting in choice behaviour with regards to the advertised brand.

Finally, Ehrenberg, Barnard and Scriven (1997) proposed that in the current day competitive environment, the key role of advertising is to publicize the brand while creating brand salience to influence brand choice. Advertising plays a role in creating brand salience as it increases awareness with a penetration strategy while utilising distinctive advertising messaging to ensure a high long-term consumer recall (Ehrenberg, Barnard and Scriven, 1997). Ehrenberg, Barnard and Scriven (1997) proposed that in sectors such as FMCG where brands are homogenous, that it was easier for creative and impactful communication to influence brand salience and consumers purchase decision utilising emotional rather than functional platforms, to create differentiation through brand image and values. .

While Ehrenberg, Barnard and Scriven (1997) focussed on advertising as a primary means to drive penetration, Wansink and Ray (2000) proposed that a market shift has occured where high share brands that already have high penetration in low growth categories are utilising advertising to drive consumption rather than penetration. They have coined the phrase "frequency marketing" (Wansink and Ray, 2002). Wansink and Ray (2000) investigated the factors that moderate the impact that advertising has on the end consumers' propensity to purchase. They found that the attitude to the brand was a weak predictor of consumption, but likelihood to consume and consumption history was a strong predictor for future use (Wansink and Ray, 2002). The central concern that this study raises is that high penetration brands are adjusting their strategies to target an increase in consumption by utilising advertising as a communication tool. However, Wanskink and Ray (2002) established that brand attitude is a weak predictor of future consumption and thus raises a

concern about the ability of advertising to influence consumption. The weak link may be a result of an ambiguous communication message or a lack of call to action, but this is difficult to assess without insight into the campaigns. Kellogs Special K has utilised a consumption strategy highly effectively with the "Drop a Jean Size Challenge" that aims at moving Special K "beyond the breakfast bowl…to a whole new world of…slimming" (JWT and Agency K, 2008: 1). This has been highly effective in gaining market share through increased consumption and signals a new era in communication that targets consumption rather than penetration for high share, low growth brands (JWT and Agency K, 2008).

The majority of reviewed literature has shown a link between advertising and increased market share, with various advertising mediums such as television, print, outdoor media and radio being deemed to have variable image driver effects (Dekimpe and Hanssens, 1995). The competitive environment as a moderating factor was discussed by Gatignon (1984) and Karray and MartÍn-Herrán (2008) with Ehrenberg, Barnard and Scriven (1997) proposing that variables such as awareness and consumer recall are key variables when assessing the effectiveness of an advertising campaign.

As such, key variables to be considered when determining the impact advertising has on market share would be advertising intensity, advertising media, size of market, product quality, penetration, consumption, brand salience (brand equity), awareness, advertising recall and price sensitivity.

2.4.2.2 Sales Promotion

The majority of marketers have little understanding of sales promotions and the impact this variable has on market share. Within sales promotions, tactics such as coupons, in-store displays, broadsheets and price promotion, are often utilised to drive short-term volume uplift without assessing the long-term impact on volume and brand equity. For the purposes of this paper, price promotion will be included under promotion activities rather than price, as it is generally utilised as a short-term sales driver along with other promotional tactics such as

point of purchase displays and couponing.

Most research on sales promotion variables utilise the proposition that consumers are utility maximising beings with choice being influenced in the short-term by immediately accessible variables such as discounts (price promotion), features or displays amongst other things (Bell, Chiang and Padmanabhan, 1999; Paap and Franses, 2000).

Based on the premise of consumers being utility maximizing individuals Bell, Chiang and Padmanabhan (1999) decomposed the promotional response by categorizing responses into primary and secondary demand where primary demand indicated choice or brand switching and secondary demand indicated purchase acceleration with regards to quantity and purchase incidence (Bell, Chiang and Padmanabhan, 1999). Interestingly, the study found that the dominant effect of a promotion related to brand switching rather than secondary demand indicating that price promotion may be a primary factor when considering alternative brand choices.

Jedidi, Mela and Gupta (1999) utilised eight years of disaggregate data from one category to assess the short-term versus long-term effect of sales promotion. Jedidi, Mela and Gupta (1999) found that price promotions have a positive effect on consumer choice behaviour in the short-term but a negative effect in the long term. This negative effect is exacerbated by promotions making consumers more price sensitive and less discount sensitive in the long-term (Jedidi, Mela and Gupta, 1999). Jedidi, Mela and Gupta (1999) proposed that consumers may develop a lie in wait heuristic based on price promotions which results in stockpiling. This supports Jedidi, Mela and Gupta's (1999) finding that price promotions have a long-term negative effect on brand equity as consumers do not switch brands based on price promotions, but rather stockpile their brand of choice based on the expectation of future price promotions. Jedidi, Mela and Gupta (1999) did find that the stockpiling, in response to promotions, was greater for the market leader while the choice or switching effect was greater for smaller brands. As such, it stands to reason that smaller brands benefit more from promotions due to switching while bigger

brands or market leaders result in conditioning consumers to develop lie in wait heuristics that result in stockpiling behaviour resulting in a long-term negative promotional effect. Interestingly, Jedidi, Mela and Gupta (1999) found that increased depth of price promotions have a greater negative effect than increased frequency of promotions.

Building on Jedidi, Mela and Gupta's (1999) work on short-term versus long-term effect and applying the concept that consumers base brand choice on the perceived utility of each brand, Paap and Franses (2000) utilise the Multinomial Probit (MNP) model to assess key promotional variables, namely in-store displays, features such as newspaper advertisements and price promotion, and determined their impact on brand choice. Paap and Frances (2000) found that price promotion had a significant effect on brand choice with feature influencing brand choice to a lesser degree. However, Paap and Frances (2002) found that both these variables, if implemented on a temporary basis, only had short term effects on brand choice with this effect being almost completed negated after four periods. In addition, they also found that these effects were not consistent across all the brands with some brands experiencing higher gains in market share versus competitor brands (Paap and Frances, 2002).

This research presents an interesting perspective of the utilisation of price discount and features as short term tactics to gain market share as well as the effects brand stature may have as a moderating force. It is clear from the research that not all brands are created equal which indicates a need to incorporate a brand loyalty measure in order to identify the inter-relationship between these variables on market share within a competitive environment.

Similar to Bell, Chiang and Padmanabhan (1999) and Paap and Franses (2000), Bolton (1989) utilises data from four product categories to assess variables such as brand price, price activity, market share, advertising, coupon usage, display activity and feature activity. Bolton (1989) found that higher levels of feature activity increased price sensitivity, while higher levels of display activity decreased price sensitivity. Bolton (1989) did find that smaller brands benefited from price promotional activity versus bigger brands, thereby

supporting the theory that bigger brands have a volume effect via consumer stockpiling while smaller brands incur a choice or switching effect (Jedidi, Mela and Gupta, 1999). In fact, Bolton (1989) found a positive relationship between market share and price promotion, where as market share increases, price elasticity decreases to the point where a brand is own price inelastic. This implies that a market leader brand may have sufficient market share to become own price elastic and therefore derives no benefit from price promotions.

The reviewed literature covers price promotion and its impact on consumer choice with regards to stockpiling versus switching (Bell, Chiang and Padmanabhan, 1999; Paap and Franses, 2000), and emphasises the greater benefit sales promotion has for smaller brands versus brand leaders (Bolton, 1989; Jedidi, Mela and Gupta, 1999). Ironically, the primary objective of sales promotion is to increase volume. However, the literature suggests while this is effective in the short-term, that the long-term effects negate any volume benefits (Paap and Frances, 2002). It can therefore be concluded that sales promotion as a long-term market share driver is counterproductive, especially for larger brands that result in a stockpiling effect. For smaller brands, this may prove a useful tactic specifically if the brand lacks the funds to invest in advertising and utilised this as a switching strategy to induce trial and hopefully repeat purchase behaviour.

Based on the reviewed literature it is suggested that price promotion (depth and frequency), feature and in-store display are the key variables that impact volume share. It is additionally suggested that a switching measure such as brand repertoire or propensity to switch, as well as stockpiling effect, be included to moderate the price promotion effect on big brands. As previously mentioned, these may only be short-term effects with zero long terms effects for large brands, but these variables do have relevance for smaller brands.

2.4.2.3 Advertising and Sales Promotion Interaction

Marketers generally utilise sales promotions and advertising in isolation from each other with little insight into the interaction effect of these two key variables.

The literature reviewed below endeavours to shed some light on the relationship between these factors and the impact this has on brand equity, price and market share.

Mela, Gupta and Lehmann (1997) attempted to reconcile this dilemma by assessing a number of variables including price, price promotions, non-price promotions, advertising, recession and loyal and non-loyal segment sizes. The analysis revealed a number of commonalties across both loyal and non-loyal customers in that advertising was shown to have a positive relationship on price and that price promotions make consumers, regardless of their loyalty, more price sensitive over time. Mela, Gupta and Lehmann (1997) additionally found that a reduction of advertising not only increased the size of the non-loyal segment, suggesting a movement of loyal customers to non-loyal customers, but also had the greatest impact on non-loyal consumers who became increasingly price sensitive as advertising was reduced. Based on this research, it would be logical to assume that as advertising increases loyal customers and reduces price sensitivity, while sales promotion increases price sensitivity, the two variables are counterproductive. However, Mela, Gupta and Lehmann (1997) found that advertising makes non-price promotions such as in-store displays more effective and loyal customers less price sensitive. This interaction between advertising, non-price promotion and price promotion is interesting as it emphasises the powerful role advertising has in reinforcing brand equity by impacting on loyalty and price sensitivity but cautions on non-price promotions, such as in-store displays, as this can have a net positive or negative effect dependent on the size of the loyal and non-loyal segments. It is therefore apparent that a key factor within the marketing mix is the utilisation of advertising to increase the impact of non-price promotions as well as the attraction and retention of loyal customers as, based on habitual buying patterns, they tend to respond less to price and sales promotion drives. This has a noteworthy repercussion for managers who must balance the positive short term tactics of price promotions versus the long-term effects.

Naik, Raman and Winer (2005) investigated the interaction effect between advertising and promotion in a competitive market environment using single

source data for five detergent brands. Similar to Jedidi, Mela and Gupta (1999), Naik, Raman and Winer (2005) found that there is an interaction effect between promotions and advertising, but that this effect is not positive, resulting in the interpretation that promotion reduces the effectiveness of advertising in building brand equity. Naik, Raman and Winer (2005) additionally found that this effect was not uniform across brands but that some brands had increased advertising and promotional effectiveness versus competitor brands. The concept of effectiveness centres on consumer notability and thus, the brands' ability to break though clutter versus competitors. The challenge for marketers is therefore to increase notability to increase both marketing and promotional effectiveness should these be deemed useful as key marketing activities.

While the interaction effect between advertising and promotion supports literature covered in each respective segment, it is important to note customer loyalty is introduced as a key variable as it impacts the net effect of price promotion versus advertising (Mela, Gupta and Lehmann, 1997).

2.4.3 Price's Impact on Market Share

Price is a key characteristic of a brands' proposition and is often viewed as one of the primary drivers of consumer purchase decisions (Hofmeyr and Parton, 2006). Pricing decisions are generally a critical element of the marketing mix due to the immediate and significant impact price has on market share and profits (Srinivasan, Leszczyc and Bass, 2000).

For the purposes of this research, it is important to distinguish between promotional pricing which is a temporary discount utilised for a short period of time to drive volume sales, and regular pricing which is a permanent structural change in price (Srinivasan, Leszczyc and Bass, 2000). This section of research focuses solely on regular pricing as promotional pricing is deemed a factor of the sales promotion variable.

The remainder of price factors proposed by McCarthy (1993) which include discounts, allowances, payment period and credit terms are deemed irrelevant to fast moving consumer goods as the nature of this industry is low value and

high purchase frequency. As a result, these goods do not incur the aforementioned price factors.

Economic theory of supply and demand proposes that as price goes up, demand will fall and vice versa (Mohr, Fourie and Associates, 2005). However, in reality, this is not the case. A direct relationship between price and demand which is often evident in the commodities market, is not true for the FMCG market because of moderating variables such as brand equity and perceived quality, which, when combined with price, offers a value for money product proposition (Hofmeyr and Parton, 2006).

Srinivasan, Leszczyc and Bass (2000) explore the impact of temporary, evolving and structural price changes using time series data within beer and margarine categories. Srinivasan, Leszczyc and Bass (2000) found that a structural price change positively impacted market share in the short-term based on a cannibalisation effect on small and private label brands. Key brand competitors market share remained relatively stable despite a short-term price promotion response and a long-term price cut (Srinivasan, Leszczyc and Bass, 2000). Thus the main effect of a structural price change is to devalue the market and cannibalise on the weakest brands, namely private label and small market share brands. The study did not, unfortunately, disclose if the net volume increase based on the structural price change had a positive or negative effect on profitability. However, the study indicated the importance of first mover advantage as the brand that led the structural price decrease gained market share at the expense of weaker brands while the brand followers' market share remained stationary in the long-term despite also implementing a price increase (Srinivasan, Leszczyc and Bass, 2000). Srinivasan, Leszczyc and Bass (2000) compared evolving price cuts to structural price cuts and found that structural reductions had a delayed competitor response and a greater impact on long-term market share. Srinivasan, Leszczyc and Bass (2000) discussed consumption as a moderating factor as they found that for the beer category, the impact of temporary price changes were greater than long term price elasticity while this did not hold true for the margarine category. As such, when considering a structural price decrease, it would be essential for a manager to

determine the combined contribution weak brands have within the category, the size of the opportunity as well as consumption as a moderating effect. A category dominated by national brands with brand equity would provide little long-term opportunity in terms of volume share and would probably devalue the category as a whole. However, if a competitor is pursuing an evolving price discount strategy, greater benefit may be gained by implementing a structural change. Regardless of the strategy utilised, it is important to anticipate the competitors' response and develop strategies to accommodate this.

Fok, Horvath, Paap and Frances (2006) conducted a price elasticity study across 25 product categories using time series data. Similar to Srinivasan, Leszczyc and Bass's (2000) findings, they found that changes in regular pricing impact consumer purchase behaviour over the long-run (Fok, Horvath, Paap and Frances, 2006). Interestingly, Fok, Horvath, Paap and Frances (2006) found that the more utilitarian the product, the more price sensitive the consumer in the short-term but this effect diminishes in the long-term. Fok, Horvath, Paap and Frances (2006) additionally found that the frequency and depth of promotions impacts regular pricing changes with structural changes tending to have a stronger long-term positive effect in categories that are characterised by frequent promotions. This supports Srinivasan, Leszczyc and Bass's (2000) suggestion that it may be more beneficial to reduce tactical discounting to drive volume in lieu of a regular price decrease.

Wills and Mueller (1989) explored the impact market share has on price as a moderating variable. Utilising two years of data, they identified a positive relationship between market share and price with the market leader generally charging a price premium versus competitor brands. Coupled with the finding that private label brands have significantly lower prices than manufacturer brands (Wills and Mueller, 1989), it can be surmised that strategies implemented to gain long-term market share will have a positive impact on the price consumers are willing to pay for a product. As such, investment in variables such as advertising to increase brand equity and market share, may in fact increase profitability due to the price reduction versus market share

relationship.

Based on a review of the literature, it has been established that there is a positive relationship between price reduction and market share with structural changes impacting market share to a greater degree than evolving price changes (Srinivasan, Leszczyc and Bass, 2000). In addition, consumption was introduced as a moderating variable (Srinivasan, Leszczyc and Bass, 2000) and should thus be included in the analysis. Based on the above, one would assume a negative relationship between price and market share. However, due to a lack of available literature on the topic, this cannot be conclusively assumed.

2.4.4 Place's Impact on Market Share

Place, as a marketing mix variable, generally centres on the coverage or distribution of a product (Olver and Farris, 1989). Without product on shelf, consumers are unable to access the product and therefore all other forms of marketing variables become irrelevant. This "push" form of marketing provides a platform from which the remaining marketing mix variables may be leveraged, and is therefore of vital importance when it comes to developing a marketing strategy. Based on McCarthy's (1993) delineation of place, additional factors include channel, assortment, location, inventory and transport. However, these factors are not reviewed in the literature due to lack of articles as well as the assumption that these are hygiene factors that are required in order for any fast moving consumer good to be sold within any marketplace.

Somewhat intuitively, Olver and Farris (1989) identified that there is a direct relationship between distribution and market share. They illustrated this with an interaction model, that the higher the distribution of a brand in breadth and depth, the greater the impact other marketing mix variables have on market share (Olver and Farris, 1989). Therefore, pull variables such as advertising effectively leverage the push variable, distribution, to optimise market share gains.

Ehrenberg and Goodhardt's (2002) theory of double jeopardy illustrated

the positive relationship between distribution and market share. The theory is based on bigger brands having more buyers and that those buyers were more loyal resulting in increased purchase frequency or consumption. This pattern often results in greater awareness, even higher distribution, more shelf space, more displays, more word of mouth, more advertising and probably higher profits which puts the bigger brands at an even greater competitive advantage (Ehrenberg and Goodhardt, 2002, Ehrenberg, Barnard, and Scriven, 1997). Interestingly, Ehrenberg and Goodhardt (2002) found a relationship between penetration and brand loyalty, with a caveat that loyalty can only increase if a brand's penetration is incrementally increased. The theory of double jeopardy effectively illustrates how seemingly independent variables can form complex relationships that result in the whole being greater than the sum of the parts.

Fader and Schmittlein (1993) utilised time series data of brand switching and repurchase data across 39 and 28 FMCG product categories in Japan and the USA respectively to investigate why high market share brands have high levels of repeat purchasing behaviour or loyal customers. This research built on Ehrenberg and Goodhardt's (2002) "double jeopardy" theory. Fader and Schmittlein (1993) validated the theory of "double jeopardy" as well as the proposition that there is a general correlation between high repeat consumer purchases and high market share brands, but cautioned against aggregation of data as results may be impacted in some instances by new consumer segments or multiple consumer segments in one product market as well as sub-categories within a product category, but added an insight into this by proposing that consumer segmentation may play a role in repurchase behaviour in both big and small brands.

Baldinger, Blair and Echambadi (2002) interrogated the theory of double jeopardy by utilising data from 353 brands in 21 categories. Conversely to Ehrenberg, Barnard, and Scriven (1997), they found that brands tend towards a mean with bigger brands losing share over time while smaller brands gain (Baldinger, Blair and Echambadi, 2002). They found that there was a positive relationship between penetration, loyalty and market share but that penetration was more highly correlated to market share than loyalty (Baldinger, Blair and

Echambadi, 2002). When comparing small, medium and big brands, Baldinger, Blair and Echambadi (2002) demonstrated that there was little variance between brand size and the impact penetration had on market share. However, they found that larger brands benefitted more from increases in loyalty than smaller brands (Baldinger, Blair and Echambadi, 2002). As such, the key to market share growth is distribution and penetration with loyalty being used as additional leverage for high share brands to accelerate market growth (Baldinger, Blair and Echambadi, 2002).

The key variables that therefore need to be included in the research analysis are distribution, penetration, customer loyalty and consumption.

2.4.5 Product's Impact on Market Share

Product is often the most difficult of the marketing mix variables to explain as it is generally an amalgamation of the aforementioned three variables - promotion, price and place that have evolved over time to become a brand. Explaining what a brand means is often difficult with definitions including words such as name or symbol (American Marketing Association, 1960), brand associations (Kotler, 2003), a variety of ideas or attributes (Gardner and Levy, 1955) and symbolic devices with personalities (Kotler, Armstrong, Saunders and Wong, 1996) that help create differentiation in a competitive environment.

McCarthy (1993) has attempted to explain what makes up a product by including factors such as brand name, quality, product variety, sizes, features, packaging, design, services, warranties and returns. However, the reality is that in an FMCG market where the bulk of brands are homogenous, that branding and thus, brand equity, is the key factor that impacts market share.

Kotler (2003) defines brand equity as the positive differential effect or preference that knowing the brand name has on the customer response to a product in relation to its competitors when the competitive set is basically identical.

Within the last two decades, there has been increased focus on driving brand

equity based on associated benefits such as higher profitability through brand loyalty, premium pricing, lower price elasticity and increased trade leverage (Keller, 1993).

Despite the vast amount of literature that discusses brand equity, there is very little consensus of how brand equity should be measured (Baker, Nancarrow and Tinson, 2005). The economics view would quantify brand equity in terms of brand value, which is the value of a brand as an asset that can be demonstrated on a balance sheet (Baker, Nancarrow and Tinson, 2005). More consumer orientated perspectives measure brand equity as brand strength which combines behavioural and attitudinal measures, or brand description which focuses solely on customer attitudes to a brand (Baker, Nancarrow and Tinson, 2005).

Regardless of the ambiguity on how to measure brand equity, it is generally agreed that a number of key marketing variables impact brand equity, and thus market share (Sriram, Balachander and Kalwani, 2007). These include advertising, price promotions and innovation (Sriram, Balachander and Kalwani, 2007). The greatest influencer of brand equity is advertising as it changes consumer attitudes (Miller and Berry, 1998), influences usage (Joyce, 1967) and acts as a signal for product quality (Milgrom and Roberts, 1986). This is supported by the literature covered previously in the advertising segment where it was established that advertising in a product industry has a positive relationship with price, market share and loyalty, and thus increases brand equity. In contrast, it was established under the sales promotion segment that price promotions for larger brands are counterproductive as they have only a short-term volume effect based on stockpiling and may create discount associations with a brand or category, thus diminishing its brand equity. Finally, product innovation as a marketing variable impacts brand equity as it creates differentiation within a market place (Sriram, Balachander and Kalwani, 2007). In an FMCG environment, where the majority of products are homogeneous, innovating with significant new features or formats can provide a distinct competitive advantage (Keller, 1993), secure future share (Keller, 1993) and

revitalize a brand (Sriram, Balachander and Kalwani, 2007).

Chaudhuri (1999) analysed the soap, shampoo and synthetic sweetener categories to assess the direct and indirect influences of brand attitudes, habit and brand loyalty on brand equity outcomes such as market share, shelf facings and price. The study found that when market share was utilised as a brand equity outcome, that brand attitudes, habit and brand loyalty influenced market share. Chaudhuri's (1999) hypothesis that price was a brand equity outcome was not proven, but the research found a link between brand loyalty and price. This may be because more often than not, price is part of the marketing mix that the manufacturer controls and thus should not be utilised as a dependent factor. Chaudhuri (1999) also suggests that the theory of "double jeopardy" purported by Ehrenberg (1997) is not mutually exclusive to the concept of brand equity and that they are intertwined.

Sriram, Balachander, and Kalwani (2007) utilized scanned store level data to conduct a study across two FMCG categories to define the impact identified marketing activities have on brand equity. Interestingly, Sriram, Balachander, and Kalwani's (2007) study included lagged brand equity which is the result of the long-term historical effect of advertising, sales promotion and advertising. They found that while lagged brand equity has the greatest impact on future equity, that advertising and innovation has a positive future effect with sales promotions having a negative effect (Sriram, Balachander, and Kalwani, 2007).

Slotegraaf and Pauwels (2008) build on Ehrenberg and Goodhardt's (2002) double jeopardy theory by proposing that brands vary in their positional advantage within the market place, and thus, marketing mix actions have different permanent and cumulative effects. They suggest that brands with higher market share, tend to have higher brand equity and that higher long-term price elasticity may be a function of brand equity and product introductions or innovation (Slotegraaf and Pauwels, 2008). This research piece seems to incorporate the highest number of variables reviewed so far including brand activity, feature activity, price promotion, brand equity, new product introductions, product line breadth, market share and firm size. The research

found that marketing promotions can have both cumulative and permanent effects on brand sales and that brand equity plays a central role in these effects (Slotegraaf and Pauwels, 2008). The research substantiated previous research conducted by Slotegraaf, Moorman and Inman (2003) that show that brands with higher brand equity capture higher immediate returns on marketing mix variables and contain a consumer base that has lower price elasticity (Slotegraaf and Pauwels, 2008). Interestingly, Slotegraaf and Pauwels (2008) identified a ceiling effect to brand equity where smaller equity brands tended to have higher long term benefits from innovation or new product introductions versus high equity brands. This is attributed to the strong brand association of high equity brands that place limitations on innovation potential versus smaller brands. Slotegraaf and Pauwels (2008) noted that where innovation provided a completely new benefit either with regards to format or functionality, that this could revitalise high equity brands leading to increased long term sales effects. They cautioned that a distinction needs to be drawn between new benefits versus increasing the breadth of the brand's product line as this could create confusion and reduce brand associations (Slotegraaf and Pauwels, 2008). This research is interesting as it clearly identifies different strategies available to small or big equity brands that can impact long term sales effects. For smaller brands, innovation is important not only as a growth driver but also because the long term promotional effects are higher provided that the small brand sufficiently leverages its relationship with the retailer to pass on the promotional effects. For high equity brands, managing the breadth of products while launching functional or format innovation is key to leveraging brand equity while also revitalising the brand for permanent sales effects.

Product is a complex concept as, contrary to McCarthy's (1993) proposal of it being one of the 4 P's, it is in fact, an amalgamation of the brand heritage of promotion, price and place that creates a brand identity. As such, the 4 P's are in fact 3 P's with key factors such as advertising, price promotions, product innovation and quality coalescing into a brand equity measure that has been built up through the brand's historical marketing activities.

2.5 Key Marketing Variables: A Conceptual Model

A review of the literature provides a highly complex picture of the factors that influence market share. The researcher has attempted to reconcile the literature with a Conceptual Market Share Model (Figure 2) that diagrammatically illustrates the relationship of the input variables that influence market share.

It is important to note that high share brands have different market share drivers to smaller brands, with smaller brands being at a disadvantage based on Ehrenberg and Goodhart's (2002) theory of double jeopardy as well as benefiting more from price promotional strategies due to switching (Jedidi, Mela and Gupta, 1999; Bolton, 1989). In addition, the literature suggested that sales promotion activities have different effects in the short-term versus the long-term (Jedidi, Mela and Gupta, 1999; Paap and Frances, 2002) and thus it is necessary to define the time period of factors utilised in the conceptual model. As such, to reduce complexity, the model was developed around large share brands with a long-term view of the factors that impact market share.

While the Conceptual Market Share Model looks complicated with various inputs, sub-factors and inter-relationships, it is important to focus on the six key variables that have a direct strong relationship with market share, namely advertising, brand equity, price promotion, loyalty, penetration and distribution as well as consumption.

From a managerial point of view, the conceptual model suggests that by increasing key positive variables and minimising negative ones, that an increase in market share can be attained. In theory this sounds easy, but in practice is quite difficult. However, the model does graphically delineate both positive and negative factors and serves as a guide to develop future marketing strategies.

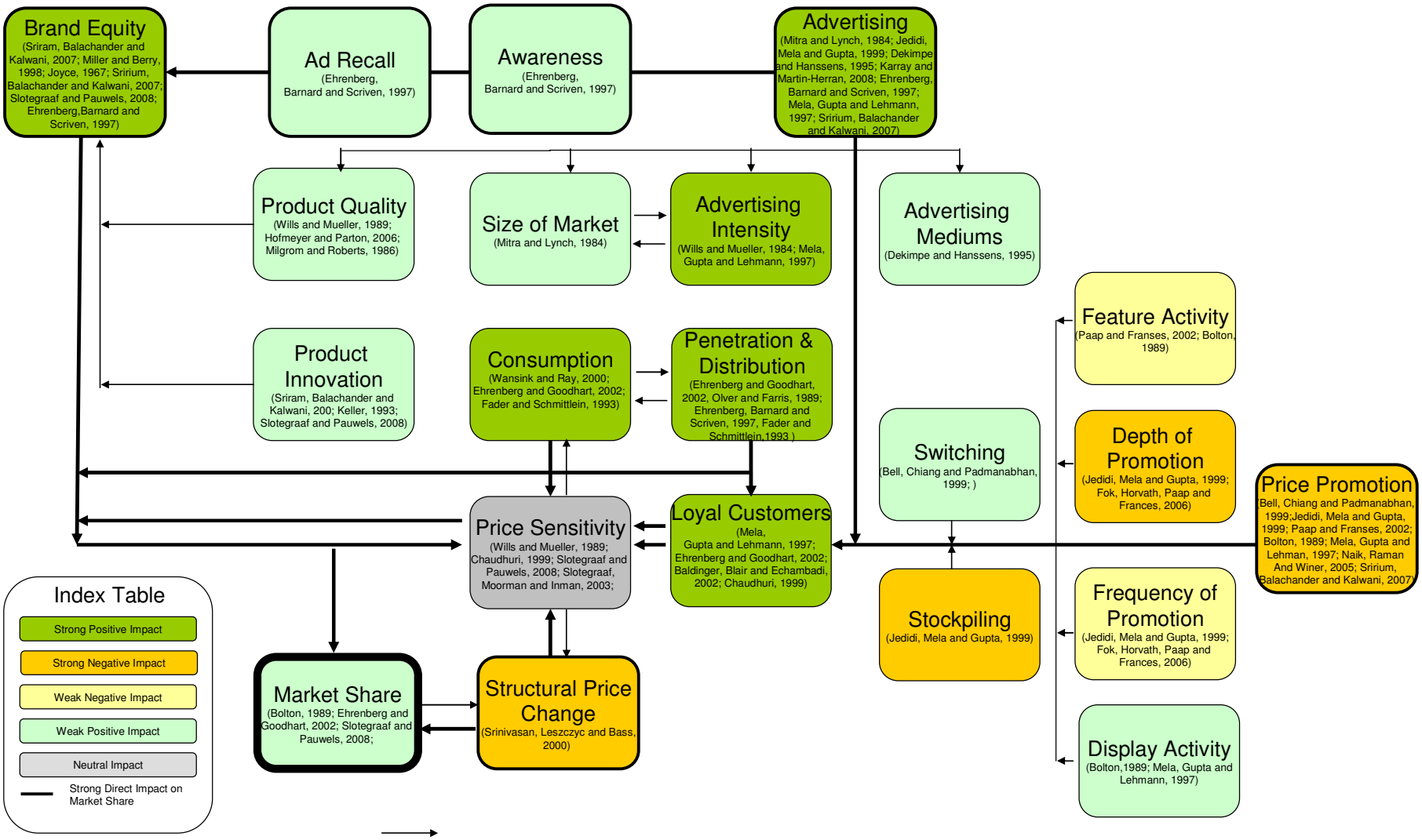


Figure 2: A Conceptual Market Share Model.

2.6 Conclusion

The literature considered consumer utility maximisation, the impact this has on consumer choice, as well as the link between marketing mix variables and satisfying consumer needs in order to influence the purchase decision as measured by market share.

The review established McCarthy's (1993) 4 P's as the key drivers and explored the inter-relationships and relative impact these have on market share.

It was clearly established that advertising is generally used as part of a penetration strategy that has a long-term positive impact on price sensitivity, brand equity and market share. More recently, advertising strategies have included consumption messaging in order to grow volume in low growth, high share markets.

In contrast to advertisings' positive impact on price sensitivity and market share, price promotion was found to have strong immediate positive volume effects with this being almost completely negated in the long-term. In addition, it was established that depth of promotion, feature of promotion and feature activity may result in consumers becoming more price sensitive as they develop a lie in weight heuristic. Interestingly, different drivers were identified for small versus big brands with promotion benefiting small brands based on a switching effect versus the stockpiling effect of big brands. This is fortunate for small brands as they generally cannot afford the high investment required for above-the-line advertising, so must rely on promotional strategies to gain market share until they gain enough critical mass to invest resources in advertising.

The price dynamic was explored, and identified that first mover advantage is critical when changing the rules of the competitive environment. Surprisingly, it was established that market share was not gained from key competitors but rather from private label and small brands, indicating that this commoditisation strategy negatively impacts brands with low brand equity and has little impact on brands that pose the biggest threat.

As one would expect, distribution was established as the foundation upon which all other marketing factors are built. Without distribution, consumers do not have access to a product and thus limits advertising and promotions' ability to influence the purchase decision. A direct relationship was therefore found between distribution and market share with penetration and loyalty being linked to this key factor. The theory of double jeopardy (Ehrenberg and Goodhart, 2002) was introduced that basically illustrates that bigger brands have a statistical advantage over smaller brands due to greater awareness, increased shelf space, displays, word of mouth and advertising, and thus low share brands are unfairly disadvantaged. Again, a clear distinction is specified between small brands and big brands and the relative advantages big brands have within a marketplace.

Finally, the concept of product and brand equity was explored. It was suggested that McCarthy's 4 P's (1994) is in fact 3 P's with product, particularly in an FMCG environment where products are homogenous, being an amalgamation of historical promotion, price and product that result in a brand name or brand equity.

From a managerial point of view, the literature suggests that when growth potential still exists in a market place, advertising may be utilised to drive penetration. During this stage, price promotion may be utilised tactically to drive volume through switching. However, once a brand becomes dominant within the market place and is highly penetrated, the strategy needs to evolve to a consumption message for advertising, and depth of promotion should be pulled back to reduce consumers price sensitivity. In all stages of a brands' life cycle, distribution and customer loyalty should be driven to ensure access to the product as well as decreased price sensitivity, respectively.

In conclusion, it is suggested that the literature reviewed is of sufficient depth to provide insight into the proposition statement and give guidance with regards to the identification of marketing mix variables to develop a market share model for FMCG brands in South Africa.

2.7 Proposition

The following marketing mix variables may be utilised to develop a market share model for FMCG brands in South Africa:

- Advertising Intensity
- Advertising Mediums
- Size of Market
- Product Quality
- Price Promotion
- Feature Activity
- Depth of Promotion
- Frequency of Promotion
- Display Activity
- Switching
- Stockpiling
- Consumption
- Distribution
- Penetration
- Loyal Customers
- Brand Equity
- Awareness
- Advertising Recall

- Product Innovation
- Price Sensitivity
- Structural Pricing

It should be noted that there is a high likelihood of correlation between some of the identified variables based on the cross-relationships.

As such, a correlation analysis will be done on identified variables to reduce the risk of multicolinearity.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Research Paradigm

The primary objective of the research is to derive marketing variable sensitivities of brands within a competitive market. The preferred model should therefore utilise single intersect data to accommodate the multiple databases that allow for all the variables to be incorporated, be able to integrate multiple brands, allow for the analysis of multiple variables, and quantify relative sensitivities of each identified variable on a market or brand level.

Given this context, the simple Multiplicative Competitive Interaction Model (MCI) initially developed by Nakanishi and Cooper (1974) was identified from a class of models know as attraction models which are derived from the Market Share Theorem of Bell, Keeney and Little (1975). This theorem assumes that all brands have an attraction, that attractions are non-negative and equal to their market share, the sum of all market shares within an industry add up to 1, and that a change in market share of one brand effects its competitor brands.

The MCI model has several advantages in that it is appropriate for a large number of choice variables and takes into account that choice alternatives are evaluated in competitive sets, can be represented as bundles of attributes (Cooper and Nakansihi, 1983) and estimates the cross-effects of one brand's marketing mix on the share of another's (Gruca and Klemz, 1988). The model also assumes that individuals are inclined to choose alternatives according to their shares of total attractiveness which is, as previously mentioned, equal to the brand's market share (Cooper and Nakansihi, 1983). Choice based on total attractiveness is a key benefit of the model that utilises the theory of Independent Random Utility Maximisation (Andrews and Manrai, 1999) which assumes a compensatory decision-making process. This means that some variables which may be negatively perceived by a consumer may be offset by positive perceptions of other attributes resulting in a net positive attractiveness or market share (Gonzalez-Benito et al, 2000). Finally, the model is essentially

non-linear which more appropriately reflects consumer choice behaviour versus linear type models. This essentially means that non-linear and cross attribute variable relationships are incorporated within the model structure.

The mathematical representation of the simple MCI model is thus (Nakanishi and Cooper, 1974)

$$\pi_{ij} = \frac{\prod_{k=1}^{q} x_{kij}^{\beta_k}}{\left(\sum_{j=1}^{m}\prod_{k=1}^{q} x_{kij}^{\beta_k}\right)}$$

where:

π_{ij} = the probability that a consumer in the ith choice situation selects the jth object;
x_{kij} = the kth variable describing object j in choice situation i;
β_k = the parameter for sensitivity of π_{ij} with respect to variable k.

The MCI model does have some limitations in that it assumes that all brands have the same Beta which is applied to variables at a market level rather than a brand level. This assumption is flawed in that cross-elasticities between brands are often asymmetric (Gruca and Klemz, 1988) which means that variables such as price and television expenditure may be more effective for one brand versus a competitor. The MCI model also does not model market growth, which may prove problematic if a dominant brand pursues a market growth strategy which may not proportionally grow all the brands within the category by the same percentage. In addition, the model does not take threshold or saturation effects (Hruschka, 2001) or product differentiation into account, assuming that all competitors are equally substitutable. While this may be true in theory, consumers essentially have preferences because of perceived differentiation whether this is intrinsic or extrinsic. This does have an effect on the consumers' end choice, but this choice is essentially reflected with a buying decision that aggregates into a brand's market share, so may in fact not be an issue. Finally, in competitive terms, the model requires a stable market where no new brands enter or exit the market (Gruca and Klemz, 1988). This is of course subject to the effectiveness of the market entry strategy or the size of the brand

should a competitor exit. Generally, brands that exit a market do so based on lack of profitability which is normally associated with low economies of scale due to poor market penetration. As such, while there are always brands exiting the market, it is assumed that these brands are too small to negatively impact the consumers' choice within the category as a whole and that switching will not significantly impact the remaining brands.

An Artificial Neural Net Attraction Model (AANAM) addresses many of the concerns regarding the MCI limitations such as threshold effects, saturation effects and betas at a brand level, rather than at a market level (Hrushka, 2001), but does not address the network effect, market growth strategies or competitors being equally substitutable. In addition, the AANAM requires a number of observations per brand, normally in the form of time series data, (Hrushka, 2001) which proves data intensive and makes the use of this model not only laborious, but excludes some variables such as media and brand loyalty which is not available on a weekly or monthly basis. It may be interesting to compare the two models in further research to determine if the reduction of possible variables offsets the utility of Betas at brand level.

3.2 Research Design

The research process will commence by identifying key independent variables that contribute to market share across three mutually exclusive FMCG product categories, and determining Betas across the three categories.

In order to derive sensitivities or Betas across the categories, Excel Solver will be utilised. This is an algorithmic technique where the Sum of Square Error between the modelled market share and actual market share will be minimised by adjusting Betas of the independent variables. The ability of the identified variables to account for the dependent variable, market share, will be quantified via the remaining Sum of Square Error.

The key advantage of this method is that most organisations already purchase a multitude of data that can be accessed across multiple categories. The data is generally standardised, so all companies receive the same type of

data in the same format. In addition, the modelling technique is fairly simple and accessible via the add-in Excel Solver, so this has managerial implications regarding accessibility of data, ease of use, and perhaps, revenue modelling.

The key disadvantage is that the existing data may not cover all the key determinants identified in the literature review. As such, the model may prove not to be robust. However, this will be quantified via the Sum of Square Error. Additionally, the MCI model is an aggregation model that looks at a brand and therefore aggregates variables such as price, distribution and segment loyalty from multiple product units to a total brand representation. This may prove problematic where a category has multiple sub-segments. This aggregation may mask some of the segment influencers, leading to the need to perhaps analyse segments as well as category depending on the market dynamics. For the purpose of the research, an aggregated category analysis will be done as it is the purpose of the research to compare Betas across categories to determine if there are variances. Finally, the reliability and validity of the quantitative data available in South Africa may be in dispute with insufficient transparency from the companies that sell the data. As such, there is little control regarding the reliability of the data but it is generally deemed as acceptable by the FMCG organisations that purchase the data. As such, for the purpose of this research, the data will be viewed as sufficiently reliable.

3.3 Data Collection Procedure

The information sources that will be utilised to provide quantitative data are as follows:

- ACNielsens sales data derived from a combination of scanned and counted stock within stores such as retailers, wholesalers, forecourts and spaza shops. It is proposed that national data is utilised. It should be noted that while Nielsens reads majors (key retailer outlets such as Pick n Pay, Shoprite Checkers and Spar) fairly well as all data is scanned with a 100% store universe, that the organisations' read of non-majors (wholesalers) is based on sample extrapolation. However, it is proposed that all brands will

be subject to the same sampling errors, and as such, the relative sensitivities of the independent variables should be consistent.

- Homepanel data that provides information on brand consumption, penetration and loyalty.

- Adex which provides data of brand advertising spend on all above-the-line (ATL) advertising mediums including television, print, radio and outdoor.

It is not the purpose of this research to interrogate the data sources, but rather utlise existing data to ascertain whether a market share model can be developed. It is recognised that the data may not be ideal, but it is readily accessible, already purchased by organisations and generally accepted by organisations as being, for the most part, reliable.

3.4 Limitations of the Study

- The assumption that all brands have the same Beta or marketing variable sensitivity is flawed as cross-brand elasticities between brands are often asymmetrical (Gruca and Klemz, 1988).

- The MCI Model caters primarily for stable or mature markets and is not seen as a robust model should the rules of engagement change dramatically or if a new big international player enters the market.

- The MCI Model does not model market growth which may be a problem if a dominant brand pursues a category growth strategy.

- The MCI Model does not take into account threshold levels or saturation effects of marketing mix variables such as advertising.

- The model does not take into account cross-category substitution or cannibalisation.

- The proposed methodology aggregates category sub-segments which may mask some of the segment drivers.

- The model does not identify the possibility of high correlation between independent variables. As such, a correlation analysis will be done on all variables prior to inputting into the MCI Model to reduce the risk of multicolinearity.

- The model allows only for a direct relationship between the independent variables and the dependent variable, market share. Moderating variables such as loyal customers, size of market and market growth are difficult to cater for.

3.5 Data Analysis

- Data from three independent FMCG food categories, which in layman terms may be defined as product groups, will be utilised for the purposes of developing a market share model for FMCG brands in South Africa.

- The three categories were chosen based on being non-perishable FMCG food items, availability of data as well as a perceived low interaction and cannibalisation effect.

- For the purposes of confidentiality, the three categories will be assigned names of A, B and C.

- For the purposes of confidentiality, the brand names within each category will utilise the assigned A,B and C names as well as a numeric rank which indicates the volume placement of the brand. The brand names will therefore be $A_1 \ldots A_x$, $B_1 \ldots B_x$ and $C_1 \ldots C_x$.

- Data will be collected from three data sources, namely ACNielsens Nitro, Nielsens Homepanel and Adex. The variables available within these data sources are as follows:

Data Source	Variable Description	Variable Abbreviation
AC Nielsens Nitro	This variable is an indicator of brand volume growth indexed to the Total Product Group. The formula for this is shown as: [(Brand$_x$ Volume on a 12 month basis) / (Brand$_x$ Last Year's Volume on a 12 month basis)] / [(Total Category Volume on a 12 month basis) / (Total Category Last Year's Volume on a 12 month basis)]	Indexed Volume Growth
AC Nielsens Nitro	This variable is an indicator of the average retail price of a brand per unit of volume over a 12 month period. The formula for this is shown as: (Brand$_x$ Total Value on a 12 month basis) / (Brand$_x$ Total Volume on a 12 month basis)	Average Price
AC Nielsens Nitro	This variable is an indicator of Average Price inflation indexed to the Total Category. The formula for this is shown as: [(Brand$_x$ ***Average Price*** on a 12 month basis) / (Brand$_x$ Last Year's ***Average Price*** on a 12 month basis)] / [(Total Category ***Average Price*** on a 12 month basis) / (Total Category Last Year's ***Average Price*** on a 12 month basis)]	Average Indexed Price Inflation
AC Nielsens Nitro	This variable is an indicator of the percentage of stores a particular brand is distributed in. The formula for this is shown as: (Brand$_x$ Number of Stores on a 12 month basis) / (Total Category Number of Stores on a 12 month basis)	Distribution
AC Nielsens Nitro	This variable is an indicator of how a brand's distribution has grown or decreased over the last year indexed to the Total Category. The formula for this is shown as: [(Brand$_x$ ***Distribution*** on a 12 month basis) / (Brand$_x$ Last Year's ***Distribution*** on a 12 month basis)] / [(Total Category ***Distribution*** on a 12 month basis) / (Total Category Last Years' ***Distribution*** on a 12 month basis)]	Indexed Distribution Variance
Nielsens Home-Panel	This variable is an indicator of the percentage of households that purchase a particular brand within a category universe. The formula for this is shown as: (Brand$_x$ Households Purchasing Brand on a 12 month basis) / (Total Category Households on a 12 month basis)	Penetration
Nielsens Home-Panel	This variable is an indicator of how many times a year a brand is purchased i.e.: frequency.	Frequency
Nielsens Home-Panel	This variable is an indicator of the average volume consumption within a household over a year.	Average Consumption
Nielsens Home-Panel	This variable is an indicator of the percentage of households that are loyal to a brand.	% Loyalty
Adex	This variable indicates the annual rate card spend a brand invests on advertising mediums such as television, print, outdoor advertising, radio and internet.	Advertising Spend
AC Nielsens Nitro	This variable indicates the annual percentage volume share a brand has within a particular defined category. The formula for this is shown as: (Brand$_x$ Volume on a 12 month basis) / Total Category Volume on a 12 month basis)	Market Share

Table 1: Variable Index Table.

- For the purposes of this research report, the variable abbreviations will be utilised from this point forward and will be ***italicised, bolded and the text changed to Times New Roman*** for the purposes of clarity and ease of reading.

- Based on the available variables, it is apparent that not all the independent variables identified within the literature are utilised. The variables that have not been included in the MCI Model due to lack of available data are as follows:

    - Advertising Mediums
    - Size of Market
    - Product Quality
    - Price Promotion
    - Feature Activity
    - Depth of Promotion
    - Frequency of Promotion
    - Display Activity
    - Switching
    - Stockpiling
    - Brand Equity
    - Awareness
    - Advertising Recall
    - Product Innovation
    - Price Sensitivity

- It is proposed that despite the lack of comprehensive data, that sufficient variables exist to develop a MCI Model as measures of the key marketing mix variables, product, place, price and promotion (McCarthy, 1993) are covered by the available variables. The major gap within the analysis will be the availability of sales promotion data.

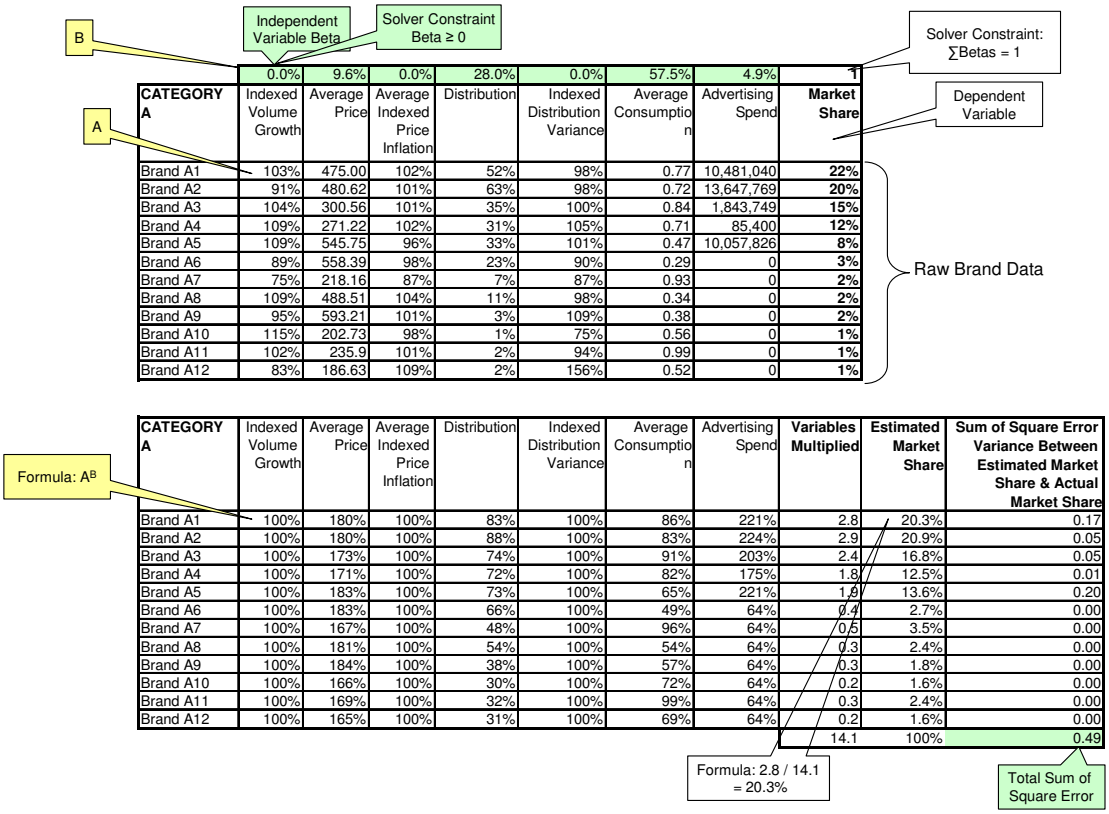
- The data will be captured in an excel spreadsheet.

- A correlation analysis will be conducted on available data to reduce the number of variables and the possibility of multicolinearity. Cohen (1998) suggests that the size of a correlation co-efficient can be classified as small, medium and large with highly correlated variables being -1.0 to -0.5 or 0.5 to 1.0, medium correlated variables being between 0.3 to 0.5 and -0.3 to -0.5 and low coefficients being between -0.3 to 0.3. He does caution that the interpretation of a correlation co-efficient should be dependent on the context and principle (Cohen, 1988). However, for purposes of this research, correlation coefficients greater than 0.5 or -0.5 will be considered highly correlated.

- Variables that have low to medium correlation (Cohen, 1998) will be inputted into a MCI Model.

- Solver will be utilised to determine Betas for the independent variables while minimising the Sum of Square Error.

- For the purposes of clarity, an annotated example of the MCI Model is shown below.



	0.0%	9.6%	0.0%	28.0%	0.0%	57.5%	4.9%	1
CATEGORY A	Indexed Volume Growth	Average Price	Average Indexed Price Inflation	Distribution	Indexed Distribution Variance	Average Consumption	Advertising Spend	**Market Share**
Brand A1	103%	475.00	102%	52%	98%	0.77	10,481,040	**22%**
Brand A2	91%	480.62	101%	63%	98%	0.72	13,647,769	**20%**
Brand A3	104%	300.56	101%	35%	100%	0.84	1,843,749	**15%**
Brand A4	109%	271.22	102%	31%	105%	0.71	85,400	**12%**
Brand A5	109%	545.75	96%	33%	101%	0.47	10,057,826	**8%**
Brand A6	89%	558.39	98%	23%	90%	0.29	0	**3%**
Brand A7	75%	218.16	87%	7%	87%	0.93	0	**2%**
Brand A8	109%	488.51	104%	11%	98%	0.34	0	**2%**
Brand A9	95%	593.21	101%	3%	109%	0.38	0	**2%**
Brand A10	115%	202.73	98%	1%	75%	0.56	0	**1%**
Brand A11	102%	235.9	101%	2%	94%	0.99	0	**1%**
Brand A12	83%	186.63	109%	2%	156%	0.52	0	**1%**

CATEGORY A	Indexed Volume Growth	Average Price	Average Indexed Price Inflation	Distribution	Indexed Distribution Variance	Average Consumption	Advertising Spend	**Variables Multiplied**	**Estimated Market Share**	**Sum of Square Error Variance Between Estimated Market Share & Actual Market Share**
Brand A1	100%	180%	100%	83%	100%	86%	221%	2.8	20.3%	0.17
Brand A2	100%	180%	100%	88%	100%	83%	224%	2.9	20.9%	0.05
Brand A3	100%	173%	100%	74%	100%	91%	203%	2.4	16.8%	0.05
Brand A4	100%	171%	100%	72%	100%	82%	175%	1.8	12.5%	0.01
Brand A5	100%	183%	100%	73%	100%	65%	221%	1.9	13.6%	0.20
Brand A6	100%	183%	100%	66%	100%	49%	64%	0.4	2.7%	0.00
Brand A7	100%	167%	100%	48%	100%	96%	64%	0.5	3.5%	0.00
Brand A8	100%	181%	100%	54%	100%	54%	64%	0.3	2.4%	0.00
Brand A9	100%	184%	100%	38%	100%	57%	64%	0.3	1.8%	0.00
Brand A10	100%	166%	100%	30%	100%	72%	64%	0.2	1.6%	0.00
Brand A11	100%	169%	100%	32%	100%	99%	64%	0.3	2.4%	0.00
Brand A12	100%	165%	100%	31%	100%	69%	64%	0.2	1.6%	0.00
								14.1	100%	0.49

Figure 3: An Annotated MCI Model.

3.6 Validity and Reliability

3.6.1 Validity

Validity refers to the extent to which the data and analysis technique measures the intended concept (Neuendorf, 2002). Validity can be distinguished between internal and external validity where internal validity focuses on the match between concept and operational measurement and external validity focuses on the ability of the same or similar results to be derived across similar studies or settings (Neuendorf, 2002). The research conducted should have strong internal validity as the data and the MCI Model is centralized around the core problem statement which essentially identifies the relative sensitivities of various independent variables impact on the dependent variable, market

share, within a competitive environment. The external validity will be assessed via the remaining Sum of Square Error which will indicate the robustness of the model per category.

3.6.2 Construct Validity

One of the problems that have been identified in developing a generic market share model for FMCG brands in South Africa is that of convergent validity. This is a type of validity that measures whether a variable will offer similar results across multiple pieces of research for a particular construct (Dillon, Madden and Firtle, 1990). Within the marketing mix variables that have been identified as impacting market share, these may yield different results depending on the researchers' interpretation of factors such as promotion, price, distribution or product. Price may mean different things to different people, for example. It may be the list price that a manufacturer uses excluding discounts, it may be the price that consumers purchase a product within a retail store at a particular time or it may be an average retail price over a year period. Due to the scope for interpretation, it is proposed that the researcher defines the meaning of the identified variables to ensure the research may be duplicated in the future. This has been done in Table 1.

3.6.3 Discriminant Validity

In addition to defining the terms around the identified variables, discriminant validity may be a problem as some of the variables may correlate too highly which means they are essentially measuring the same thing (Dillon, Madden and Firtle, 1990). For example, the literature indicated that there may be a high correlation between customer loyalty and penetration which are independent variables with the dependent variable, market share (Fader and Schmittlein, 1993; Ehrenberg and Goodhart, 2002). As the variables have been chosen based on the literature review, it is proposed that a correlation analysis is done on all variables prior to inputting into the MCI Model to reduce the risk of multicolinearity.

3.6.4 Reliability

Reliability refers to the accuracy and precision of the measurement procedure (Neuendorf, 2002). The reliability may be a concern as the research is based on utilizing data from second hand sources with slightly incongruent data periods (no more than 3 months). As such, the researcher has no control over this data and has limited insight into the data sampling and collection techniques as the research houses providing the data are reluctant to fully disclose this.

However, it is assumed that data available in South Africa in a quantitative format has a sufficient level of integrity for findings to be useful and able to be generalized.

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CHAPTER 4: MCI MODEL RESULTS

4.1 Introduction

Based on available data from sources such as ACNielsens Nitro, Nielsens Homepanel and Adex, eleven variables were identified to input into the MCI Model for the purposes of developing a market share model for FMCG brands in South Africa.

The results are presented by category where a correlation analysis, an MCI results table as well as an optimal MCI Model are shown in order to determine if the proposition that the eleven identified variables is sufficient to develop a market share model.

4.2 Category A

Based on the availability of data generally purchased by FMCG companies in South Africa, eleven variables were utilised for the purposes of developing a correlation table. The key objective of the correlation matrix was to reduce the number of variables utilised within the MCI Model as well as reduce the risk of multicolinearity.

For the purposes of clarity, variables in red text are highly correlated variables (Cohen, 1998). Variables in yellow boxes indicate highly correlated variables that are consistent across categories A, B and C.

CATEGORY A	*Indexed Volume Growth*	*Average Price*	*Average Indexed Price Inflation*	*Distribution*	*Indexed Distribution Variance*	*Penetration*	*Frequency*	*Average Consumption*	*% Loyalty*	*Advertising Spend*	*Market Share*
Indexed Volume Growth	100%	9%	27%	11%	-35%	29%	-24%	-13%	1%	9%	16%
Average Price	9%	100%	4%	41%	-13%	33%	-15%	-60%	-56%	44%	25%
Average Indexed Price Inflation	27%	4%	100%	4%	63%	3%	-36%	-29%	-7%	-1%	10%
Distribution	11%	41%	4%	100%	-12%	92%	67%	16%	23%	85%	95%
Indexed Distribution Variance	-35%	-13%	63%	-12%	100%	-10%	-16%	-18%	-8%	-7%	-8%
Penetration	29%	33%	3%	92%	-10%	100%	64%	19%	25%	75%	93%
Frequency	-24%	-15%	-36%	67%	-16%	64%	100%	77%	71%	60%	73%
Average Consumption	-13%	-60%	-29%	16%	-18%	19%	77%	100%	96%	12%	33%
% Loyalty	1%	-56%	-7%	23%	-8%	25%	71%	96%	100%	18%	40%
Advertising Spend	9%	44%	-1%	85%	-7%	75%	60%	12%	18%	100%	78%
Market Share	16%	25%	10%	95%	-8%	93%	73%	33%	40%	78%	100%

Table 2: Category A Correlation Matrix.

An analysis of the correlation matrix found a high correlation between ***Distribution***, ***Frequency*** and ***Penetration***. As a result, the two latter variables were discarded. Although ***Advertising Spend*** had a high correlation with both ***Distribution*** and ***Market Share***, this was kept in as the reviewed literature indicated this variable is a key influencer of market share.

Frequency, ***% Loyalty*** and ***Average Consumption*** were all highly correlated. This makes sense as these are all brand equity indicators. ***Average Consumption*** and ***% Loyalty*** was selected out of the three variables as appropriate brand equity variables, as ***Frequency*** was not identified as a key variable within the literature. However, due to high correlations, only one of these brand equity variables will be used per iteration.

Thus, out of the available eleven variables, only ***Frequency*** and ***Penetration*** were discarded.

Utilising the available data, seven iterations of the MCI Model were run which essentially comprised of a two step process.

INDEPENDENT VARIABLES												MCI Model Results	
PRICE	PRICE	PLACE			PROMOTION	PRODUCT			GROWTH INDICATORS				
Average Price	Average Price **x A**	Distribution	Distribution **x B**	Penetration	Advertising Spend	Occasions Per Buyer 12mm	Average Consumption	% Loyalty	Average Indexed Price Inflation **A**	Indexed Distribution Variance **B**	Indexed Volume Growth **C**	Variables Multiplied **x C**	Sum of Square Errors
9.6%		28.0%			4.9%		57.5%		0.0%	0.0%	0.0%		0.49
8.9%		26.0%			5.1%			60.0%	0.0%	0.0%	0.0%		0.50
	3.9%		63.8%		2.4%		29.8%					x C	0.45
	1.1%	63.3%			2.2%		33.4%					x C	0.35
	13.6%	24.8%			5.0%		56.7%						0.41
11.6%			28.5%		5.1%		54.8%						0.57
0.0%		68.2%			2.2%		29.6%					x C	0.45

Table 3: Category A MCI Model Results.

The first two iterations comprised of all variables but alternated ***Average Consumption*** with ***% Loyalty***. From this, it was ascertained that ***Average Consumption*** provided a better brand equity measure due to the lower Sum of Square Error of 0.49. However, as the researcher was concerned that the solution had provided zero Beta values for growth indicator variables and wanted to ascertain if a lower Sum of Square Error could be acheived, an Adjusted MCI Model was developed that utilised the growth variables ***Average Indexed Price Inflation***, ***Indexed Distribution Variance*** and ***Indexed Volume Growth*** as moderators of ***Average Price***, ***Distribution*** and ***Variables Multiplied***

respectively. A number of permutations of the Adjusted MCI Model were done that basically tested which growth moderators minimised the Sum of Square Error.

The optimal solution for Category A was an Adjusted MCI Model that included both ***Average Indexed Price Inflation*** and ***Indexed Volume Growth*** as growth moderators on variables, ***Average Price*** and ***Market Share*** respectively. This resulted in a Sum of Square Error of 0.35. Surprisingly, including ***Indexed Distribution Variance*** as a moderator of ***Distribution*** with the aforementioned variables provided a less than optimal solution. This may be due to ***Indexed Distribution Variance*** being highly correlated to ***Average Indexed Price Inflation***, which renders the first variable largely superfluous.

BETAS	1.1%	63.3%	33.4%	2.2%	100%
CATEGORY A	Average Price	Distribution	Average Consumption	Advertising Spend	Market Share
Brand A1	475.00	52%	0.77	10,481,040	22%
Brand A2	480.62	63%	0.72	13,647,769	20%
Brand A3	300.56	35%	0.84	1,843,749	15%
Brand A4	271.22	31%	0.71	85,400	12%
Brand A5	545.75	33%	0.47	10,057,826	8%
Brand A6	558.39	23%	0.29	0	3%
Brand A7	218.16	7%	0.93	0	2%
Brand A8	488.51	11%	0.34	0	2%
Brand A9	593.21	3%	0.38	0	2%
Brand A10	202.73	1%	0.56	0	1%
Brand A11	235.9	2%	0.99	0	1%
Brand A12	186.63	2%	0.52	0	1%

A	B	C
Average Indexed Price Inflation	Indexed Distribution Variance	Indexed Volume Growth
102%	98%	103%
101%	98%	91%
101%	100%	104%
102%	105%	109%
96%	101%	109%
98%	90%	89%
87%	87%	75%
104%	98%	109%
101%	109%	95%
98%	75%	115%
101%	94%	102%
109%	156%	83%

CATEGORY A	Average Price x A	Distribution	Average Consumption	Advertising Spend	Variables Multiplied x C	Estimated Market Share	Sum of Square Error Variance Between Estimated Market Share & Actual Market Share
Brand A1	109%	66%	92%	142%	1.0	21.0%	0.07
Brand A2	108%	75%	89%	143%	0.9	20.4%	0.02
Brand A3	108%	51%	94%	137%	0.7	16.0%	0.01
Brand A4	108%	48%	89%	128%	0.6	13.9%	0.07
Brand A5	103%	50%	78%	142%	0.6	13.4%	0.18
Brand A6	105%	40%	66%	82%	0.2	4.4%	0.00
Brand A7	92%	19%	98%	82%	0.1	2.3%	0.00
Brand A8	111%	24%	70%	82%	0.2	3.7%	0.00
Brand A9	109%	11%	72%	82%	0.1	1.5%	0.00
Brand A10	104%	6%	82%	82%	0.1	1.1%	0.00
Brand A11	108%	7%	100%	82%	0.1	1.5%	0.00
Brand A12	115%	7%	80%	82%	0.0	1.0%	0.00
					4.6	100%	0.35

Table 4: Category A Optimal Adjusted MCI Model Result.

Based on the Beta solution highlighted in green within Table 4, it is apparent that ***Distribution*** and ***Average Consumption*** are the key drivers to this category. The results suggest that ***Average Price*** and ***Advertising Spend*** have a negligible impact on market share. This should be viewed cautiously as the literature

suggests that these are key marketing variables.

The brand variances between actual ***Market Share*** and ***Estimated Market Share*** were minimal for the majority of brands with the exception of Brands A4 and A5 which has variances of 2.3% and 5.2% respectively. This may indicate that both these brands are undervalued in the marketplace and pose a future threat. Brand A1's Actual versus Estimated ***Market Share*** discrepancy provided a negative variance indicating potential future share erosion.

4.3 Category B

As with Category A, eleven variables were utilised for the purposes of developing a correlation table.

PRODUCT B	*Indexed Volume Growth*	*Average Price*	*Average Indexed Price Inflation*	*Distribution*	*Indexed Distribution Variance*	*Penetration*	*Frequency*	*Average Consumption*	*% Loyalty*	*Advertising Spend*	*Market Share*
Indexed Volume Growth	100%	65%	-43%	32%	-45%	88%	89%	81%	77%	87%	84%
Average Price	65%	100%	-77%	18%	-86%	40%	40%	17%	17%	41%	37%
Average Indexed Price Inflation	-43%	-77%	100%	-68%	45%	-44%	-40%	-19%	-31%	-46%	-51%
Distribution	32%	18%	-68%	100%	11%	66%	62%	56%	71%	53%	75%
Indexed Distribution Variance	-45%	-86%	45%	11%	100%	-18%	-23%	-1%	5%	-2%	-7%
Penetration	88%	40%	-44%	66%	-18%	100%	99%	96%	97%	88%	98%
Frequency	89%	40%	-40%	62%	-23%	99%	100%	97%	96%	84%	96%
Average Consumption	81%	17%	-19%	56%	-1%	96%	97%	100%	98%	83%	93%
% Loyalty	77%	17%	-31%	71%	5%	97%	96%	98%	100%	85%	97%
Advertising Spend	87%	41%	-46%	53%	-2%	88%	84%	83%	85%	100%	91%
Market Share	84%	37%	-51%	75%	-7%	98%	96%	93%	97%	91%	100%

Table 5: Category B Correlation Matrix.

The results for this correlation matrix were fairly consistent with Category A as indicated by the cells highlighted in yellow, resulting in ***Frequency*** and ***Penetration*** being discarded as variables for the purposes of the MCI Model. Similar to Category A's results, ***Advertising Spend*** had a high correlation with both ***Distribution*** and ***Market Share***, but was kept in as the reviewed literature indicated this variable is a key influencer of market share.

Thus, out of the available eleven variables, only ***Frequency*** and ***Penetration*** were discarded.

Utilising the available data, seven iterations of the MCI Model were run which essentially comprised of a two step process.

INDEPENDENT VARIABLES										MCI Model Results	
PRICE	PRICE	PLACE		PROMOTION	PRODUCT		GROWTH INDICATORS				
Average Price	Average Price **x A**	Distribution	Distribution **x B**	Advertising Spend	Average Consumption	% Loyalty	Average Indexed Price Inflation **A**	Indexed Distribution Variance **B**	Indexed Volume Growth **C**	Variables Multiplied **x C**	Sum of Square Errors
0.0%		0.0%		2.2%	97.8%		0.0%	0.0%	0.0%		1.66
0.0%		0.0%		1.3%		98.7%	0.0%	0.0%	0.0%		2.02
	100.0%		0.0%	0.0%	0.0%					x C	8.51
	37.3%	0.0%		2.3%	60.4%					x C	0.83
	0.0%	0.0%		0.6%	99.4%						3.08
0.0%			0.0%	0.1%	99.9%						5.00
100.0%		0.0%		0.0%	0.0%					x C	7.03

Table 6: Category B MCI Model Results.

The first two iterations comprised of all variables but alternated ***Average Consumption*** with ***% Loyalty***. From this, it was ascertained that ***Average Consumption*** provided a better brand equity measure due to a lower Sum of Square Error of 1.66. However, in the pursuit of reducing the Sum of Square Error, the researcher utilised the Adjusted MCI Model developed in Category A's MCI Modelling process. Interestingly, utilising all the growth indicators as moderators resulted in the high Sum of Square Error of 8.51. However, when ***Indexed Distribution Variance*** was removed as a moderator of ***Distribution***, the lowest Sum of Square Error of 0.83 was achieved. The removal of ***Indexed Distribution Variance*** resulting in a minimised Sum of Square Error across both Categories A and B is a conundrum, posing the question of why this particular variable increases the Sum of Square Error while the remaining two growth indicators reduce the aforementioned outcome.

BETAS	37.3%	0.0%	60.4%	2.3%	**100%**
CATEGORY B	Average Price	Distribution	Average Consumption	Advertising Spend	**Market Share**
Brand B1	19.00	25%	2.01	2,470,876	**37%**
Brand B2	15.82	34%	1.5	319,170	**21%**
Brand B3	17.27	3%	1.5	0	**12%**
Brand B4	19.64	8%	0.8	0	**3%**
Brand B5	13.09	3%	1.1	0	**2%**

A	B	C
Average Indexed Price Inflation	Indexed Distribution Variance	Indexed Volume Growth
109%	93%	106%
109%	102%	89%
115%	81%	96%
108%	82%	91%
118%	116%	86%

CATEGORY B	Average Price **x A**	Distribution	Average Consumption	Advertising Spend	**Variables Multiplied x C**	**Estimated Market Share**	**Sum of Square Error Variance Between Estimated Market Share & Actual Market Share**
Brand B1	326%	100%	152%	140%	**7.4**	37.3%	0.00
Brand B2	306%	100%	126%	134%	**4.6**	23.4%	0.36
Brand B3	334%	100%	127%	81%	**3.3**	16.7%	0.35
Brand B4	328%	100%	90%	81%	**2.2**	11.0%	0.07
Brand B5	308%	100%	107%	81%	**2.3**	11.5%	0.05
					19.7	100%	0.83

Table 7: Category B Optimal Adjusted MCI Model Result.

The optimal solution for Category B was an Adjusted MCI Model that included both ***Average Indexed Price Inflation*** and ***Indexed Volume Growth*** as growth

moderators on variables, ***Average Price*** and ***Market Share*** respectively. This resulted in a Sum of Square Error of 0.83.

Based on the Beta solution highlighted in green within Table 7, it is apparent that ***Average Price*** and ***Average Consumption*** are the key drivers to this category. The results suggest that ***Distribution*** and ***Advertising Spend*** have a negligible impact on market share. This should be viewed cautiously as the literature suggests that all 4 P's (McCarthy, 1993) are key drivers of market share.

The brand variances between Actual and Estimated ***Market Share*** were high for the majority of brands with the exception of the market leader, B1. Variances ranged from 2.9% for Brand B2 to 9.1% for Brand B5. For a market share estimate model, this would generally be considered too high by marketing managers. The high positive variances of Brand's B2 to B5 indicate that the market leader may be under serious potential threat from a number of brands.

Overall, the optimal Sum of Square Error of 0.83 is fairly high with this being supported by the high Actual versus Estimated ***Market Share*** variances of all the brands with the exception of the market leader. This may be due to the small number of brands within the category as well as the data provided accounting for only 75% of the brand volume. The remainder of the volume comprised of dealer own brands and small competitors indicating a highly competitive market that is price and consumption driven.

4.4 Category C

In contrast to Categories A and B, Category C seems to have very different dynamics. For this category, ***% Loyalty*** proved to be the more significant brand equity measure and the Adjusted MCI Model that provided optimal solutions for Categories A and B, proved to be less than optimal for Category C.

The same process was utilised as per Categories A and B with a correlation matrix reducing the number of variables and then an MCI Model Results table indicating the optimal solution.

PRODUCT C	*Indexed Volume Growth*	*Average Price*	*Average Indexed Price Inflation*	*Distribution*	*Indexed Distribution Variance*	*Penetration*	*Frequency*	*Average Consumption*	*% Loyalty*	*Advertising Spend*	*Market Share*
Indexed Volume Growth	100%	28%	-61%	1%	88%	20%	37%	27%	34%	12%	18%
Average Price	28%	100%	-51%	72%	38%	73%	29%	43%	5%	73%	61%
Average Indexed Price Inflation	-61%	-51%	100%	-54%	-79%	-60%	-83%	-77%	-75%	-59%	-69%
Distribution	1%	72%	-54%	100%	10%	97%	71%	81%	47%	96%	94%
Indexed Distribution Variance	88%	38%	-79%	10%	100%	21%	44%	30%	35%	13%	21%
Penetration	20%	73%	-60%	97%	21%	100%	76%	86%	54%	98%	97%
Frequency	37%	29%	-83%	71%	44%	76%	100%	94%	91%	73%	86%
Average Consumption	27%	43%	-77%	81%	30%	86%	94%	100%	89%	86%	96%
% Loyalty	34%	5%	-75%	47%	35%	54%	91%	89%	100%	56%	72%
Advertising Spend	12%	73%	-59%	96%	13%	98%	73%	86%	56%	100%	97%
Market Share	18%	61%	-69%	94%	21%	97%	86%	96%	72%	97%	100%

Table 8: Category C Correlation Matrix.

As with Categories A and B's results, ***Penetration*** and ***Frequency*** were discarded as variables while ***Advertising Spend*** was kept in.

Utilising the available data, five iterations of the MCI Model were run which essentially comprised of a two step process.

INDEPENDENT VARIABLES										MCI Model Results	
PRICE	PRICE	PLACE		PROMOTION	PRODUCT		GROWTH INDICATORS				
Average Price	Average Price **x A**	Distribution	Distribution **x B**	Advertising Spend	Average Consumption	% Loyalty	Average Indexed Price Inflation **A**	Indexed Distribution Variance **B**	Indexed Volume Growth **C**	Variables Multiplied **x C**	Sum of Square Errors
19.9%		35.2%		0.3%	0.0%		16.1%	11.2%	17.4%		1.01
57.4%		26.7%		0.0%		15.9%	0.0%	0.0%	0.0%		0.80
	38.4%	36.2%		0.0%		25.4%				x C	1.31
	43.3%	29.1%		0.2%		27.4%					0.85
64.9%		35.1%		0.0%		0.0%				x C	1.77

Table 9: Category C MCI Model Results.

The first two iterations comprised of all variables but alternated ***Average Consumption*** with ***% Loyalty***. From this, it was ascertained that ***% Loyalty*** provided a better brand equity measure due to a lower Sum of Square Error of 1.66. Interestingly, Category C MCI Model is the only product group where growth indicators are assigned a Beta value. Although, this did not provide an optimal solution, it is still worth mentioning as it deviates from Category A and B's results. Based on the learnings from the first two categories, an Adjusted MCI Model was developed but utilised ***% Loyalty*** as a brand equity measure instead of ***Average Consumption***. However, the results from the Adjusted MCI Model did not minimise the Sum of Square Error more than the basic MCI Model.

Interestingly, Category C was the only category out of the three categories that provided an optimal solution where ***% Loyalty*** was utilised as a variable. In addition, the optimal solution does not include an Adjusted MCI Model as in the

first two categories. It is somewhat a conundrum that one MCI solution indicated that growth drivers had a noteworthy impact on ***Market Share***, yet the optimal solution does not include any growth indicators.

The optimal solution for Category C was a MCI Model that included ***Average Price***, ***Distribution*** and, to a lesser degree, ***% Loyalty***, as ***Market Share*** drivers resulting in a Sum of Square Error of 0.80.

BETAS	57.4%	26.7%	15.9%	0.0%	**100%**
CATEGORY C	Average Price	Distribution	% Loyalty	Advertising Spend	**Market Share**
Brand C1	9.87	55%	44%	24,480,992	**32%**
Brand C2	6.62	4%	53%	2,470,597	**12%**
Brand C3	8.30	6%	23%	4,310,816	**8%**
Brand C4	7.63	8%	22%	0	**5%**
Brand C5	7.39	13%	15%	0	**5%**
Brand C6	6.26	0%	17%	0	**3%**
Brand C7	8.72	1%	9%	0	**1%**

CATEGORY C	Average Price	Distribution	% Loyalty	Advertising Spend	**Variables Multiplied**	**Estimated Market Share**	**Sum of Square Error Variance Between Estimated Market Share & Actual Market Share**
Brand C1	372%	85%	88%	100%	**2.8**	32%	0.00
Brand C2	296%	42%	90%	100%	**1.1**	13%	0.03
Brand C3	337%	47%	79%	100%	**1.3**	15%	0.27
Brand C4	321%	51%	79%	100%	**1.3**	15%	0.24
Brand C5	315%	58%	74%	100%	**1.4**	16%	0.26
Brand C6	287%	9%	75%	100%	**0.2**	2%	0.00
Brand C7	347%	29%	68%	100%	**0.7**	8%	0.00
					8.7	100%	0.80

Table 10: Category C Optimal MCI Model Result.

Despite relatively high ***Advertising Spend***, the MCI Model found a solution that negated the impact of advertising on ***Market Share***, and has also assigned the lowest Beta out of all three categories to the brand equity variable, ***% Loyalty***. This suggests that ***Average Price*** and ***Distribution*** are the key drivers to influence ***Market Share*** pointing to commodities based market environment.

The brand variances between actual ***Market Share*** and ***Estimated Market Share*** were high for four of the brands with brands C1, C2 and C6 having fairly low variances of 0.1%, 1.4% and -0.4% respectively. The remainder of the brands had variances ranging from 6.6% to 11%. For a market share estimate model, this would generally be considered too high by marketing managers. The high

positive variances indicate that the market leader may be under serious potential threat from a number of brands.

Overall, the optimal Sum of Square Error of 0.80 is fairly high. This may be due to the small number of brands within the category as well as the data provided accounting for only 64% of the brand volume. The remainder of the volume comprised of dealer own brands and small competitors indicating a highly competitive market that is price and distribution driven.

4.5 Conclusion

Overall, the optimal Sum of Square Error of 0.35 for Category A is the lowest of all the categories. This may be due to the number of brands within the category as well as the data provided accounting for 90% of the brand volume ***Market Share*** for the total category. To gain clarity on this, more categories would need to be analysed in order to determine a trend.

What is interesting about the results is that each category seems to have specific drivers that occur repeatedly regardless of the form of MCI model and the variables that are inputted into the model.

For Category A, ***Distribution*** and ***Average Consumption*** are major drivers followed by ***Average Price*** with ***Advertising Spend*** providing a negligible contribution. For Category B, ***Average Price*** and ***Average Consumption*** are the key levers to the category. For Category C, ***Average Price*** becomes a key factor followed to a lesser degree by ***Distribution*** and ***% Loyalty***. The evidence of different marketing levers in various categories is noteworthy as it indicates that: activities evolve over time to become more or less important throughout the product life cycle. For Category A, distribution and brand equity are clearly key levers to influence market share, while in Category B, price becomes a key activity but brand equity still plays a crucial role. However, for Category C, price followed by distribution plays essential roles while brand equity becomes less important. This suggests that Category C is perhaps in the mature phase of the product life cycle and is evolving into a commodity market, while Categories A and B still have the ability to utilise brand equity as a major driver.

Category B may be at risk of commoditisation due to the role of price on market share, but this is moderated with strong brand equity influencers.

It is important to note that while ***Advertising Spend*** seems to play an insignificant role across all categories that this is one of the key inputs identified by the literature to develop brand equity and thus, the results should be viewed with caution.

Overall, both the MCI Model and Adjusted MCI Model seem to provide good indicators of the key levers within a category. However, concerns of the model across all three categories was the high variances between Actual and Estimated ***Market Share*** as well as the lack of significance ***Advertising Spend*** was attributed as a lever to impact ***Market Share***. This may result in marketing managers questioning the reliability of the MCI Model as a tool to develop a market share model for FMCG brands in South Africa.

A factor that may have negatively impact the robustness of the MCI Model was the number of variables utilised versus the variables identified within the literature. In particular, the lack of available data for sales promotion variables was previously noted as a concern.

As only eight variables were utilised from the proposed twenty-one variables re identified within the MCI model, there is a partial acceptance of the proposition in terms of the proposed marketing mix variables and the development of a market share model for FMCG brands in South Africa.

4.6 Summary of the Results

Overall, a two step MCI Modelling process was utilised across three categories for the purpose of developing a market share model for FMCG brands in South Africa.

The two step process that evolved the utilisation of variables resulted in the researcher developing an Adjusted MCI Model that incorporated growth indicators that provided an optimal result for Categories A and B. Category C

proved the exception, with the simple MCI Model providing the best Sum of Square Error solution.

Across all three categories, ***Advertising Spend*** was found to have very little impact on ***Market Share***. However, quite surprisingly, each category seemed to have its own specific drivers. For Category A, ***Distribution*** and ***Average Consumption*** were identified as major drivers while Category B's key levers were ***Average Price*** and ***Average Consumption.*** Category C proved to be the exception, with the lowest brand equity beta for ***% Loyalty,*** with ***Average Price*** and ***Distribution*** proving to be key factors to influence market share.

The evidence of different marketing levers across products is interesting as it indicates that: activities evolve over time to become more or less important throughout the product life cycle.

CHAPTER 5: DISCUSSION OF THE RESULTS

5.1 Introduction

A summary of the literature is presented that highlights the importance McCarthy's 4 P's (1993) have on market share.

The research results are then explored with specific focus on the viability of developing a generic market share model, identified category drivers as well as commentary on the impact various variables have on market share.

Finally, the appropriateness of the MCI Model to be used for a market share model is discussed resulting in a partial acceptance of the proposition.

5.2 A Summary of the Literature

The objective of the research was to ascertain if a market share model could be developed for FMCG brands in South Africa.

In order to develop a model, consumer choice behaviour was explored, the key activities that impact market share were identified, and a Conceptual Market Share Model was developed to integrate the plethora of literature into a visual representation of the relationships and inter-relationships between the numerous identified marketing mix activities. Based on this onceptual model, key levers such as advertising intensity, brand equity, penetration and distribution, consumption, loyal customers, structural price change, price promotion, depth of promotion and stockpiling, were identified as having either a strong negative or positive impact on market share.

While a total of twenty-one variables were identified as having an impact on market share, the aforementioned measures were viewed as crucial to developing a robust model.

A review of commonly available quantitative data in South Africa determined that data was obtainable for the majority of the key identified variables with the

exception of sales promotion activities, namely price promotion, depth of promotion and stockpiling. As these three variables impact loyal customers as well as price sensitivity and then only market share, it was determined that utilising a loyal customer measure in place of sales promotion variables would be appropriate, if not ideal.

5.3 Research Results

A MCI Model was utilised for the purposes of developing a market share model for FMCG brands in South Africa. This methodology was deemed appropriate as the model is an interactive model that accommodates competitive brands, uses single intersect data and allows for a number of variables.

Data from three independent categories was used in order to compare results across a number of categories. A number of permutations of the model were done for each category with an Adjusted MCI Model being developed for Categories A and B that utilised growth indicators in order to minimise the Sum of Square Error.

5.3.1 A Generic Market Share Model

An ideal scenario would be to develop a generic market share model for FMCG brands in South Africa where marketing managers could utilise quantified and generalised variable Betas to assess the impact of each variable on their category regardless of the type of category.

What was clearly apparent from the results is that no generic model may be developed for FMCG brands in South Africa as each category has very different drivers. The utilisation of a MCI Model is helpful as it clearly identifies key drivers within each category, but the results did show that each category seems to be unique with regards to the impact marketing variables have on market share. As such, instead of being able to conclusively say that the key identified variables as depicted by the Conceptual Market Share Model all impact market share, it is more accurate to say that all these variables should be considered

with multiple iterations of the model being able to provide an optimal solution that identifies key levers. While it was vaguely suggested in the literature that category differences do occur and do impact modelling results, the extent of the impact was not fully exposed. The research results clearly illustrate that marketing activities' impact on market share are very different across categories and that not all of McCarthy's (1993) 4 P's unilaterally impact market share across all categories in the same way. This does raise a concern around the reliability of the MCI model as a tool to develop a market share model as the literature suggests that variables such as advertising intensity, penetration and distribution, consumption, brand equity, loyal customers, price promotion, depth of promotion, stockpiling and structural change all have a strong positive or negative impact on market share. The MCI results by generally identifying two key variables across products, provides divergent results to the literature.

5.3.2 Category Drivers

While the literature did not comprehensively discuss differences between categories, it is clear from the MCI results that each category has unique drivers that develop over time. This is contrary to the literature that deems all 4 P's (McCarthy, 1993) critical to the success of a marketing plan. What is not apparent is how these drivers evolve over time.

Categories A and B for example, seemed to have more similarities to each other in that ***Average Consumption*** was an importance component of the activities with ***Distribution*** and ***Average Price*** impacting ***Market Share*** respectively. In addition, the optimal solution determined for Categories A and B included an Adjusted MCI Model that utilised growth indicators as moderating variables. This implies that growth potential still exists for these two product groups where brand equity may be utilised as a tool to gain market share.

In contrast, ***Average Price*** and ***Distribution*** were the key drivers for Category C with ***% Loyalty*** ranked in third place. This suggests the diminishing impact of brand equity as an influencer of market share and the importance of the two aforementioned variables. One would normally assume that a market that has

commodity dynamics is in the mature phase of the product lifecycle and thus is fully penetrated with little distribution potential. However, this is not apparent for Category C where ***Distribution*** still has an important role to play within this market.

What is quite interesting, and not at all intentional in terms of the selection of categories, is that Categories A to C appear to be on a continuum with regards to the product life cycle.

Category A seems to have the highest future potential as the key drivers are brand equity and distribution indicating high scope for the utilisation of brand equity drivers such as advertising, price promotion and innovation (Sriram, Balachander and Kalwani, 2007) to gain a competitive advantage. This market environment is therefore still in a flux where a brands' ranking and market share can be changed given the appropriate strategy. In addition, the capacity to gain market share based on a distribution drive still exists with price playing a minor role. It should be noted that although the optimal solution gave ***Average Price*** a Beta of 1.1%, that other MCI Model results for this category indicated that ***Average Price*** had the capacity to impact ***Market Share*** with an 11.6% Beta. As such, ***Average Price*** should by no means be discarded as an irrelevant variable.

Next on the continuum is Category B where the major drivers were identified as ***Average Consumption*** and ***Average Price***. Based on these two key drivers, it can perhaps be assumed that ***Average Price*** and ***Average Consumption*** are interrelated. This would support the literature that identifies a link between consumption and price sensitivity (Wansink and Ray, 2000; Ehrenberg and Goodhart, 2002; Fader and Schmittlein, 1993). Interestingly, the Beta results across all seven MCI iterations for this category provided a Beta value of 0% for ***Distribution*** indicating no room to increase market share through this variable. This is strange as the raw data for Category C indicates relatively low ***Distribution*** compared to the other two categories. An explanation for this may be that Brand B2 has higher ***Distribution*** than Brand B1, yet has 17% less ***Market Share*** than the brand leader. This may be attributed to a market dynamic or a data error and should be further explored.

Finally, Category C with ***Average Price*** and ***Distribution*** as the key levers to influence market share suggests a mature commodities market. Interestingly, ***% Loyalty*** is the optimal brand equity variable for this product implying that ***Average Consumption*** has been maximised within this product group. As a result, other than the aforementioned ***Average Price*** and ***Distribution*** activities, developing strategies that build loyalty would be strategically sound.

5.3.3 Brand Equity Measures and Advertising Spend

What was interesting about the MCI results across products is that brand equity measures, ***Average Consumption*** or ***% Loyalty***, provided high Betas with the exception of Category C where this variable ranked third but was by no means insignificant. At the same time, contrary to the majority of literature supporting ***Advertising Spend*** as a key influencer of market share, the MCI Model provided results that showed this variable to be negligible. It is surmised that as brand equity is a amalgamation of historical advertising, price promotions and innovation (Sriram, Balachander and Kalwani, 2007) that this is masking the impact of ***Advertising Spend***.

5.3.4 Market Growth and Growth Indicators

One would expect that growth indicators such as ***Average Indexed Price Inflation***, ***Indexed Distribution Variance*** and ***Indexed Volume Growth*** would impact a brands' performance within the market place as market share gains are generally a function of growth of some sort. This proposition is supported by the literature that suggests that a change of penetration and distribution (Ehrenberg and Goodhart, 2002, Olver and Farris, 1989; Ehrenberg, Barnard and Scriven, 1997, Fader and Schmittlein, 1993) as well as price (Srinivasan, Leszczyc and Bass, 2000) impact market share.

Surprisingly, the results of the MCI Model were mixed. When growth indicator variables were included in the modelling process of Step 1, only Category C provided a solution with Betas for the aforementioned variables. However, when ***% Loyalty*** was substituted for ***Average Consumption***, these Betas were

assigned a 0% value, and provided the optimal MCI Model solution based on the lowest Sum of Square Error being 0.80. For Categories A and B, growth indicator variables were shown to have no impact on Market Share. However, an Adjusted MCI Model that included moderating variables ***Average Indexed Price Inflation*** and ***Indexed Volume Growth*** on ***Average Price*** and ***Variables Multiplied*** respectively provided an optimal solution. This suggests that these variables are important in a moderating role, but not as a direct influencer of market share. This is contrary to the literature, as discussed previously.

Based on the above synopsis, it can be assumed that growth does have an impact on every category but not necessarily in the same way and may not be a key driver. For Categories A and B, growth history is important as a moderating variable, while for Category C, the market place seems to be in a mature commodity phase where variables such as ***Average Price***, ***Distribution*** and ***% Loyalty*** are key inputs to ***Market Share*** growth.

Interestingly, the growth moderators for Categories A and B did not include ***Indexed Distribution Variance*** as a moderating variable. This suggests that historical gains or losses have no impact on ***Market Share***.

5.4 MCI Model as a Tool for Determining Market Share

Somewhat disappointingly, a number of concerns were raised regarding the robustness of the MCI Model.

A review of the literature clearly substantiates the importance of all 4 P's (McCarthy, 1993) as inputs to market share and highlights the vital role advertising has on the dependent variable. This was not supported with the MCI Model results which seemed to identify the key levers within each category and almost completely negated the impact of ***Advertising Spend***.

In addition, the variances between actual ***Market Share*** and ***Estimated Market Share*** for brands proved to be somewhat high, raising questions around the reliability of the MCI Model to model market share.

One of the problems with the raw data may have been the number of dealer own brands and small brands that were removed from the analysis based on lack of availability of specific data. It was noted in Category A that the Sum of Square Error was more than half of Categories B and C as 90% of the brands within the market place were incorporated into the MCI Model. However, this was due to the relatively low inroads that no name brands have had on the category. For Category B and C, 75% and 64% of the total data had been provided for the purposes of MCI Modelling respectively. This may have negatively impacted the Sum of Square Error. However, in both these categories the lowest ranked brand had a ***Market Share*** of less than 2.5% so the impact was deemed negligible.

Additionally, as previously mentioned, data for sales promotion variables such as price promotion, depth of promotion and stockpiling are not commonly available in South Africa. This may have negatively impacted the reliability of the MCI Model, but this is difficult to asses without the data.

On a positive note, the concerns raised in the research methodology about the MCI Model not being able to accommodate growth variables was addressed with the development of the Adjusted MCI Model.

Overall, the MCI Model is deemed an appropriate tool to identify the key levers in a category. However, the focus on key marketing levers, the negating of ***Advertising Spend*** as an influencing variable as well as the high brand variances between Actual and Estimated ***Market Share*** make this model inappropriate for market share prediction purposes.

5.5 Conclusion

In summary, it is suggested that the MCI Model provides insights into the major drivers per category but should be used with caution due to the identified limitations. Contrary to the literature, neither the MCI Model nor adjusted MCI Model supported the literature's suggestion that McCarthy's 4 P's (1993) are significant drivers of market share.

As such, there is a partial acceptance of the proposition in terms of the proposed marketing mix variables and the development of a market share model.

CHAPTER 6: CONCLUSIONS & RECOMMENDATIONS

6.1 Introduction

The appropriateness of the MCI Model to be used as a market share model is discussed resulting in a partial acceptance of the proposition.

Based on the conclusion of the study, the MCI Model technique is deemed useful to identify category specific levers but not robust enough as a market share prediction tool.

Finally, areas for further research are discussed that builds on the finding that each category has specific marketing drivers that have evolved over time and that the relationship between activities are highly complex..

6.2 Conclusions of the Study

A MCI Model was utilised in order to ascertain if a market share model could be developed for FMCG brands in South Africa. Contrary to the literature, the MCI Model results suggested that there are category specific marketing levers that impact market share within each category and that these are not able to be generalised to the 4 P's (McCarthy, 1993) of marketing.

Limitations such as high brand variances between Actual and Estimated ***Market Share*** as well as the finding that ***Advertising Spend*** has a negligible impact on ***Market Share*** raised concerns around the reliability of the model to determine ***Market Share***.

In summary, it is suggested that the MCI Model provides insights into the major drivers per category but should be used with caution due to the identified limitations.

As such, there is a partial acceptance of the proposition in terms of the proposed marketing mix variables and the development of a market share model.

6.3 Recommendations

As a managerial tool, the MCI Model provides insight into the key drivers of each category, the inter-relationships between variables as well as the relative positive and negative relationships between variables.

However, while the MCI Model does provide insight into the key category drivers, there are a number of limitations to this model. It is thus suggested that the MCI Model is not appropriate as a managerial tool for the purposes of modelling the impact that changes in marketing activities may have on market share.

6.4 Suggestions for Further Research

A review of the literature as well as the research results presented three key paths for further exploration.

From the literature, it was clear that due to the complexity of the variables that impact market share, no fully integrated conceptual model had been developed that clearly delineated the strength of positive or negative relationships as well as interrelationships between variables and their impact on market share. A review of the correlation matrix and the Conceptual Market Share Model provided similar findings in terms of positive and negative relationships as well as the strength of these relationships. It would be interesting to see if another researcher, by utilising the Conceptual Market Share Model and correlation matrix as a foundation, could develop a mathematical model that incorporates fuzzy logic. The research question would therefore remain the same, in that the researcher would still need to identify the key variables available for the purposes of developing a market share model in South Africa. However, the methodology would differ with the use of alternative models that have the ability to incorporate the complex relationships and inter-relationships identified.

As suggested in the literature, the service industry and product industry seem to have very different dynamics with the former including more variables than McCarthy's (1993) 4 P's and having different drivers with regards to promotion's

impact on price sensitivity and market share. As such, it is proposed that a review of the literature is conducted for the purposes of developing a conceptual market share model for the service industries in South Africa. Dependent on available data for the identified variables, the researcher could look at developing a mathematical model that would probably also incorporate some sort of fuzzy logic for the purposes of developing a market share model for a service industry in South Africa. Industries that would ideally suit this type of research would be banking or airline where literature with regards to market dynamics exists.

Finally, it was identified that various categories have very different dynamics with regards to marketing mix variables and their impact on market share. A number of reasons presented themselves to the researcher when this phenomenon was identified. These include the impact category sub-segments and innovation have on marketing activities, the impact the demographic composition of the consumer base has on defining category drivers, as well as the impact the product life cycle has on marketing activities. By identifying the factors the create differences between categories, a researcher may then borrow learnings from other categories with similar drivers. The research question would therefore centre on identifying the causes of variances between categories.

From a managerial point of view, the pursuit of a mathematical model that can be utilised to assess the impact marketing activities have on market share, whether it be in the goods or service industry, is of vital importance. A robust model that allows for various activities to be manipulated for the purposes of assessing the impact on market share will prove to be the foundation for marketers going forward. Gaining a greater understanding of what underlines the differences between product categories or service industries, be it demographic, innovation or product life cycle based, will only add to the body of knowledge and the depth of understanding in an industry that is increasingly becoming bottom line business driven.

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