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GORDON INSTITUTE
OF BUSINESS SCIENCE

**The perceived impact of the SA Code of Practice for the Marketing of
Medicines on customer equity in the pharmaceutical industry of
South Africa**



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University of Pretoria, in partial fulfilment of the requirements for the degree of
Master of Business Administration.

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ABSTRACT

The SA Code of Practice for the Marketing of Medicines was formulated in an attempt to reduce the cost of medicines, thus ruling out certain marketing practices. This research report investigated what the perceived impact of the Code may be on customer equity in an already volatile industry.

Quantitative, cross-sectional research was undertaken. A pre-tested, self-administered, e-mail survey based on the regulations of the Code was distributed to key account retail pharmacies of a particular pharmaceutical company in South Africa. Four hypotheses were statistically tested at significance levels of 0,1 %, 1 % and 5 %. Inferences were then drawn based on the quantitative analyses.



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The results show that the market is in favour of the “Code-not-condoned” value, brand and relationship equity marketing practices; thus the Code’s impact may be perceived as negative. Pharmaceutical firms should be careful in selecting “Code-condoned” marketing practices, as these may not contribute to customer equity. This aspect adds to the complexity of choosing the correct marketing practices. It is recommended that only those marketing practices not contributing to customer equity should be outlawed by the Code. The indication is that the Code’s impact may reach further than just attempting to drive down the price of medicines; it may also impact the long term value of a pharmaceutical firm.

DECLARATION

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other university. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

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CHAPTER 1

INTRODUCTION TO THE STUDY

1.1. Introduction

This chapter gives an introduction to the research project. The background to the research problem, the research problem, scope, objectives, methodology and outline of the study are briefly discussed. A summary follows at the end of the chapter.

1.2. Background to the problem

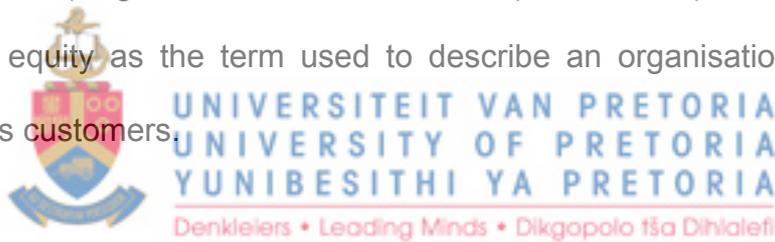
The South African Government (hereafter referred to as the Government) made provision in the Medicines and Related Substances Control Amendment Act 90 of 1997 to regulate pharmaceutical marketing practices (Act 101, 1965). The pharmaceutical industry subsequently reacted pro-actively by formulating the SA Code of Practice for the Marketing of Medicines (hereafter referred to as the Code) according to PIASA (2007).

The Code (PIASA, 2007) contains guidelines that indicate unacceptable marketing practices within the South African pharmaceutical industry. These guidelines are aligned with the regulations imposed by the Government through healthcare related legislation (PIASA, 2007).

The imposed regulations were an attempt by the Government to make medicines more affordable (Act 101, 1965) to the public and to ensure that the

public receives cost-effective healthcare treatment. The Government's priority is to increase the level of healthcare in South Africa (Department of Health, 2007) by utilising the private healthcare system and by driving down the cost of medicine. A more affordable private healthcare system may relieve the pressure on the public healthcare system as more people may then be able to afford healthcare in the private sector.

Marketing spend may therefore be targeted more (Rust, Ambler, Carpenter, Kumar & Srivastava, 2004) towards developing customer equity successfully in order to ensure the creation of long term value for both the firm and its shareholders (Hogan, Lemon & Rust, 2002). Ambler (2003, p 48) defines customer equity as the term used to describe an organisation's net present value of its customers.



1.3. Research problem

Hogan *et al.* (2002) mention the importance of customer equity in the sustainability of the firm. Marketing plays a critical role in developing customer equity according to Rust *et al.* (2004).

The Code may have consequences on and pose new challenges to the way that pharmaceutical marketing has been traditionally performed in South Africa. It stipulates that certain marketing practices will no longer be permissible (PIASA, 2007).

The impact that the Code may have on developing and sustaining customer equity needs to be assessed. This assessment needs to be carried out in the arena in which pharmaceutical firms function in South Africa.

1.4. Research scope

The term “generic pharmaceuticals” refers to those medicines that are copies of the patented original products, i.e. post-patent pharmaceuticals. Generic pharmaceuticals are the same as the original product in terms of active ingredient(s), efficacy, pharmacological classification and therapeutic indications (Aspen Pharmacare, 2008). The term “generic pharmaceutical industry” refers to only those firms that supply, market and/or sell generic pharmaceuticals in South Africa.



The generic pharmaceutical industry responsible for marketing Schedule 2 through 6 medicines to healthcare professionals in South Africa will be investigated. The key account retail pharmacies in South Africa of a specific firm which supplies, markets and sells generic pharmaceuticals will be researched.

1.5. Research objectives

The objective of this research project is to determine the perceived impact that the suggested Code may have on the marketing of generic pharmaceuticals in South Africa. It will also be attempted to determine the perceived effect this may have on a pharmaceutical firm’s customer equity.

1.6. Summary

The purpose of this chapter is to position the research problem in terms of South Africa and its pharmaceutical industry. A brief overview was given about the research problem, scope and objectives.



CHAPTER 2

THE PHARMACEUTICAL INDUSTRY OF SOUTH AFRICA

2.1. Introduction

The literature review discusses two distinct topics and has therefore been divided into two separate chapters; namely Chapter 2 and Chapter 3. Chapter 2 deals with the pharmaceutical industry within South Africa. It serves to give a brief overview of the pharmaceutical industry with specific reference to the influence of the South African government and environment. Chapter 3 deals with customer equity and the marketing of pharmaceuticals in South Africa.

2.2. The pharmaceutical industry and government



The relationship between the pharmaceutical industry and the Department of Health of South Africa (hereafter referred to as the Government) used to be quite adverse (Tikly, 2005). The Government faced stiff opposition from the pharmaceutical industry upon imposing new regulations (Nevin, 2005). Tikly (2005) mentions that these imposed regulations transformed the pharmaceutical industry of South Africa.

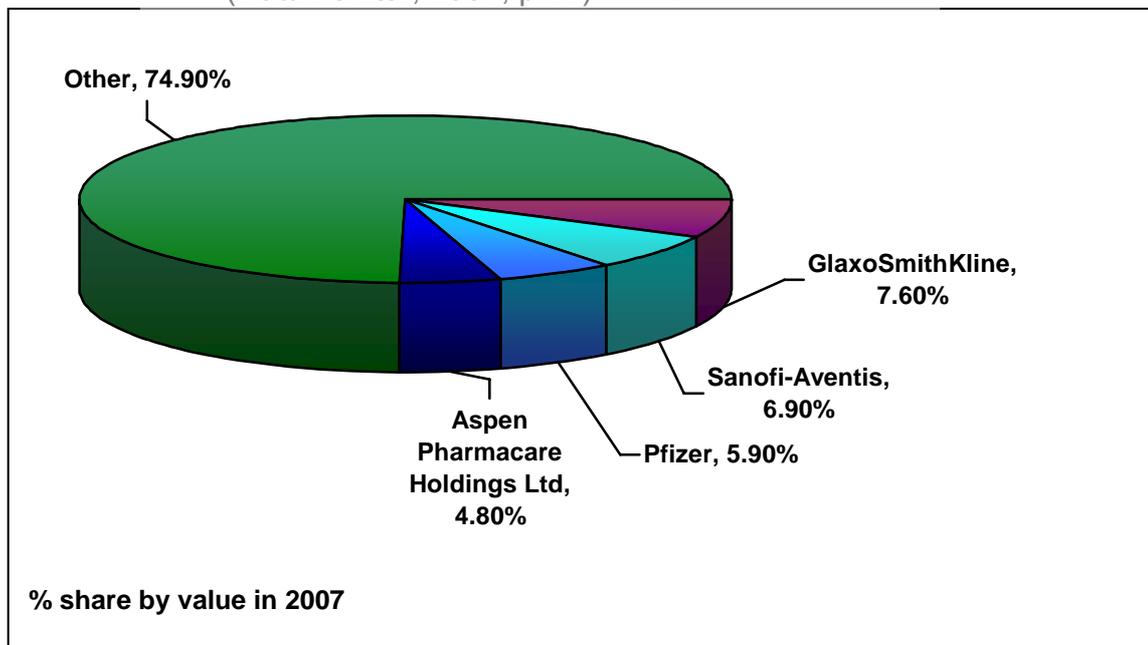
The pharmaceutical industry came to the realisation that the Government would not withdraw the imposed regulations. As a result the relationship between the pharmaceutical industry and the Government transformed into a more constructive and engaging one (Tikly, 2005).

The environment in which the pharmaceutical industry operates is discussed in order to gain a better understanding of the dynamics at play.

2.3. The pharmaceutical industry in South Africa

Tikly (2005) argues that the pharmaceutical industry of South Africa is quite complex. It consists of a developed, and quite fragmented, network of manufacturers, distributors and dispensers (Tikly, 2005). In 2007, GlaxoSmithKline was the leading pharmaceutical firm holding only 7,60 % share by value of the total South African pharmaceutical market (Datamonitor, 2007, p 11). FIGURE 1 illustrates just how fragmented the pharmaceutical industry of South Africa is (Datamonitor, 2007, p 11). It is indicative that rivalry within the industry is high.

FIGURE 1: Market share of the South African pharmaceutical industry (Datamonitor, 2007, p 11)



According to Tikly (2005), the pharmaceutical industry is very competitive. Lok (2004) mentions that the industry competes on various levels, namely patented medicines versus generic medicines versus complimentary medicines, as well as the competition of firms within each sector. Tikly (2005) is of the opinion that the pharmaceutical industry is not only volatile but that healthcare professionals have a big impact on it (the industry).

The competitive landscape, the role of the active pharmaceutical ingredient suppliers, the compound annual rate of change, the impact of skills, and product life cycle are some of the key aspects within this industry.

2.3.1. The competitive landscape

A pharmaceutical firm's marketing campaigns are key in ensuring that healthcare professionals prescribe its products (Datamonitor, 2007, p 13). This is true in view of the high level of fragmentation in this market.

Unless a firm can differentiate its patented product through superior clinical efficacy, generic equivalents to patented pharmaceutical products increase the power of the buyer (Datamonitor, 2007, p 12). However, buyer power in South Africa is moderate according to Datamonitor (2007, p 12). Major capital investment is required in order to start up a new pharmaceutical firm. This results in a lower threat of new entrants as well as substantial exit costs and fixed costs. Datamonitor (2007, p 12) states that the rivalry in the market is quite intense in this type of industry.

2.3.2. The active pharmaceutical ingredient suppliers

Active pharmaceutical ingredients (API) are supplied to pharmaceutical firms by the API manufacturers - usually under contractual arrangements. This means that switching costs may be high and that the API suppliers have increased power over the pharmaceutical firms (Datamonitor, 2007, p 13).

2.3.3. Compound annual rate of change

Datamonitor (2007) indicates that the compound annual rate of change of this market was -1,6 % for the period 2003 to 2007. The regulations imposed by Government in terms of pricing structures during the same time frame may have contributed to this poor performance.

2.3.4. The impact of skills

The pharmaceutical industry requires highly skilled employees (Datamonitor, 2007, p 13) and these skill sets do not come cheap. A further source of increasing costs is the required clinical trials that have to be performed under increasingly stricter regulations (Datamonitor, 2007, p 13).

2.3.5. Product life cycle

The life cycle of a product is defined by Kerin, Hartley & Rudelius (2007, p 236) as the different stages that a product goes through in the marketplace; namely introduction, growth, maturity and decline. Profit is minimal during the introduction stage, grows rapidly during the growth stage, stagnate during the

maturity stage, and tapers off during the decline stage (Kerin *et al.*, 2007, p 236-240).

Tikly (2005) argues that the life cycles of pharmaceutical products have decreased and that price flexibility is limited. This means that the product reaches the decline stage much quicker and therefore the available period to generate profit is much less. A new product needs to be available in order to replace the product that has reached the decline stage.

Davila, Epstein & Shelton (2006, p 80) state that pharmaceutical companies find it difficult to maintain the flow of viable new products as it is more difficult to innovate successfully. This adds to the pressure of shorter profit generating periods of pharmaceutical products.



2.4. Summary

The pharmaceutical industry has been described, in short, with specific reference to the influence of the South African government and environment. The various players in this arena have been identified. Competition in the pharmaceutical industry is intense and regulations are becoming stricter. These dynamics have been illustrated.

CHAPTER 3

PHARMACEUTICAL MARKETING, THE CODE AND CUSTOMER EQUITY

3.1. Introduction

The number of regulations guiding the pharmaceutical industry in South Africa has increased over the last few years. This chapter gives a brief overview of the most recent regulations that relate to pharmaceutical marketing practices. One of the goals of marketing is to build customer equity. This aspect of marketing consists of three key factors which are defined and briefly explained.

3.2. The era of increased regulation

The reasons for the Government's move towards stricter regulations as set out in Act 101 (1965) were attempts to make medicines more affordable to the public, to ensure that the public receives cost-effective healthcare treatment, and to ensure that the pharmaceutical industry operates in an ethical manner.

These attempts may support the Government's vision of increasing the level of healthcare in South Africa (Department of Health, 2007) by utilising the private healthcare system. As a result, the pressure on the public healthcare system may be relieved.

There is increasing pressure being brought to bear on lowering the prices of medicines (Department of Health, 2007) while, at the same time, the input costs

globally are on the rise (Mahomed, 2006). Datamonitor (2007, p 12-13) identified some aspects contributing to the increasing input costs:

- a pharmaceutical company spends in excess of US\$800 million to develop a pharmaceutical product;
- the suppliers of active pharmaceutical ingredients (API) are able to, and usually do, charge a premium for supplying the pharmaceutical firms as the pharmaceutical firms are heavily dependent on them;
- the pharmaceutical industry requires highly skilled employees and usually these skill sets do not come cheap; and
- the required clinical trials have to be performed under increasingly stricter regulations.

A brief discussion of pharmaceutical marketing follows in an attempt to illustrate the importance of it in the pharmaceutical industry.



3.3. The importance of marketing

Marketing efficiency has become increasingly important, especially at the level of healthcare professionals; for example in the marketing of Schedule 2 through 6 medicines to pharmacists and medical doctors. Schedule 2 through 6 medicines may be marketed to only healthcare professionals (Act 101, 1965).

Marketing spend may therefore be targeted more (Rust, Ambler, Carpenter, Kumar & Srivastava, 2004, p 76) towards developing customer equity successfully in order to ensure the creation of long term value for the firm and

its shareholders (Hogan, Lemon & Rust, 2002, p 4). Ambler (2003, p 48) defines customer equity as the term used to describe an organisation's net present value of its customers.

Building customer equity is an important aspect when competing in the pharmaceutical industry (Tikly, 2005). Villanueva & Hanssens (2007, p 12) mention that competition has a direct influence on customer equity.

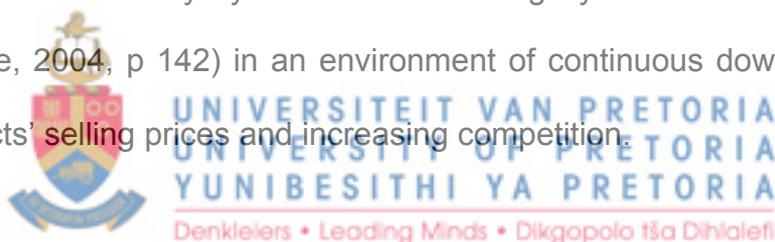
The healthcare professionals determine which pharmaceutical companies' products are going to be sold to the patients (Tikly, 2005) due to medicine substitution as provided for in Act 101 (1965). This provision, according to Act 101 (1965), allows the dispensing healthcare professional to substitute the prescribed medicine for a cheaper, but still with the same therapeutic effect, alternative if the patient agrees. The prescribing healthcare professional may prevent this substitution by indicating as such on the specific prescription (Act 101, 1965).

One of the aims of a marketing campaign is to remind the prescribing healthcare professional about a specific firm's products. Datamonitor (2007, p 13) mentions that pharmaceutical firms need to invest heavily in marketing campaigns in an attempt to increase the prescription of their products. It is clear that successfully building customer equity at the level of healthcare professionals is the key to sustainable income for pharmaceutical companies in the private sector.

The paradox is that the SA Code of Practice for the Marketing of Medicines (hereafter referred to as the Code) is not in support of a pharmaceutical firm promoting its products at the expense of another firm or product (PIASA, 2008).

Recently, uncompetitive behaviour by four pharmaceutical companies was uncovered by the competition commission of South Africa (Kahn, 2008). It is alleged that these companies colluded by forming a cartel (Kahn, 2008).

McAleese (2004, p 142) defines a cartel as a situation where more than one firm group together and collectively decide on price, market share and investment. Firms may try to form a cartel illegally in order to maximise profits (McAleese, 2004, p 142) in an environment of continuous downward pressure on products' selling prices and increasing competition.



Clearly there is much pressure on pharmaceutical companies to grow revenue in an era of increasing regulations, continuous downward pressure on medicines' selling prices and stiff competition. Pharmaceutical marketers need to become more creative in order to avoid compromising either ethical standards or the Code.

A summary of the Code is given in order to gain insight into the proposed restrictions applicable to the marketing of medicines.

3.4. The SA Code of Practice for the Marketing of Medicines

The SA Code of Practice for the Marketing of Medicines (hereafter referred to as the Code) has been drafted by the key role players in the pharmaceutical industry's supply side. It is endorsed by various trade associations (PIASA, 2008), namely:

- The Pharmaceutical Industry Association of South Africa (PIASA);
- Innovative Medicines South Africa (IMSA);
- The National Association of Pharmaceutical Manufacturers (NAPM);
- Pharmaceuticals made in South Africa (PHARMISA); and
- The Self-Medication Manufacturers Association of South Africa (SMASA).

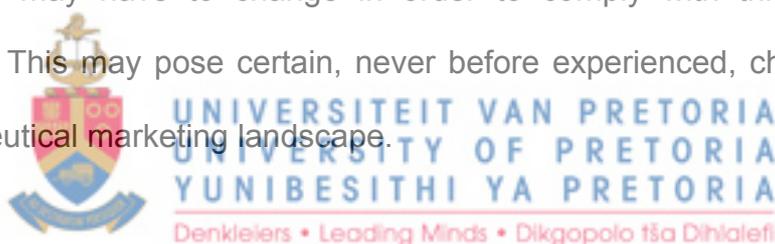
PIASA (2008) indicates that this endorsement is an example of the pharmaceutical industry's commitment to market medicines to healthcare professionals in an ethical, responsible and professional manner.

Healthcare professionals, according to PIASA (2008, p 8), include those people belonging to the medical, dental, pharmacy and nursing professions. People operating under the Health Professions Council of South Africa are also included under the term "healthcare professionals" (PIASA, 2008, p 8). The Code focuses on those healthcare professionals (as defined above) who may prescribe, recommend, purchase, evaluate, supply or administer a medicine (PIASA, 2008, p 8) registered under the Medicines and Related Substances Act 101 of 1965.

The Code also applies to all holders of licenses for registered medicines, their agents, contractors, distributors and marketers; including third party distributors and marketers (PIASA, 2008).

It took several years to finalise the formulation of the Code which is currently awaiting approval (PIASA, 2007) from the Government, i.e. the Department of Health.

The purpose of the Code is to regulate the marketing of medicines to healthcare professionals (PIASA, 2008). The ways and means of pharmaceutical marketing may have to change in order to comply with this new code of practice. This may pose certain, never before experienced, challenges to the pharmaceutical marketing landscape.



Many standard marketing practices to develop customer equity in the pharmaceutical industry will be categorised as unacceptable in South Africa according to the Code (PIASA, 2008). The following are a few examples:

- the promotion of products at healthcare professionals' meetings or continued professional development events;
- donations that promote products;
- the entry of a healthcare professional into a competition where the entry is dependant on prescribing, ordering or recommending a medicine;
- a prize of a competition that is for personal use and not related to the practice of a healthcare professional;

- discounts offered upon the ordering/purchase of medicine;
- supplying healthcare professionals with free samples of medicinal products;
- pharmaceutical companies sponsoring the travel and accommodation expenses of healthcare professionals attending pharmaceutical product launches;
- pharmaceutical companies sponsoring stand-alone entertainment, leisure, social, cultural or sporting activities (example free movie tickets, sports event tickets) for healthcare professionals;
- pharmaceutical companies sponsoring stand-alone entertainment, leisure, social, cultural or sporting events for healthcare professionals;
- pharmaceutical companies sponsoring healthcare professional conferences where the hospitality, meals and entertainment are extravagant and not moderate;
- pharmaceutical companies directly reimbursing healthcare professionals' incurred expenses when they attend conferences or seminars hosted in South Africa;
- pharmaceutical companies allowing healthcare professionals to bring their spouses with to conferences or seminars and sponsoring the attendance costs of the spouses too;
- gifts and benefits offered to healthcare professionals which are high in value and not for professional use;
- customising product prices for loyal customers (also known as healthcare professionals); and



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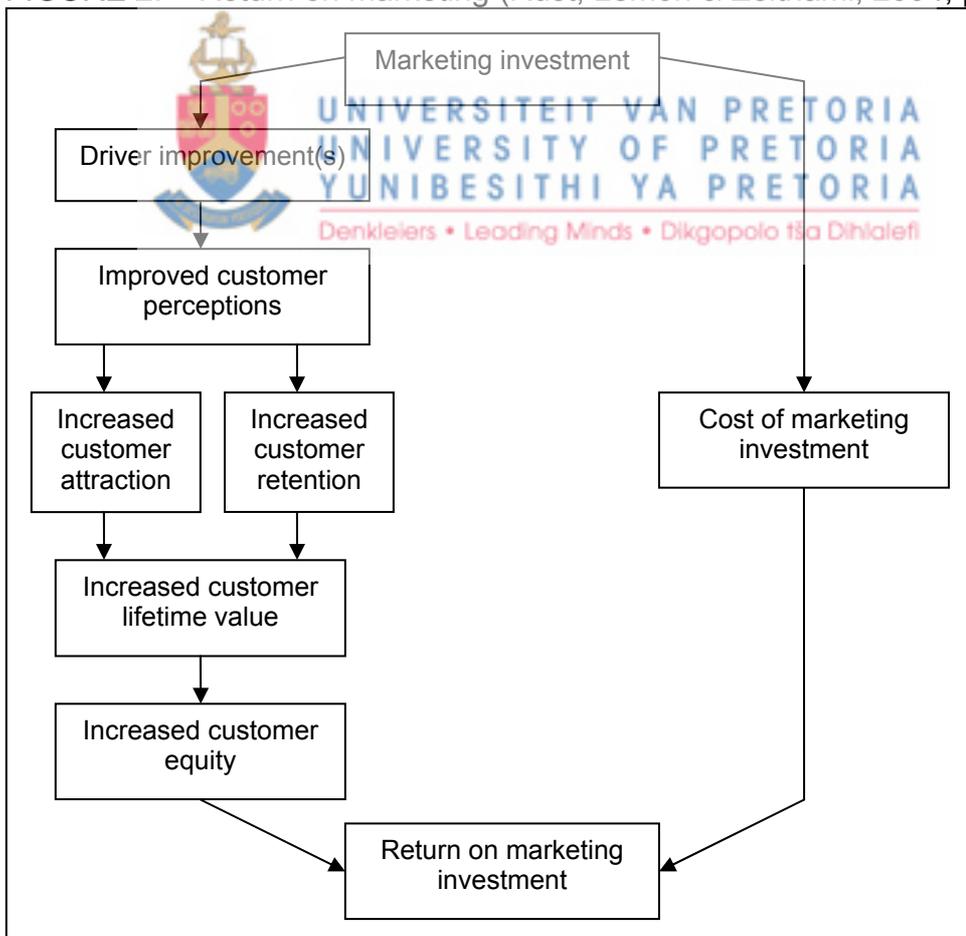
- reward programmes offering rebates (PIASA, 2008).

The Code may impact on a firm's customer equity which is a key concept in marketing. This concept is discussed below to illustrate its importance.

3.5. Customer equity

Rust, Lemon & Zeithaml (2004, p 112) have established a model to illustrate the chain of events resulting in a return on marketing investment. This model is illustrated in FIGURE 2.

FIGURE 2: Return on marketing (Rust, Lemon & Zeithaml, 2004, p 112)



The authors suggest with this model that marketing investment improves the drivers which improve customers' perceptions. This in turn increases customer attraction and retention which in turn increase customer lifetime value (CLV). CLV is the present value of the future profits that could be earned from a customer if the customer does not defect (Kotler & Keller, 2007, p 76). CLV will subsequently increase customer equity as illustrated in FIGURE 2. The cost of the marketing investment and increased customer equity will then establish the return on marketing investment.

A company's future revenue is dependant, to a large extent, on its existing customers. Lemon, Rust & Zeithaml (2001, p 21) define customer equity as the "total of the discounted lifetime values of all the firm's customers". Villanueva & Hanssens (2007, p 2) summarise the objective of customer equity as maximising a firm's value. Customer equity is driven by three aspects, namely value equity, brand equity and relationship equity (Lemon *et al.*, 2001, p 21).

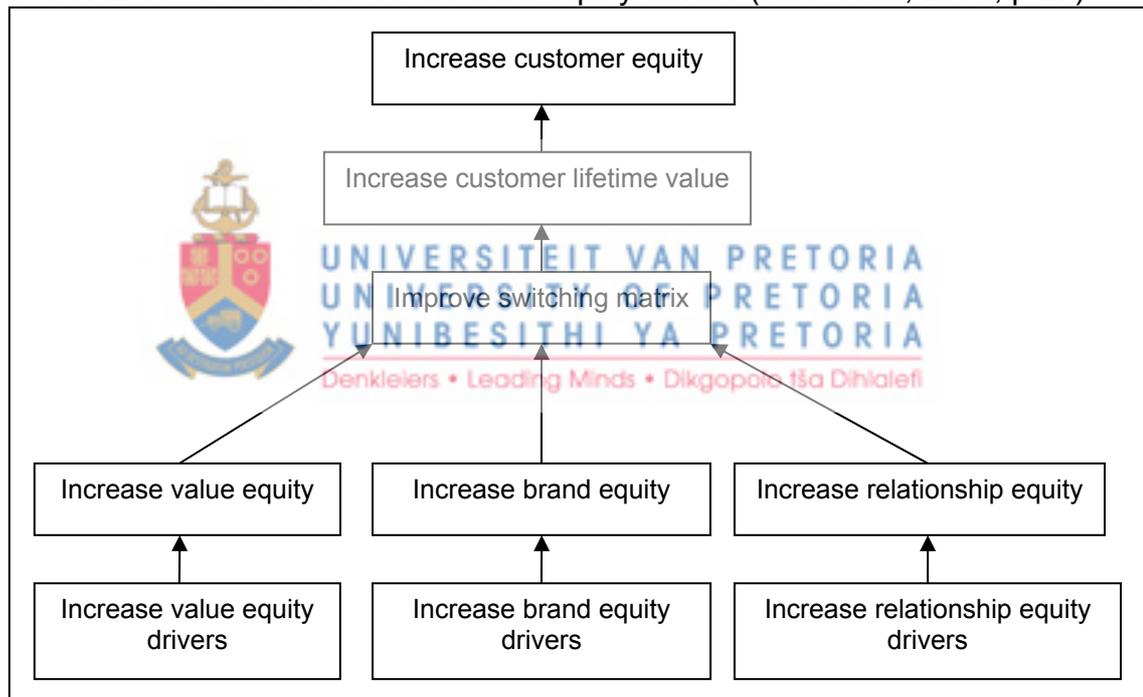
Lemon *et al.* (2001, p 22) refer to value equity as the ability of the firm's offering to meet the needs and expectations of the customer. Brand equity is defined as the subjective appraisal of the brand (Rust, Lemon & Zeithaml, 2001, p 26). The tendency of a customer not to switch brands irrespective of the brand's worth is known as relationship equity (Kotler & Keller, 2007, p 71).

Richards & Jones (2008, p 123) suggest that a firm should first focus on building value equity. The firm will then be able to enhance itself with brand

equity. The customer relationships formed can ultimately be secured through relationship equity.

Marketing spend should be focused on building customer equity, i.e. value equity, brand equity and relationship equity, according to Rust *et al.* (2001, p 26). The follow-on effect of building value, brand and relationship equity on customer equity according to Rust *et al.* (2001, p 27) is illustrated in FIGURE 3.

FIGURE 3: Framework of customer equity drivers (Rust *et al.*, 2001, p 27)



The model above illustrates that investment in developing value equity, brand equity and relationship equity drivers will in turn respectively increase the value equity, brand equity and relationship equity of the firm. As a result, the probability of a customer to switch to another product/brand will decrease, i.e. the switching matrix improves. A switching matrix is a statistical model used to

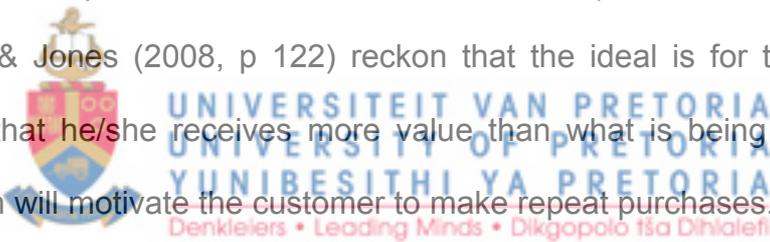
determine the probability of acquiring and retaining a customer (Rust *et al.*, 2004, p 113). An improvement in the switching matrix will cause an improvement in the CLV which translates into increased customer equity.

The following explain value, brand and relationship equity in more detail.

3.5.1. Value equity

Lemon *et al.* (2001, p 22) state that value equity is the critical ingredient to any marketing strategy; it is about the firm's offering meeting the needs and expectations of the customer. There is a trade off between the perceptions of what is given up versus what is received in turn (Lemon *et al.*, 2001, p 22).

Richards & Jones (2008, p 122) reckon that the ideal is for the customer to perceive that he/she receives more value than what is being paid for. This perception will motivate the customer to make repeat purchases.



Value equity is important in establishing long term relationships with the customer from the firm's point of view (Richards & Jones, 2008, p 122). Kotler & Keller (2007, p 71) note that quality, price and convenience are the main levers that can be utilised to improve value equity.

3.5.2. Brand equity

Brand equity is referred to by Rust *et al.* (2001, p 26) as the subjective appraisal of the brand. This appraisal is often intangible and beyond that of the objective perceived value (Kotler & Keller, 2007, p 71). Keller & Lehmann (2006, p 745)

view brand equity, in economic terms, as the firm's ability to capture market inefficiency from the competition with its brand.

Brand equity is built through image, and it is mainly influenced by brand awareness, attitude towards the brand, and corporate ethics (Lemon *et al.*, 2001, p 22). Kotler & Keller (2007, p 140) mention that the brand image is about the perceptions and beliefs associated by the consumer with the brand. Brand awareness includes everything the firm can control (example marketing communication) in order to influence and enhance its brand awareness with the customer (Lemon *et al.*, 2001, p 22), i.e. to differentiate the brand effectively from others. Lemon *et al.* (2001, p 22) state that the attitude towards the brand is influenced by the firm's ability to create close connections and develop emotional ties with the customer. Corporate ethics is about the perception the customer has about the firm (Lemon *et al.*, 2001, p 22). This perception can be influenced through sponsorships, employee relations and privacy policy.

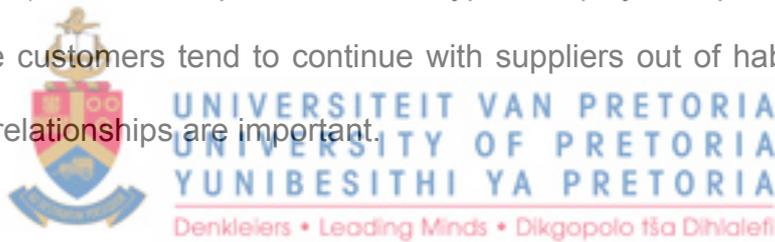
Villanueva & Hanssens (2007, p 8) are of the opinion that the main marketing drivers of brand equity are advertising and other communication forms, promotions, and word-of-mouth advertising.

3.5.3. Relationship equity

This type of equity is also known as retention equity (Rust *et al.*, 2001, p 26). Kotler & Keller (2007, p 71) define it as the tendency of a customer to not switch brands irrespective of the brand's worth. It is about the impact of the firm's

relationship building programmes on the customer (Richards & Jones, 2008, p 122).

Relationship equity is driven by things like loyalty programmes, special recognition or treatment, affinity programmes, community building programmes, and knowledge building programmes according to Lemon *et al.* (2001, p 23). Rust *et al.* (2001, p 26) state that these are the kind of things that form the link between the customer and the brand. The people factor has become more relevant in marketing as the relationships are, on many occasions, more important than the transactions itself (Rust *et al.*, 2001, p 27). Kotler & Keller (2007, p 71) are of the opinion that this type of equity is important in instances where the customers tend to continue with suppliers out of habit or where the personal relationships are important.



3.6. Summary

There are many regulations to which the pharmaceutical industry must adhere to. The key regulations impacting on pharmaceutical marketing were emphasised and briefly discussed with specific reference to the SA Code of Practice for the Marketing of Medicines.

The importance of marketing was illustrated. Maintaining and developing customer equity are amongst two of the purposes of marketing. Customer equity was explained in terms of value equity, brand equity and relationship equity.

The aim of a marketing campaign is to promote the products of a firm at the expense of another in order to sustain and develop customer equity. The Code has created an interesting phenomenon in that it is not in support of this kind of scenario. This situation paves the way for potential challenges in an already competitive industry. Certain marketing practices are not condoned by the Code. There is therefore a need to determine what the perceived impact of the Code may be in an already volatile industry.



CHAPTER 4

RESEARCH METHODOLOGY, HYPOTHESES AND RESEARCH QUESTION

4.1. Introduction

The design of the research methodology of this research project will be explained and defended in this chapter. Zikmund (2003, p 65) defines research design as a master plan that specifies the methods and procedures to be followed in order to gather and analyse data. This chapter will take the discussion from the research design through the formulated hypotheses and research question to the potential limitations and mitigating factors of the study.

4.2. Research design

Zikmund (2003, p 7) states that applied research is undertaken when it is conducted in an attempt to find an answer to a specific problem or when a decision must be taken about a policy. This research project was therefore classified as applied research as it attempted to establish the perceived impact of the SA Code of Practice for the Marketing of Medicines (hereafter referred to as the Code) on customer equity in the pharmaceutical industry of South Africa.

Descriptive research attempts to describe a phenomenon according to Zikmund (2003, p 55). The Code is a new phenomenon in the pharmaceutical industry. This research project was descriptive too as it also attempted to describe this phenomenon in terms of the impact it may have on the marketing of pharmaceuticals in South Africa.

Johnson & Harris (2003) classify research that is descriptive in nature as quantitative research. Tustin, Ligthelm, Martins & Van Wyk (2005, p 89) view quantitative research as an approach where research findings can be analysed numerically in a meaningful way. The research project therefore fell in the category of quantitative research.

The study was cross-sectional as the data was collected at a single point in time (Zikmund, 2003, p 187). The time frame of the research project was relatively short and the Code had yet to be implemented. The possible changes that might occur over time could therefore not be studied at that stage. It was therefore not feasible to do a longitudinal study that measures change over time as defined by Zikmund (2003, p 187).

An explanation of the population of this research project follows.



4.3. Population

The chosen firm for this project is an international, generic pharmaceutical company based in South Africa. Zikmund (2003, p 369) defines a population as “a complete group of entities sharing some common set of characteristics”. The population of the research project was defined as the South African retail pharmacies to which the chosen firm marketed its products during its financial year of 2007/2008.

4.4. Sampling method, sample, response rate and unit of analysis

The sampling method, sample, response rate and unit of analysis are discussed in this section.

4.4.1. Sampling method

A list containing only certain elements of the population was generated. A list like this one is also known as a sampling frame (Zikmund, 2003, p 373). The sampling frame of the research project contained all the retail pharmacies in South Africa classified as key accounts by the chosen firm for the period as indicated above. A total of two hundred and seventy one key account pharmacies made up the sampling frame.

4.4.2. Sample

The sample consisted of all the pharmacies contained in the sampling frame which responded to the questionnaire. A total of one hundred and six responses were received. Two of these responses were largely incomplete and were therefore discarded; thus the sample size was one hundred and four key account pharmacies.

4.4.3. Response rate

Tustin *et al.* (2005, p 193) are of the opinion that the response rates in surveys are between ten and twenty percent. This response rate is typical of instances where the respondents were not notified about the questionnaire prior to the survey taking place.



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The respondents in this research project were not notified prior to the survey taking place. The response rate of this research project was 38,38 % which was more than as expected above.

4.4.4. Unit of analysis

The unit of analysis was South African retail pharmacies classified as key accounts by the specific firm.

The following section will give more insight into the data collection and questionnaire of this research project.

4.5. Data collection and questionnaire

The first phase of the study was to investigate the existing body of knowledge in order to utilise the available external secondary data efficiently. Tustin *et al.* (2005, p 89) define secondary data as data that was gathered by another party for another purpose. Utilising secondary data is referred to as desk research.

The information obtained from this secondary data was then used to shape the questionnaire that was sent, via e-mail, to all those pharmacies listed in the sampling frame. This form of surveying in order to gather primary data is also known as a self-administered survey according to Zikmund (2003, p 212).

The purpose of the questionnaire was to gather primary data with regards to the perceived impact of the Code on customer equity. Data gathered specifically

for the project at hand is referred to as primary data by Tustin *et al.* (2005, p 89). This self-administered, e-mail survey formed part of the second phase of the study.

The self-administered, e-mail survey was set up using questions structured according to the Likert scale format. A Likert scale is defined by Zikmund (2003, p 312) as a scale that measures the attitude, from very negative to very positive, of a respondent towards a specific statement. The Likert scale used in this questionnaire ranged from “Strongly disagree” to “Strongly agree”. A value was attached to each option without the respondents seeing or knowing the values, namely:

- Strongly disagree = 1
 - Disagree = 2
 - Neutral = 3
 - Agree = 4
 - Strongly agree = 5
- 

All the questions were formulated based on the regulations as stipulated by the Code. Questions one through fifteen related to marketing practices that will not be allowed by the Code. The first five questions related to marketing practices that develop or maintain value equity. Questions six through ten related to marketing practices that develop or maintain brand equity. Questions eleven through fifteen related to marketing practices that develop or maintain relationship equity.

Questions sixteen through twenty one related to marketing practices that will be allowed by the Code. Questions sixteen and seventeen related to marketing practices that develop or maintain value equity. Questions eighteen and nineteen related to marketing practices that develop or maintain brand equity. Questions twenty and twenty one related to marketing practices that develop or maintain relationship equity.

Question twenty two was formulated in order to obtain suggested marketing practices from the market. Refer to “4.6.1. Hypotheses and research question” for a definition of the market for the purpose of this research project.

The advantages of self-administered, e-mail surveys are quick distribution, fast turnaround times, flexibility and lower costs (Zikmund, 2003, p 220). This questionnaire was pre-tested to establish if it would gather the required primary data. A copy of the questionnaire used for the survey is included in Appendix 1.

4.6. Methods of analysing the data

This section discusses the hypotheses and research question which were formulated, followed by the methods used to analyse the data.

4.6.1. Hypotheses and research question

Zikmund (2003, p 737) defines a hypothesis as an empirically testable proposition that tentatively explains a phenomenon or fact. Hypotheses were formulated about the perceived impact of the Code on customer equity. These

hypotheses were statistically tested during the data analyses. The formulated research question, as defined below, was used in an attempt to identify lateral marketing practices as suggested by the market. A lateral marketing practice (for the purpose of this study) is any other marketing practice not mentioned by the questionnaire.

The market was defined as key account retail pharmacies in South Africa to which the chosen firm marketed its Schedule 2 through 6 generic pharmaceuticals. The time frame was stipulated as the 2007/2008 financial year of the chosen firm.

Four hypotheses, each with sub-hypotheses, and one research question were formulated. The hypotheses, sub-hypotheses and research question follow. The null hypothesis at each sub-hypothesis is denoted by "H₀". The alternative hypothesis at each sub-hypothesis is denoted by "H₁".

- Hypothesis 1:

The mean market attitude is significantly positive towards value, brand and relationship equity practices that are not condoned by the Code.

- Sub-hypothesis 1.1:

H₀: The mean of the market's attitudes towards value equity practices that are not condoned by the Code (μ) is less than or equal to three (i.e. negatively disposed): $\mu \leq 3$.

H₁: The mean of the market's attitudes towards value equity practices that are not condoned by the Code (μ) is more than three (i.e. positively disposed): $\mu > 3$.

○ Sub-hypothesis 1.2:

H₀: The mean of the market's attitudes towards brand equity practices that are not condoned by the Code (μ) is less than or equal to three (i.e. negatively disposed): $\mu \leq 3$.

H₁: The mean of the market's attitudes towards brand equity practices that are not condoned by the Code (μ) is more than three (i.e. positively disposed): $\mu > 3$.

○ Sub-hypothesis 1.3:

H₀: The mean of the market's attitudes towards relationship equity practices that are not condoned by the Code (μ) is less than or equal to three (i.e. negatively disposed): $\mu \leq 3$.

H₁: The mean of the market's attitudes towards relationship equity practices that are not condoned by the Code (μ) is more than three (i.e. positively disposed): $\mu > 3$.

• Hypothesis 2:

The mean market attitude is significantly positive towards value, brand and relationship equity practices that are condoned by the Code.



○ Sub-hypothesis 2.1:

H₀: The mean of the market's attitudes towards value equity practices that are condoned by the Code (μ) is less than or equal to three (i.e. negatively disposed): $\mu \leq 3$.

H₁: The mean of the market's attitudes towards value equity practices that are condoned by the Code (μ) is more than three (i.e. positively disposed): $\mu > 3$.

○ Sub-hypothesis 2.2:

H₀: The mean of the market's attitudes towards brand equity practices that are condoned by the Code (μ) is less than or equal to three (i.e. negatively disposed): $\mu \leq 3$.

H₁: The mean of the market's attitudes towards brand equity practices that are condoned by the Code (μ) is more than three (i.e. positively disposed): $\mu > 3$.

○ Sub-hypothesis 2.3:

H₀: The mean of the market's attitudes towards relationship equity practices that are condoned by the Code (μ) is less than or equal to three (i.e. negatively disposed): $\mu \leq 3$.

H₁: The mean of the market's attitudes towards relationship equity practices that are condoned by the Code (μ) is more than three (i.e. positively disposed): $\mu > 3$.



- Hypothesis 3:

The mean market attitude towards value, brand and relationship equity practices that are not condoned by the Code, does not compare to the mean market attitude towards value, brand and relationship equity practices that are condoned by the Code.

- Sub-hypothesis 3.1:

H₀: The mean of the market's attitudes towards value equity practices that are not condoned by the Code (μ_0) is equal to the mean of the market's attitudes towards value equity practices that are condoned by the Code (μ_1): $\mu_0 = \mu_1$.

H₁: The mean of the market's attitudes towards value equity practices that are not condoned by the Code (μ_0) is not equal to the mean of the market's attitudes towards value equity practices that are condoned by the Code (μ_1): $\mu_0 \neq \mu_1$.

- Sub-hypothesis 3.2:

H₀: The mean of the market's attitudes towards brand equity practices that are not condoned by the Code (μ_0) is equal to the mean of the market's attitudes towards brand equity practices that are condoned by the Code (μ_1): $\mu_0 = \mu_1$.

H₁: The mean of the market's attitudes towards brand equity practices that are not condoned by the Code (μ_0) is not equal to the mean of

the market's attitudes towards brand equity practices that are condoned by the Code (μ_1): $\mu_0 \neq \mu_1$.

o Sub-hypothesis 3.3:

H₀: The mean of the market's attitudes towards relationship equity practices that are not condoned by the Code (μ_0) is equal to the mean of the market's attitudes towards relationship equity practices that are condoned by the Code (μ_1): $\mu_0 = \mu_1$.

H₁: The mean of the market's attitudes towards relationship equity practices that are not condoned by the Code (μ_0) is not equal to the mean of the market's attitudes towards relationship equity practices that are condoned by the Code (μ_1): $\mu_0 \neq \mu_1$.

• Hypothesis 4:



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The means of the market's attitudes towards value, brand and relationship equity practices differ across the "years of experience" categories.

o Sub-hypothesis 4.1:

H₀: There are no differences between the mean attitudes of the different "years of experience" categories towards value equity practices that are not condoned by the Code.

H₁: There are differences between the mean attitudes of the different "years of experience" categories towards value equity practices that are not condoned by the Code.

○ Sub-hypothesis 4.2:

H₀: There are no differences between the mean attitudes of the different “years of experience” categories towards brand equity practices that are not condoned by the Code.

H₁: There are differences between the mean attitudes of the different “years of experience” categories towards brand equity practices that are not condoned by the Code.

○ Sub-hypothesis 4.3:

H₀: There are no differences between the mean attitudes of the different “years of experience” categories towards relationship equity practices that are not condoned by the Code.

H₁: There are differences between the mean attitudes of the different “years of experience” categories towards relationship equity practices that are not condoned by the Code.

○ Sub-hypothesis 4.4:

H₀: There are no differences between the mean attitudes of the different “years of experience” categories towards value equity practices that are condoned by the Code.

H₁: There are differences between the mean attitudes of the different “years of experience” categories towards value equity practices that are condoned by the Code.

○ Sub-hypothesis 4.5:

H₀: There are no differences between the mean attitudes of the different “years of experience” categories towards brand equity practices that are condoned by the Code.

H₁: There are differences between the mean attitudes of the different “years of experience” categories towards brand equity practices that are condoned by the Code.

○ Sub-hypothesis 4.6:

H₀: There are no differences between the mean attitudes of the different “years of experience” categories towards relationship equity practices that are condoned by the Code.

H₁: There are differences between the mean attitudes of the different “years of experience” categories towards relationship equity practices that are condoned by the Code.

• Research question 1:

What lateral marketing practices are suggested by the market?

The data gathered was analysed in order to test the formulated hypotheses and to attempt to find an answer to the stated research question.

4.6.2. Data analyses

Quantitative data analyses were done based on the nature of this study, as discussed under “4.2. Research design”. The information gathered with the self-administered, e-mail survey was statistically analysed to test the hypotheses (see “4.6.1. Hypotheses and research question”).

There were two responses that were largely incomplete and were therefore discarded prior to the statistical analysis commencing. A few of the remaining responses were incomplete to a limited extent. These were compensated for by averaging it out during the statistical analyses which is standard practice.

The hypotheses tests for hypothesis 1 and hypothesis 2 were one-tailed tests as the alternative hypotheses (H_1) were expressed in terms of a particular direction (Albright, Winston & Zappe, 2006, p 491). A one-tailed test is supported by only single direction evidence.

Hypotheses 1 and 2 were tested at two levels, namely the subscale level and the individual item level. The subscale level was tested by using the means across the individual items corresponding to the value equity marketing practices not condoned by the Code; for example questions one through five of the questionnaire. This was also done for the brand and relationship equity marketing practices not condoned by the Code, and also for the value, brand and relationship equity marketing practices that are condoned by the Code.

The individual item level was tested by using the mean of each individual item corresponding to the value equity marketing practice not condoned by the Code. This was also done for the brand and relationship equity marketing practices not condoned by the Code, and also for the value, brand and relationship equity marketing practices that are condoned by the Code.

One sample t-tests comparing the means against a value of three were done for both hypotheses 1 and 2. A value of three was chosen as it denotes the neutral response on the questionnaire. Tustin *et al.* (2005, p 615) define a one sample t-test as a statistical analysis that is executed in cases where hypotheses concerning means are formulated.



The frequency analysis that was conducted considered the items (i.e. each question) at an ordinal level rather than at an equal interval level of measurement. Albright *et al.* (2006, p 38) state that the number of observations of a variable is determined with a frequency analysis. The ordinal level is only in terms of the magnitude of the response while the equal interval level also distinguishes the order of magnitude in equal intervals (Zikmund, 2003, p 297-298).

The hypotheses tests for hypothesis 3 were two-tailed tests as the alternative hypotheses (H_1) were not expressed in terms of a particular direction (Albright *et al.*, 2006, p 491). A two-tailed test is supported by evidence in either

direction. Hypothesis 3 was only tested on the subscale level and not the individual item level.

T-tests were conducted to compare the means of the attitudes towards marketing practices not condoned by the Code with the means of the attitudes towards marketing practices condoned by the Code of the related groups. These t-tests were conducted at the equal interval level.

The years of experience of each respondent were recorded by the questionnaire's first question. These responses were then grouped into three different categories, namely zero to five years, six to ten years and more than eleven years of experience.

Hypothesis 4 was tested as follows. The sub-hypotheses were tested by executing a one way analysis of variance (ANOVA) between the "years of experience" categories relative to the variance within these categories. These were done in order to statistically compare the means of the attitudes of the different categories. A one way ANOVA is defined by Albright *et al.* (2006, p 537) as a test of differences between means, i.e. to determine whether the mean of one group is the same as that of another group.

The significance levels of 0,1 %, 1 % and 5 % were chosen for these analyses. The significance level determines whether the sample results rejecting the null



hypothesis (H_0), if that is the case, are statistically significant (or not) according to Albright *et al.* (2006, p 492).

The responses received for the open ended question in the questionnaire were analysed and summarised in a table. This summary provided the answer to the research question as stated under “4.6.1. Hypotheses and research question”.

Inferences were then drawn based on the information gathered and the quantitative analyses done during this research project. Albright *et al.* (2006, p 378) define an inference as a statement about a characteristic of a population.

4.7. Limitations of this research project

There are certain limitations to any research design. The potential limitations identified for this research project were as follows:

- It would not be possible to determine the long term effect of the Marketing Code of Practice on customer equity in the pharmaceutical industry of South Africa as it was a cross-sectional study.
- The respondent may not be familiar with using e-mail as a vehicle to respond to surveys, the survey can be easily deleted by a non-motivated respondent (thus contributing to decreasing the response rate), and there may be an increased risk of response bias or non-response error if the mailing list can be viewed by the respondent (Zikmund, 2003).
- Another limitation of this project was that the inferences drawn from the data analyses were only applicable to the sample as defined above (see

“4.4.2. Sample”). This means that the perceived impact of the Code as determined by this study may not have been the same for other pharmaceutical firms, nor for all the others to whom the chosen firm supplied and marketed its products.

A research project may experience one or more types of bias. The potential biases of this research project are discussed below.

4.8. Bias and error in the research project

Zikmund (2003, p 178) defines response bias as a situation where the respondents don't answer the survey questions truthfully. Non-response error is defined by Tustin *et al.* (2005, p 377) as a situation where some of the subjects do not respond to the survey and when this non-response is not accounted for during the data analyses (Zikmund, 2003, p 178).

A few systematic errors could also occur such as non-respondent error and refusal. A systematic error is an error that occurs due to some imperfection with the research design (Zikmund, 2003, p 177).

The database might have had an incorrect e-mail address of the respondent; therefore the survey may have never reached the intended respondent. This is an example of non-respondent error as per Zikmund (2003, p 178). The respondent could also refuse to take part in the survey, i.e. refusal (Tustin *et al.*, 2005, p 377).

The respondent could have made himself/herself guilty of extremity bias (classified as response bias) according to Zikmund (2003, p 178) if he/she used extremes when answering to the survey. Response bias is when the subject misrepresents the truth either on purpose or without realising it (Zikmund, 2003, p 178).

An error with the sampling frame (i.e. sample design) could also be present. This error might occur when potential respondents were excluded or when respondents were included where they should not have been listed as members of the population (Tustin *et al.*, 2005, p 377).

4.9. Mitigating limitations, bias and error

The questionnaire was programmed to send the response automatically to the researcher once completed. This function mitigated the potential limitation of the respondent not being familiar with responding to surveys via e-mail.

It was attempted to reduce the risk of a potential respondent deleting the questionnaire by explaining the purpose of the research project briefly. The cases of non-responses were taken into consideration during the analyses as explained above (refer “4.6.2. Data analyses”).

The possibility of a sampling frame error occurring was reduced by obtaining the necessary information from the last updated customer database for the 2007/2008 financial year of the said firm.

4.10. Summary

The information given in this chapter motivated and defended the research design and procedures that were followed during the project. The research project was classified in terms of the type of research. This was important as the classification determined the kind of analyses that had to be done with the collected data.

This chapter discussed the population, sampling method, sample, response rate, and unit of analysis. The data collection method and the questionnaire used were explained. A list of the hypotheses and research question was provided, and the data analyses were explored. The potential limitations, types of bias, and errors (including mitigating these potential risks) of this project were mentioned too.



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CHAPTER 5

RESULTS OF THE STUDY

5.1. Introduction

The gathered data was statistically analysed as stated in Chapter 4 (refer “4.6.2. Data analyses”). These results are summarised in tables in accordance with the formulated hypotheses and research question. Interpretations of the results follow each table. A table summarising the percentage of respondents in favour of the various, indicated marketing practices is given towards the end of the chapter.

A brief description of the project’s population, sampling frame, sample, response rate and unit of analysis follows. Refer to Chapter 4 for a more extensive description of these terms.



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5.2. Sample description

The population of the research project was defined as the South African retail pharmacies to which the chosen pharmaceutical firm marketed its products during its financial year of 2007/2008.

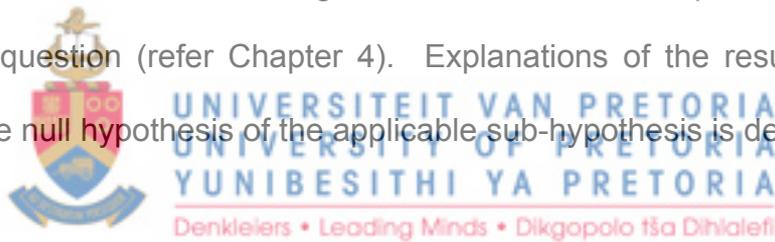
A sampling frame was created that contained all the retail pharmacies in South Africa classified as key accounts by the chosen firm for the period as indicated above. The total amount of key account pharmacies was two hundred and seventy one.

The sample consisted of all the pharmacies contained in the sampling frame which responded to the questionnaire. A total of one hundred and six responses were received. Two of the responses had to be discarded as they were largely incomplete. The sample size was therefore one hundred and four. The unit of analysis were South African retail pharmacies classified as key accounts by the chosen firm.

The results of the statistically analysed data are explained below.

5.3. Research results

The summarised results are given in each table as per hypotheses and research question (refer Chapter 4). Explanations of the results follow each table. The null hypothesis of the applicable sub-hypothesis is depicted by H_0 .



5.3.1. The mean market attitude towards value, brand and relationship equity practices that are not condoned by the Code

The test results of sub-hypotheses 1.1, 1.2 and 1.3 (refer Chapter 4) are summarised in TABLE 1 through 3 and will be discussed below. These sub-hypotheses were tested on both the individual item level and subscale level.

TABLE 1: Summary of results of value equity marketing practices not condoned by the Code (refer Chapter 4 “Sub-hypothesis 1.1”)

Item: Value equity marketing practices not condoned by the Code	Item mean	Standard deviation	p-value	1-tailed p-value	
Q1: Pharmaceutical firms do not inflate the price of medicines due to free samples made available to pharmacists	3.20	0.99	0.019151	0.038302	*
Q2: The costs of medicines are not increased due to pharmaceutical firms having to sponsor attendees' expenses incurred to attend a new product launch event	3.36	1.04	0.000234	0.000467	***
Q3: Medicine prices are not inflated due to pharmaceutical firms sponsoring stand-alone, leisure donations	3.32	1.04	0.000933	0.001865	**
Q4: The costs of medicines are not increased due to pharmaceutical firms sponsoring stand-alone events	3.25	1.08	0.008664	0.017327	*
Q5: Medicine prices are not increased due to pharmaceutical firms sponsoring extravagant conferences	3.09	1.11	0.211535	0.423071	ns
Mean across all items (subscale level):	3.24	0.90	0.003282	0.006564	**

*** = significant at the 0,1 % level

** = significant at the 1 % level

* = significant at the 5 % level

ns = not significant



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The following discussion refers to the results summarised in TABLE 1.

The market attitudes (individual item level) towards Q1 and Q4 have means of 3,20 (1-tailed p-value = 0,038302) and 3,25 (1-tailed p-value = 0,017327) respectively. Therefore H_0 (refer Chapter 4 “Sub-hypothesis 1.1”) for both Q1 and Q4 can be rejected at the 5 % significance level.

The market attitude (individual item level) towards Q2 has a mean of 3,36 (1-tailed p-value = 0,000467). Therefore H_0 (refer Chapter 4 “Sub-hypothesis 1.1”) for Q2 can be rejected at the 0,1 % significance level.

The market attitude (individual item level) towards Q3 has a mean of 3,32 (1-tailed p-value = 0,001865). Therefore H_0 (refer Chapter 4 “Sub-hypothesis 1.1”) for Q3 can be rejected at the 1 % significance level.

The above sub-hypotheses tests indicate that the market on the individual item level is significantly positive towards the value equity practices as stated by Q1 through Q4.

The market attitude (individual item level) towards Q5 has a mean of 3,09 (1-tailed p-value = 0,423071). Therefore H_0 (refer Chapter 4 “Sub-hypothesis 1.1”) for Q5 cannot be rejected at any of the three specified significance levels.



As a result there is not enough evidence on the individual item level to statistically prove that the market is significantly positive towards the value equity practice as depicted by Q5.

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The market attitude (subscale level) towards value equity practices that are not condoned by the Code has a mean of 3,24 (1-tailed p-value = 0,006564). Therefore H_0 (refer Chapter 4 “Sub-hypothesis 1.1”) can be rejected at the 1 % significance level.

The above sub-hypothesis test indicates that the mean market attitude on subscale level is significantly positive towards the value equity practices which are not condoned by the Code.

It can be inferred from the analyses that the market is in favour of the value equity practices (except for Q5 on individual item level) not condoned by the Code. This finding translates into a negative perceived impact of the Code on value equity. It can therefore be inferred that the Code's perceived impact on customer equity in the pharmaceutical industry will be negative too. The lack of market support for Q5, however, may mitigate this negative perceived impact.

TABLE 2: Summary of results of brand equity marketing practices not condoned by the Code (refer Chapter 4 "Sub-hypothesis 1.2")

Item: Brand equity marketing practices not condoned by the Code	Item mean	Standard deviation	p-value	1-tailed p-value	
Q6: Pharmaceutical medicines should be promoted at CPD events	3.93	0.87	0.000000	0.000000	***
Q7: A pharmaceutical firm should be able to promote a product through donations to charities/communities	3.16	1.20	0.082718	0.165435	ns
Q8: Your entry into a competition of a pharmaceutical firm should be determined by how often you prescribe, order or recommend the hosting firm's products	2.15	1.09	1.000000	1.000000	ns
Q9: The prize won in a pharmaceutical firm's competition should be for personal use and not be related to your profession	3.25	0.96	0.003890	0.007781	**
Q10: Discounts should be offered to you when purchasing stock from a pharmaceutical firm	3.37	1.07	0.000207	0.000415	***
Mean across all items (subscale level):	3.17	0.53	0.000498	0.000996	***

*** = significant at the 0,1 % level

** = significant at the 1 % level

* = significant at the 5 % level

ns = not significant

The following discussion refers to the results summarised in TABLE 2.

The market attitudes (individual item level) towards Q6 and Q10 have means of 3,93 (1-tailed p-value = 0,000000) and 3,37 (1-tailed p-value = 0,000415)

respectively. Therefore H_0 (refer Chapter 4 “Sub-hypothesis 1.2”) for both Q6 and Q10 can be rejected at the 0,1 % significance level.

The market attitude (individual item level) towards Q9 has a mean of 3,25 (1-tailed p-value = 0,007781). Therefore H_0 (refer Chapter 4 “Sub-hypothesis 1.2”) for Q9 can be rejected at the 1 % significance level.

The above sub-hypotheses tests indicate that the market is on the individual item level significantly positive towards the brand equity practices as stated by Q6, Q9 and Q10.

The market attitudes (individual item level) towards Q7 and Q8 have means of 3,16 (1-tailed p-value = 0,165435) and 2,15 (1-tailed p-value = 1,000000) respectively. Therefore H_0 (refer Chapter 4 “Sub-hypothesis 1.2”) for Q7 and Q8 cannot be rejected at any of the three specified significance levels.

As a result there is not enough evidence on the individual item level to statistically prove that the market is significantly positive towards the brand equity practices as depicted by Q7 and Q8.

The market attitude (subscale level) towards brand equity practices that are not condoned by the Code has a mean of 3,17 (1-tailed p-value = 0,000996). Therefore H_0 (refer Chapter 4 “Sub-hypothesis 1.2”) can be rejected at the 0,1 % significance level.

The above sub-hypothesis test indicates that the mean market attitude on subscale level is significantly positive, at the strictest significance level, towards the brand equity practices which are not condoned by the Code.

It can be inferred from the analyses that the market is in favour of the brand equity practices (except for Q7 and Q8 on individual item level) not condoned by the Code. This finding translates into a negative perceived impact of the Code on brand equity. It can therefore be inferred that the Code's perceived impact on customer equity in the pharmaceutical industry will be negative too. The lack of market support for Q7 and Q8, however, may mitigate this negative perceived impact.



TABLE 3: Summary of results of relationship equity marketing practices not condoned by the Code (refer Chapter 4 "Sub-hypothesis 1.3")

Item: Relationship equity marketing practices not condoned by the Code	Item mean	Standard deviation	p-value	1-tailed p-value	
Q11: You should be reimbursed by a pharmaceutical company for expenses incurred to attend a conference hosted in SA	2.95	1.15	0.665513	1.000000	ns
Q12: The cost of medicines are not increased due to pharmaceutical firms sponsoring your spouse's/partner's expenses at a SA conference	3.13	1.10	0.106263	0.212526	ns
Q13: High value gifts offered by a pharmaceutical firm do not increase the price of medicines	3.21	1.10	0.024706	0.049412	*
Q14: A pharmaceutical firm should be able to sell its products at preferential prices to a loyal customer	3.29	1.14	0.004959	0.009918	**
Q15: A pharmaceutical firm should have reward programmes that offer rebates to loyal customers	3.51	1.11	0.000001	0.000003	***
Mean across all items (subscale level):	3.22	0.71	0.000928	0.001856	**

*** = significant at the 0,1 % level

** = significant at the 1 % level

* = significant at the 5 % level

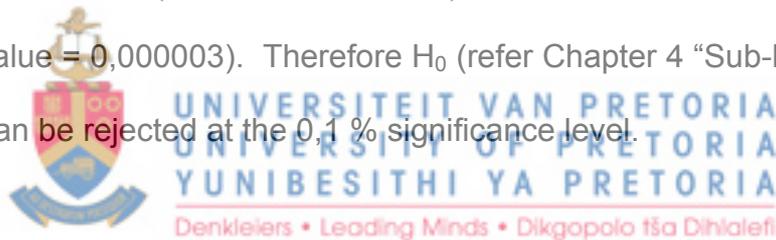
ns = not significant

The following discussion refers to the results summarised in TABLE 3.

The market attitude (individual item level) towards Q13 has a mean of 3,21 (1-tailed p-value = 0,049412). Therefore H_0 (refer Chapter 4 “Sub-hypothesis 1.3”) for Q13 can be rejected at the 5 % significance level.

The market attitude (individual item level) towards Q14 has a mean of 3,29 (1-tailed p-value = 0,009918). Therefore H_0 (refer Chapter 4 “Sub-hypothesis 1.3”) for Q14 can be rejected at the 1 % significance level.

The market attitude (individual item level) towards Q15 has a mean of 3,51 (1-tailed p-value = 0,000003). Therefore H_0 (refer Chapter 4 “Sub-hypothesis 1.3”) for Q15 can be rejected at the 0,1 % significance level.



The above sub-hypotheses tests indicate that the market is on the individual item level significantly positive towards the relationship equity practices as stated by Q13, Q14 and Q15.

The market attitudes (individual item level) towards Q11 and Q12 have means of 2,95 (1-tailed p-value = 1,000000) and 3,13 (1-tailed p-value = 0,212526) respectively. Therefore H_0 (refer Chapter 4 “Sub-hypothesis 1.3”) for Q11 and Q12 cannot be rejected at any of the three specified significance levels.

As a result there is not enough evidence on the individual item level to statistically prove that the market is significantly positive towards the relationship equity practices as depicted by Q11 and Q12.

The market attitude (subscale level) towards relationship equity practices that are not condoned by the Code has a mean of 3,22 (1-tailed p-value = 0,001856). Therefore H_0 (refer Chapter 4 “Sub-hypothesis 1.3”) can be rejected at the 1 % significance level.

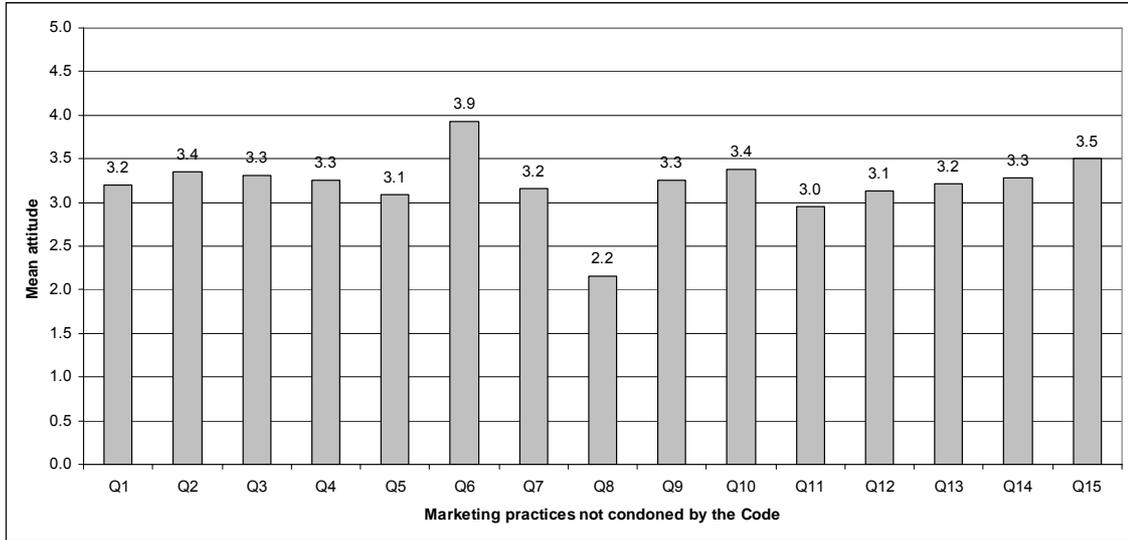
The above sub-hypothesis test indicates that the mean market attitude on subscale level is significantly positive towards the relationship equity practices which are not condoned by the Code.



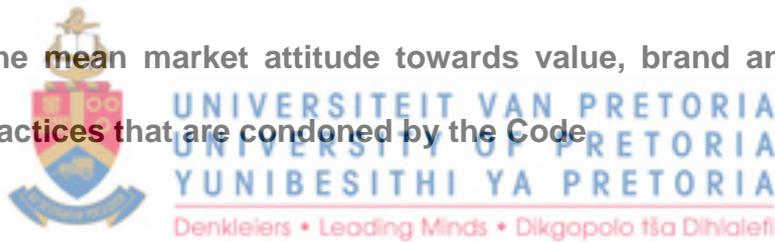
It can be inferred from the analyses that the market is in favour of the relationship equity practices (except for Q11 and Q12 on individual item level) not condoned by the Code. This finding translates into a negative perceived impact of the Code on relationship equity. It can therefore be inferred that the Code's perceived impact on customer equity in the pharmaceutical industry will be negative too. The lack of market support for Q11 and Q12, however, may mitigate this negative perceived impact.

The bar chart of FIGURE 4 below gives an overview of the above results on the individual item level.

FIGURE 4: Bar chart of results (mean attitude) on individual item level of value, brand and relationship equity marketing practices not condoned by the Code (refer to TABLE 1 through 3 for meaning of x-axis labels)



5.3.2. The mean market attitude towards value, brand and relationship equity practices that are condoned by the Code



The test results of sub-hypotheses 2.1, 2.2 and 2.3 (refer Chapter 4) are summarised in TABLE 4 through 6 and will be discussed below. These sub-hypotheses were tested on both the individual item level and subscale level.

TABLE 4: Summary of results of value equity marketing practices condoned by the Code (refer Chapter 4 “Sub-hypothesis 2.1”)

Item: Value equity marketing practices condoned by the Code	Item mean	Standard deviation	p-value	1-tailed p-value	
Q16: It is important to receive free, branded medicine measures, notepads, and desk tablet counters	3.63	0.92	0.000000	0.000000	***
Q17: Dummy boxes, posters, shelf talkers and information brochures add value at your point of sale	3.74	0.73	0.000000	0.000000	***
Mean across all items (subscale level):	3.69	0.64	0.000000	0.000000	***

*** = significant at the 0,1 % level

** = significant at the 1 % level

* = significant at the 5 % level

ns = not significant

The following discussion refers to the results summarised in TABLE 4.

The market attitudes (individual item level) towards Q16 and Q17 have means of 3,63 (1-tailed p-value = 0,000000) and 3,74 (1-tailed p-value = 0,000000) respectively. Therefore H_0 (refer Chapter 4 “Sub-hypothesis 2.1”) for both Q16 and Q17 can be rejected at the 0,1 % significance level.

The above sub-hypotheses tests indicate that the market is on the individual item level significantly positive towards the “Code-condoned” value equity practices depicted by Q16 and Q17.

The market attitude (subscale level) towards value equity practices that are condoned by the Code has a mean of 3,69 (1-tailed p-value = 0,000000). Therefore H_0 (refer Chapter 4 “Sub-hypothesis 2.1”) can be rejected at the 0,1 % significance level.

The above sub-hypothesis test indicates that the mean market attitude on subscale level is significantly positive, at the strictest significance level, towards the value equity practices that are condoned by the Code.

It can be inferred from the analyses that the market is in favour of the identified value equity practices condoned by the Code. This finding indicates that there are “Code-condoned” value equity practices available to which the market has a significantly positive attitude.

TABLE 5: Summary of results of brand equity marketing practices condoned by the Code (refer Chapter 4 “Sub-hypothesis 2.2”)

Item: Brand equity marketing practices condoned by the Code	Item mean	Standard deviation	p-value	1-tailed p-value	
Q18: Advertising a pharmaceutical product through hinting at the product without directly disclosing the product's name is effective	3.15	0.94	0.057741	0.115482	ns
Q19: Automatic advertisements on the dispensary computer programme while you are dispensing, are effective	2.84	1.06	0.942592	1.000000	ns
Mean across all items (subscale level):	3.00	0.76	0.525681	1.051362	ns

*** = significant at the 0,1 % level

** = significant at the 1 % level

* = significant at the 5 % level

ns = not significant

The following discussion refers to the results summarised in TABLE 5.

The market attitudes (individual item level) towards Q18 and Q19 have means of 3,15 (1-tailed p-value = 0,115482) and 2,84 (1-tailed p-value = 1,000000) respectively. Therefore H_0 (refer Chapter 4 “Sub-hypothesis 2.2”) for both Q18 and Q19 cannot be rejected at any of the three specified significance levels.

As a result there is not enough evidence on the individual item level to statistically prove that the market is significantly positive towards the brand equity practices depicted by Q18 and Q19.

The market attitude (subscale level) towards brand equity practices that are not condoned by the Code has a mean of 3,00 (1-tailed p-value = 1,051362). Therefore H_0 (refer Chapter 4 “Sub-hypothesis 2.2”) cannot be rejected at any of the three specified significance levels.

As a result there is not enough evidence on the subscale level to statistically prove that the market is significantly positive towards these brand equity practices that are condoned by the Code.



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It can be inferred from the analyses that the market is negatively disposed towards the identified brand equity practices condoned by the Code. This finding may indicate that pharmaceutical firms should be careful in selecting brand equity practices that are “Code-condoned”, as these may not contribute to building brand equity and in turn customer equity.

TABLE 6: Summary of results of relationship equity marketing practices condoned by the Code (refer Chapter 4 “Sub-hypothesis 2.3”)

Item: Relationship equity marketing practices condoned by the Code	Item mean	Standard deviation	p-value	1-tailed p-value	
Q20: The sales representative plays an important part in building your relationship with a pharmaceutical firm	4.43	0.66	0.000000	0.000000	***
Q21: Your relationship with a pharmaceutical firm is strengthened when that firm sponsors you to attend courses on pharmacy management	3.86	0.82	0.000000	0.000000	***
Mean across all items (subscale level):	4.13	0.65	0.000000	0.000000	***

*** = significant at the 0,1 % level

** = significant at the 1 % level

* = significant at the 5 % level

ns = not significant

The following discussion refers to the results summarised in TABLE 6.

The market attitudes (individual item level) towards Q20 and Q21 have means of 4,43 (1-tailed p-value = 0,000000) and 3,86 (1-tailed p-value = 0,000000) respectively. Therefore H_0 (refer Chapter 4 “Sub-hypothesis 2.3”) for both Q20 and Q21 can be rejected at the 0,1 % significance level.

The above sub-hypotheses tests indicate that the market is on the individual item level significantly positive towards the relationship equity practices as stated by Q20 and Q21.

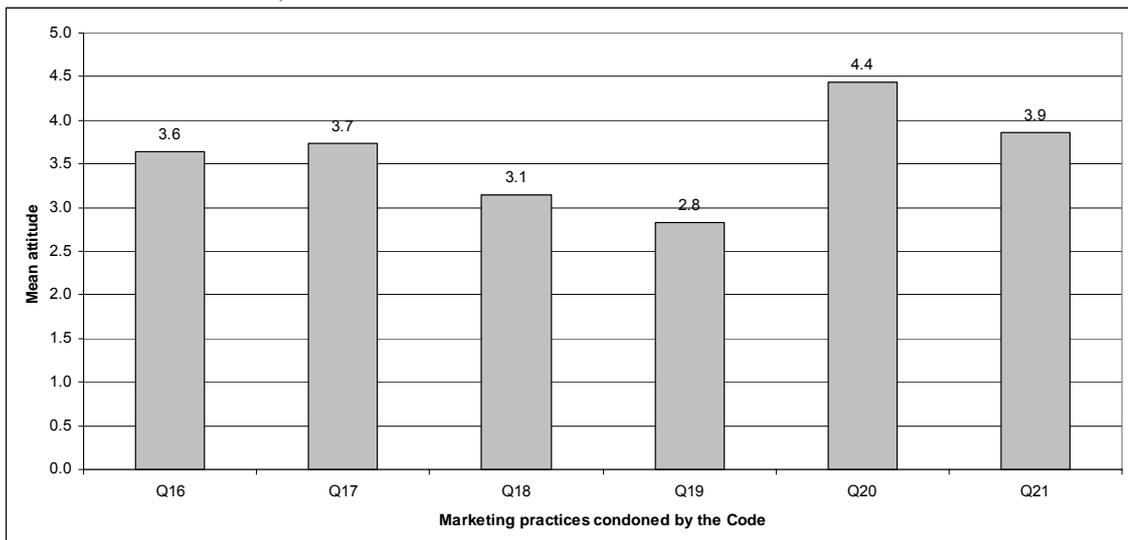
The market attitude (subscale level) towards relationship equity practices that are condoned by the Code has a mean of 4,13 (1-tailed p-value = 0,000000). Therefore H_0 (refer Chapter 4 “Sub-hypothesis 2.3”) can be rejected at the 0,1 % significance level.

The above sub-hypothesis test indicates that the mean market attitude on subscale level is significantly positive, at the strictest significance level, towards the relationship equity practices that are condoned by the Code.

It can be inferred from the analyses that the market is in favour of the identified relationship equity practices condoned by the Code. This finding indicates that there are “Code-condoned” relationship equity practices available to which the market has a significantly positive attitude.

The bar chart of FIGURE 5 below gives an overview of the above results on the individual item level.

FIGURE 5: Bar chart of results (mean attitude) on individual item level of value, brand and relationship equity marketing practices condoned by the Code (refer to TABLE 4 through 6 for meaning of x-axis labels)



5.3.3. The means of the market’s attitudes towards value, brand and relationship equity practices that are not condoned by the Code compared to the means of the market’s attitudes towards value, brand and relationship equity practices that are condoned by the Code

The test results of sub-hypotheses 3.1, 3.2 and 3.3 (refer Chapter 4) are summarised in TABLE 7 and will be discussed below. These sub-hypotheses were tested on the subscale level.

TABLE 7: Summary of results of value, brand and relationship equity marketing practices not condoned by the Code versus value, brand and relationship equity marketing practices condoned by the Code (refer Chapter 4 “Hypothesis 3”)

Subscale level	Mean of marketing practices not condoned by the Code	Mean of marketing practices condoned by the Code	p-value of similarity of the means	
Value equity	3.24	3.69	0.000053	***
Brand equity	3.17	3.00	0.035600	*
Relationship equity	3.22	4.13	0.000000	***

*** = significant at the 0,1 % level

** = significant at the 1 % level

* = significant at the 5 % level

ns = not significant

The market attitude towards value equity practices that are not condoned by the Code has a mean of 3,24. The market attitude towards value equity practices that are condoned by the Code has a mean of 3,69. The probability of these two respective means being similar is 0,000053. Therefore H_0 (refer Chapter 4 “Sub-hypothesis 3.1”) can be rejected at the 0,1 % significance level.

The above sub-hypothesis test indicates that the respective means of the market attitudes towards those value equity practices that are not condoned by the Code versus those that are condoned, are significantly different.

It can be inferred from the analyses that the market is positively disposed towards “Code-not-condoned” and “Code-condoned” value equity practices respectively (refer analyses of sub-hypotheses 1.1 and 2.1), but significantly not to the same extent. This finding indicates that the market may be more positively disposed towards the “Code-condoned” instead of “Code-not-condoned” value equity practices. As a result, this finding may mitigate the perceived negative impact of the Code on value equity and ultimately on customer equity in the pharmaceutical industry.

The market attitude towards brand equity practices that are not condoned by the Code has a mean of 3,17. The market attitude towards brand equity practices that are condoned by the Code has a mean of 3,00. The probability of these two respective means being similar is 0,035600. Therefore H_0 (refer Chapter 4 “Sub-hypothesis 3.2”) can be rejected at the 5 % significance level.

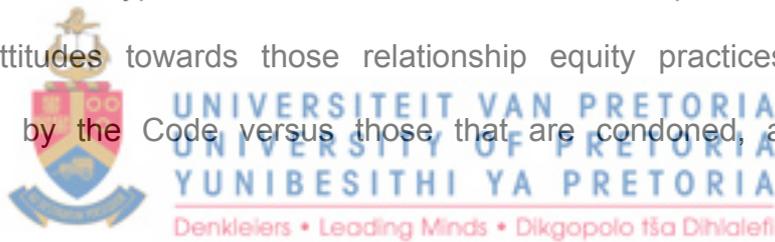
The above sub-hypothesis test indicates that the respective means of the market attitudes towards those brand equity practices that are not condoned by the Code versus those that are condoned, are significantly different.

According to the analysis above, the market’s dispositions towards “Code-not-condoned” and “Code-condoned” brand equity practices respectively, are significantly different. This finding indicates that the market may be more positively disposed towards the “Code-not-condoned” instead of “Code-condoned” brand equity practices. As a result this finding may contribute to the

perceived negative impact of the Code on brand equity, and ultimately on customer equity in the pharmaceutical industry.

The market attitude towards relationship equity practices that are not condoned by the Code has a mean of 3,22. The market attitude towards relationship equity practices that are condoned by the Code has a mean of 4,13. The probability of these two respective means being similar is 0,000000. Therefore H_0 (refer Chapter 4 “Sub-hypothesis 3.3”) can be rejected at the 0,1 % significance level.

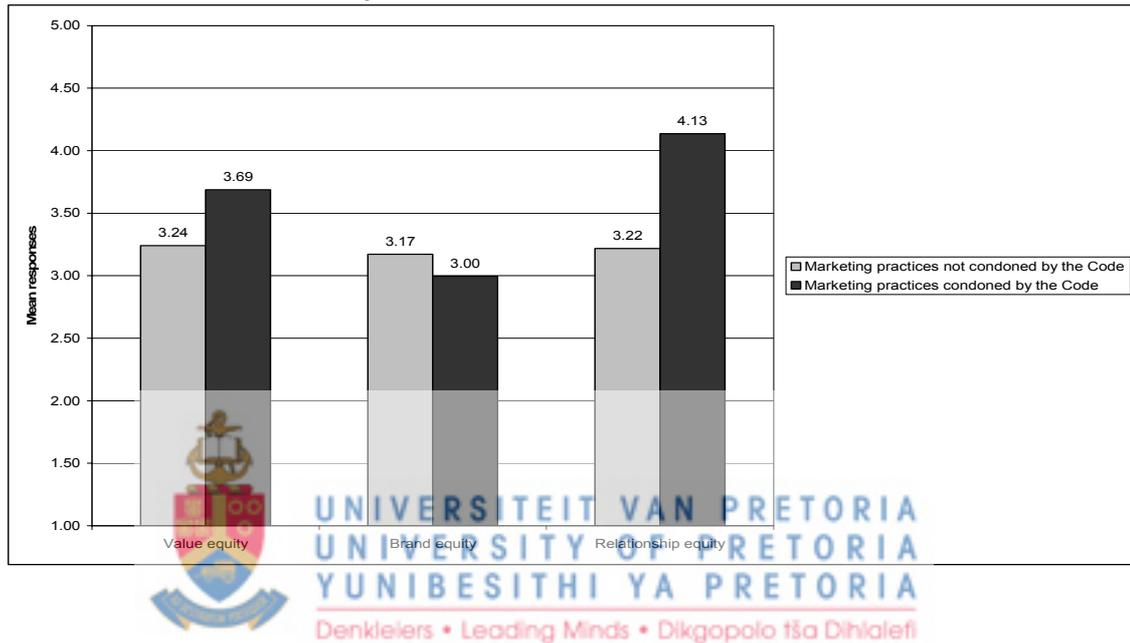
The above sub-hypothesis test indicates that the respective means of the market attitudes towards those relationship equity practices that are not condoned by the Code versus those that are condoned, are significantly different.



It can be inferred from the analyses that the market is positively disposed towards “Code-not-condoned” and “Code-condoned” relationship equity practices respectively (refer analyses of sub-hypotheses 1.3 and 2.3), but significantly not to the same extent. This finding indicates that the market may be more positively disposed towards the “Code-condoned” instead of “Code-not-condoned” relationship equity practices. As a result, this finding may mitigate the perceived negative impact of the Code on relationship equity and ultimately on customer equity in the pharmaceutical industry.

The bar chart of FIGURE 6 below gives an overview of the above results on the subscale level.

FIGURE 6: Bar chart of results on subscale level of value, brand and relationship equity marketing practices not condoned by the Code versus value, brand and relationship equity marketing practices condoned by the Code



5.3.4. The means of the market’s attitudes towards value, brand and relationship equity practices across the “years of experience” categories

The test results of sub-hypotheses 4.1 through 4.6 (refer Chapter 4) are summarised in TABLE 8 and TABLE 9 and will be discussed below. These sub-hypotheses were tested on the subscale level.

TABLE 8: Frequency of respondents per “years of experience” category

Years of experience category	Frequency
0 - 5 years	20
6 - 10 years	35
11 years and more	49

TABLE 9: The one way ANOVA results across “years of experience” categories of the market’s attitudes towards value, brand and relationship equity marketing practices (df = 2; 101)

Mean attitude of	F-value	p-value	
Value equity practices not condoned by the Code	1.989005	p>0.05	ns
Brand equity practices not condoned by the Code	0.753100	p>0.05	ns
Relationship equity practices not condoned by the Code	1.461384	p>0.05	ns
Value equity practices condoned by the Code	2.218400	p>0.05	ns
Brand equity practices condoned by the Code	1.307316	p>0.05	ns
Relationship equity practices condoned by the Code	0.813114	p>0.05	ns

*** = significant at the 0,1 % level

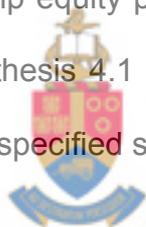
** = significant at the 1 % level

* = significant at the 5 % level

ns = not significant

df = degrees of freedom

The probabilities of no differences between the “years of experience” categories’ mean attitudes towards “Code-not-condoned” value, brand and relationship equity practices respectively, are more than 0,05. Therefore H_0 of sub-hypothesis 4.1 through 4.3 (refer Chapter 4) cannot be rejected at any of the three specified significance levels.



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The above sub-hypotheses tests indicate that there is not enough evidence to statistically prove that there are significant differences between the mean attitudes of the different “years of experience” categories towards value, brand and relationship equity practices respectively that are not condoned by the Code.

It can be inferred from the analysis that the means of the market’s attitudes across the “years of experience” categories are similar towards “Code-not-condoned” value, brand and relationship equity practices respectively.

The probabilities of no differences between the “years of experience” categories’ mean attitudes towards “Code-condoned” value, brand and relationship equity practices respectively, are more than 0,05. Therefore H_0 of sub-hypothesis 4.4 through 4.6 (refer Chapter 4) cannot be rejected at any of the three specified significance levels.

The above sub-hypotheses tests indicate that there is not enough evidence to statistically prove that there are significant differences between the mean attitudes of the different “years of experience” categories towards value, brand and relationship equity practices respectively that are condoned by the Code.

It can be inferred from the analysis that the means of the market’s attitudes across the “years of experience” categories are similar towards “Code-condoned” value, brand and relationship equity practices respectively.



5.3.5. Lateral marketing practices identified by the market

The results of the research question (refer Chapter 4) are summarised in TABLE 10 and will be discussed below.

TABLE 10: Summary of results of lateral marketing practices identified by the market

RANK ORDER TABLE	
Construct	Count
Continuous training.	5
Advertise through media.	2
Create and sponsor support groups for patients suffering from specific conditions.	2
Informing the pharmacists of new products before doctors prescribe them.	1
Product specific sound clip/logo.	1
Market all products to the same extent in order to prevent perverse incentives.	1
Create strategic partnerships with medical aids to enable product exclusivity.	1
Give rebates to patients suffering from specific conditions.	1
Customer feedback via a toll free telephone number.	1
Sponsored clothing as advertising medium.	1
Word-of-mouth advertising.	1
Advertise at sponsored healthcare professionals' events.	1
Foster teamwork between the firm and the healthcare professional.	1
Interaction with sales representatives and their sales managers.	1
Unusual observation/comment from a respondent:	
"Do you really want to stimulate the sales of medicine?"	

There are only twenty accounts of alternative/lateral marketing practices as identified by the sample. "Continuous training" is mentioned five times. "Advertising through media" is mentioned twice as well as "Create and sponsor support groups for patients suffering from specific conditions". Each of the other eleven practices as identified by the sample is mentioned only once, for example "Give rebates to patients suffering from specific conditions", "Sponsored clothing as advertising medium" and "Advertise at sponsored healthcare professionals' events".

An unusual reply to the open ended question was received from one of the respondents, namely "Do you really want to stimulate the sales of medicine?". It is unusual as some of the purposes of marketing are to stimulate sales and

build customer equity for the sake of the firm's long term value (Hogan, Lemon & Rust, 2002, p 4).

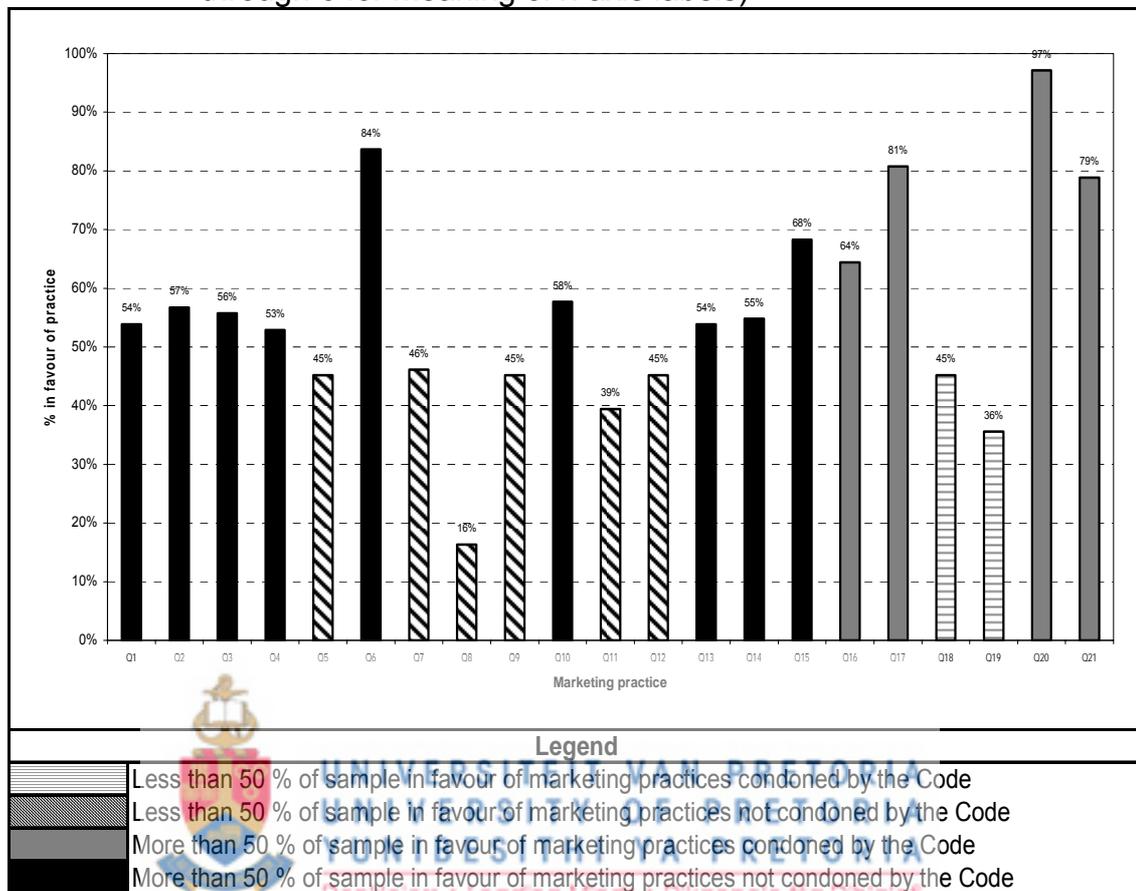
All the quoted marketing practices above are not condoned by the Code. This finding therefore indicates that the Code may have a perceived negative impact on building value, brand and relationship equity as the market's lateral marketing practices are not condoned. This in turn affects customer equity in the pharmaceutical industry.

5.3.6. The percentages of respondents in support of value, brand and relationship equity practices

The percentages of respondents in support of value, brand and relationship equity practices are summarised in FIGURE 7 and will be discussed below.



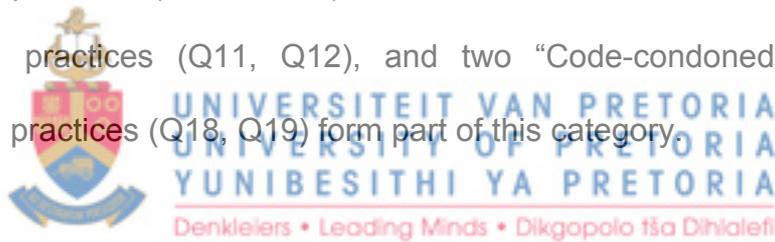
FIGURE 7: Bar chart of percentage of respondents in support of value, brand and relationship equity practices per item (refer to TABLE 1 through 6 for meaning of x-axis labels)



More than sixty percent of the sample is in favour of six out of the twenty one marketing practices mentioned in the questionnaire. One of these practices (Q6) forms part of the “Code-not-condoned” brand equity marketing practices. Another of these practices (Q15) forms part of the “Code-not-condoned” relationship equity marketing practices. Two (Q16, Q17) form part of the “Code-condoned” value equity and another two (Q20, Q21) of the “Code-condoned” relationship equity marketing practices.

Between fifty and sixty percent of the sample is in favour of seven out of the twenty one marketing practices mentioned in the questionnaire. Four of the “Code-not-condoned” value equity marketing practices (Q1, Q2, Q3, Q4), one of the “Code-not-condoned” brand equity marketing practices (Q10), and two of the “Code-not-condoned” relationship equity marketing practices (Q13, Q14) form part of this category.

Eight of the marketing practices mentioned in the questionnaire gained less than fifty percent of the sample’s support. One “Code-not-condoned” value equity marketing practice (Q5), three “Code-not-condoned” brand equity marketing practices (Q7, Q8, Q9), two “Code-not-condoned” relationship equity marketing practices (Q11, Q12), and two “Code-condoned” brand equity marketing practices (Q18, Q19) form part of this category.



This analysis indicates that the market is in support of both “Code-not-condoned” and “Code-condoned” marketing practices. The complexity of the market’s attitude towards marketing practices is illustrated by this finding. One has to rely therefore on tools like hypothesis testing (for example those utilised in this research project) in an attempt to choose marketing practices that will be supported by the market – taking the Code into consideration.

5.4. Summary

The research project’s population, sampling frame, sample, response rate and unit of analysis were briefly described. The results of the statistically analysed

data were summarised and discussed according to the hypotheses and research question. FIGURE 7 summarised the percentages of respondents in favour of the various, indicated marketing practices towards the end.



CHAPTER 6

OVERVIEW OF RESULTS

6.1. Introduction

The data gathered was analysed as stated in Chapter 4 (refer “4.6.2. Data analyses”). Chapter 5 contains a summary and discussion of the results of the analyses. The purpose of Chapter 6 is to give a concise overview of the results from Chapter 5.

6.2. Overview of research results

Villanueva & Hanssens (2007, p 2) summarise the objective of customer equity as maximising a firm’s value. Building customer equity is an important aspect when competing in the pharmaceutical industry (Tikly, 2005). Customer equity is driven by three aspects, namely value equity, brand equity and relationship equity (Lemon *et al.*, 2001, p 21).

Many standard marketing practices to develop customer equity in the pharmaceutical industry will be categorised as unacceptable in South Africa according to the Code (PIASA, 2008).

6.2.1. Overview of hypothesis 1

It can be inferred from the analyses of hypothesis 1 that the market is in favour of the “Code-not-condoned” value, brand and relationship equity marketing practices. This finding translates into a negative perceived impact of the Code

on value, brand and relationship equity as these marketing practices may not be utilised once the Code is enforced (PIASA, 2008).

It can therefore be inferred that the Code's perceived impact on customer equity in the pharmaceutical industry will also be negative, based on the inference above.

The lack of market support for Q5, Q7, Q8, Q11 and Q12 (refer Chapter 5 TABLE 1 through 3), however, may mitigate this negative perceived impact.

6.2.2. Overview of hypothesis 2

It can be inferred from the analyses of hypothesis 2 that the market is in favour of the identified "Code-condoned" value and relationship equity practices. This finding indicates that there are "Code-condoned" value and relationship equity marketing practices available to which the market has a significantly positive attitude. This finding may mitigate the negative perceived impact of the Code on customer equity.

Interestingly, from the analyses of sub-hypothesis 2.2 it can be inferred that the market is negatively disposed towards the identified "Code-condoned" brand equity marketing practices. This finding may therefore be in support of the perceived negative impact of the Code on customer equity as the market is significantly positive towards the "Code-not-condoned" brand equity marketing practices.

This finding may indicate that pharmaceutical firms should be careful in selecting marketing practices that are “Code-condoned”, as these may not contribute to building customer equity.

6.2.3. Overview of hypothesis 3

It can be inferred from the analyses of hypothesis 3 that the market is positively disposed towards “Code-not-condoned” and “Code-condoned” value and relationship equity marketing practices, but significantly not to the same extent. This finding indicates that the market may be more positively disposed towards the “Code-condoned” instead of “Code-not-condoned” value and relationship equity marketing practices. As a result, this finding may mitigate the perceived negative impact of the Code on value and relationship equity.



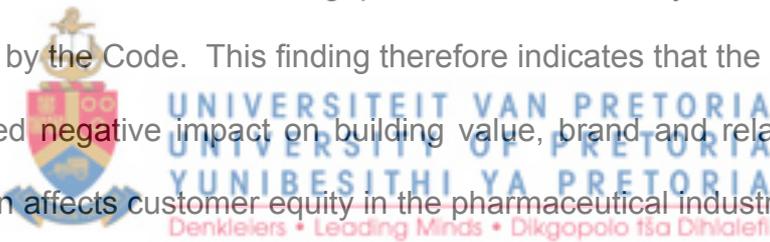
Another inference from the analyses of hypothesis 3 is that the market's dispositions towards “Code-not-condoned” and “Code-condoned” brand equity marketing practices respectively, are significantly different. This finding indicates that the market may be more positively disposed towards the “Code-not-condoned” instead of “Code-condoned” brand equity marketing practices. As a result, this finding may contribute to the perceived negative impact of the Code on brand equity and ultimately on customer equity in the pharmaceutical industry.

6.2.4. Overview of hypothesis 4

It can be inferred from the analyses of hypothesis 4 that the means of the market's attitudes across the "years of experience" categories are similar towards both "Code-not-condoned" and "Code-condoned" value, brand and relationship equity marketing practices. This may mean that the market's attitudes are not influenced by the levels of years of experience.

6.2.5. Overview of the research question

The respondents were asked to indicate lateral marketing practices that they think would stimulate medicine sales, i.e. contribute towards customer equity. Many of these lateral marketing practices indicated by the market are not condoned by the Code. This finding therefore indicates that the Code may have a perceived negative impact on building value, brand and relationship equity. This in turn affects customer equity in the pharmaceutical industry.



6.2.6. Overview of the percentage of respondents

The frequency analysis (in terms of percentages) of the market's support for the various marketing practices indicates that the market is in support of both "Code-not-condoned" and "Code-condoned" marketing practices. The complexity of the market's attitude towards marketing practices is illustrated by this finding. One has to rely therefore on tools like hypothesis testing (for example those utilised in this research project) in an attempt to choose marketing practices that will be supported by the market – taking the Code into consideration.

6.3. Conclusion

It is clear from the results that the Code's perceived impact on customer equity is both negative and positive. The negative perceived impact appears to be, however, to a larger extent.

The Code also has a perceived impact on the marketing of medicines. It adds to the complexity of choosing "acceptable" marketing practices that will build customer equity.

Hogan *et al.* (2002, p 4) are of the opinion that customer equity should be developed successfully in order to create long term value for the firm and its shareholders. Villanueva & Hanssens (2007, p 2) summarise the objective of customer equity as maximising a firm's value. It is an important aspect when competing in the pharmaceutical industry (Tikly, 2005).



The impact of Code may reach further than just attempting to drive down the price of medicines. Many marketing practices utilised to stimulate the sales of medicines, are not condoned by the Code. Therefore the Code may also impact the long term value of a pharmaceutical firm as the perceived impact of the Code on customer equity seems to be negative based on the results.

CHAPTER 7

RECOMMENDATIONS

7.1. Introduction

The purpose of this chapter is to revisit the research objectives and to emphasise the main findings of the research project. Recommendations to key stakeholders are suggested based on the research results. There are many aspects of the Code that still need to be investigated. Research recommendations are given in an attempt to guide future research projects applicable to the Code.

7.2. Research objectives

The first objective of this research project was to determine the perceived impact that the suggested Code may have on the marketing of generic pharmaceuticals in South Africa.

The Code was investigated to determine which marketing practices are not condoned for the marketing of Schedule 2 through 6 medicines. A questionnaire (based on this investigation) was sent to the market, as defined in Chapter 4 (refer “4.6.1. Hypotheses and research question”) to gauge the market’s attitude towards these marketing practices.

It was found that the market is in favour of the “Code-not-condoned” value, brand and relationship equity marketing practices. One can infer from the

statistical analyses that the perceived impact of the Code may be negative on the marketing of generic pharmaceuticals in South Africa.

The second objective of this research project was to attempt to determine the perceived effect that the Code may have on a pharmaceutical firm's customer equity.

The literature review indicated that one of the purposes of marketing is to build and maintain customer equity (refer Chapter 3). One can infer from the findings and inference made with the first objective, as described above, that the Code may have a perceived negative impact on a pharmaceutical firm's customer equity.



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7.3. Main findings of research project

All the findings based on the results of this research project are discussed in Chapter 5 and overviews given in Chapter 6. There are, however, some key findings that need to be emphasised.

One would expect that those respondents with the most experience would oppose the Code more than those with the least experience. This expectation proved to be false. The results showed that the market's attitudes towards the perceived impact of the Code are similar across the levels of years of experience.

The market is in favour of the “Code-not-condoned” value, brand and relationship equity marketing practices on the subscale level; thus the Code’s impact may be perceived as negative on customer equity.

The lack of market support for Q5, Q7, Q8, Q11 and Q12 (refer Chapter 5 TABLE 1 through 3), however, may mitigate this negative perceived impact; i.e. there are “Code-not-condoned” marketing practices towards which the market is negatively disposed on the individual item level. It is also found that there are “Code-condoned” marketing practices supported by the market. The Code’s perceived impact on customer equity is both negative and positive. The negative perceived impact appears to be, however, to a larger extent.



Pharmaceutical firms should be careful in selecting marketing practices that are “Code-condoned”, as these may not contribute to building customer equity.

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It is clear that the Code also has a perceived impact on the marketing of medicines. This aspect adds to the complexity of choosing “acceptable” marketing practices that will build customer equity.

7.4. Recommendations

A few recommendations are made based on the results of this research project. The South African Government (in particular the Department of Health and the Department of Trade & Industry), those organisations representing

pharmaceutical firms, the pharmaceutical firms themselves, and the retail pharmacy sector should take note of these.

Richards & Jones (2008, p 122) state that value equity plays a critical role in establishing long term relationships with customers. Customer attraction and retention rates are increased through brand equity. They also state that the customer-brand relationship is enforced through relationship equity.

Customer equity is driven by three aspects, namely value equity, brand equity and relationship equity (Lemon *et al.*, 2001, p 21).

A pharmaceutical firm's marketing campaign is key in ensuring that healthcare professionals prescribe its products (Datamonitor, 2007, p 13). These firms need to invest heavily in marketing campaigns in an attempt to increase the prescription rates.

It is therefore recommended that pharmaceutical firms should establish which marketing practices build customer equity. A suggested method is to gauge statistically the market's support of such practices through business research.

Investing in marketing practices costs money and may contribute to the rising costs of medicines. It is recommended that only those marketing practices not contributing to customer equity should be outlawed by the Code. A revised Code could be in a position to assist pharmaceutical firms not to waste money

by preventing them from investing in ineffective marketing practices. This way the price of medicines may be driven down indirectly through regulation.

Hogan *et al.* (2002, p 4) are of the opinion that customer equity should be developed successfully in order to create long term value for the firm and its shareholders. Villanueva & Hanssens (2007, p 2) summarise the objective of customer equity as maximising a firm's value. It is an important aspect when competing in the pharmaceutical industry (Tikly, 2005).

The powers that be should continue to take caution in enforcing the Code in its current form. The Code's impact may reach further than just attempting to drive down the price of medicines; it may also impact the long term value of a pharmaceutical firm.



7.5. Recommendations for future research

This research project investigated the perceived impact of the Code by looking at only the retail pharmacy sector classified as key accounts from a specific pharmaceutical firm's perspective. One should thus be careful not to generalise the findings to the pharmaceutical industry as a whole.

Recommendations for future research are suggested to further explore aspects of the Code. These suggestions are as follows:

- research on the impact of the Code by looking at those customers that are not key account retail pharmacies to whom the chosen firm supplies and markets its products;
- research on the impact of the Code from the point of view of other pharmaceutical firms;
- research to determine whether the current, “Code-condoned” marketing practices are building customer equity;
- a longitudinal study on the impact of the Code (once enforced) on customer equity in the pharmaceutical industry;
- research to determine whether the Code (once enforced) impacts on medical practitioners’ prescribing habits; and
- research on the impact of the Code on the marketing of Schedule 0 and Schedule 1 medicines.

7.6. Summary

The main findings of this research project were emphasised and recommendations to key stakeholders were discussed. A few recommendations for future research projects were listed.

The marketing of medicines is becoming more challenging due to increased regulation. Marketers should also be careful when choosing a specific marketing strategy as it may not successfully build customer equity.

Regulatory authorities are urged to continue to thoroughly research a phenomenon prior to implementing stricter regulations. If regulations are sound in business principles, then it would be beneficial to all.

It is clear from the results that the Code's perceived impact on customer equity is both negative and positive. The negative perceived impact appears to be to a larger extent.

Enforcement of the Code may impact further than just attempting to drive down the price of medicines; it may also impact the long term value of a pharmaceutical firm.



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APPENDIX 1

Questionnaire

Instructions

It will take 5 minutes to complete the survey. Please respond to all the statements by clicking once on the appropriate option using your computer mouse. You can type your view at the last statement using your keyboard. Please click on "submit" at the end to complete the process.

How many years have you been involved in the pharmaceutical industry?

- 0 - 1 year
- 2 - 5 years
- 6 - 10 years
- 11 - 20 years
- 21+ years

Please indicate the extent to which you agree or disagree with the following statements:

1. Pharmaceutical firms do not inflate the price of medicines due to free samples made available to pharmacists, for example when a new product is launched.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree



2. The costs of medicines are not increased due to pharmaceutical firms having to sponsor attendees' expenses incurred to attend a new product launch event.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

3. Medicine prices are not inflated due to pharmaceutical firms sponsoring stand-alone, leisure donations; for example movie tickets or sport event tickets.

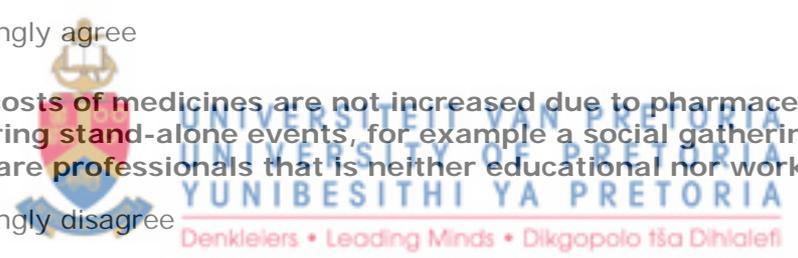
- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

4. The costs of medicines are not increased due to pharmaceutical firms sponsoring stand-alone events, for example a social gathering of healthcare professionals that is neither educational nor work related.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

5. Medicine prices are not increased due to pharmaceutical firms sponsoring conferences where the hospitality, meals and entertainment are extravagant.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree



6. Pharmaceutical medicines should be promoted at continued-professional-development (CPD) events.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

7. A pharmaceutical firm should be able to promote a product through donations to charities/communities.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

8. Your entry into a competition of a pharmaceutical firm should be determined by how often you prescribe, order or recommend the hosting firm's products.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree



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9. The prize won in a pharmaceutical firm's competition should be for personal use and not be related to your profession.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

10. Discounts should be offered to you when purchasing stock from a pharmaceutical firm.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

11. You should be reimbursed by a pharmaceutical company (instead of the organisation you represent) for expenses incurred to attend a conference hosted in South Africa.

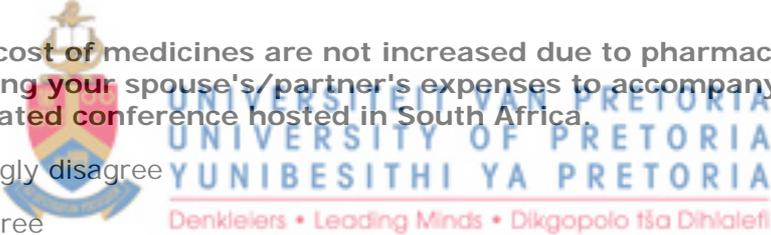
- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

12. The cost of medicines are not increased due to pharmaceutical firms sponsoring your spouse's/partner's expenses to accompany you to a work related conference hosted in South Africa.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

13. Gifts offered to you by a pharmaceutical firm that are high in value and not related to your profession do not increase the price of medicines.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree



14. A pharmaceutical firm should be able to sell its products at preferential prices to a loyal customer (which could be you).

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

15. A pharmaceutical firm should have reward programmes for loyal customers (which could be you) that offer rebates.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

16. It is important to you to receive free, branded medicine measures, notepads, and desk tablet counters.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree



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17. Dummy boxes, posters, shelf talkers and information brochures add value at your point of sale.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

18. Advertising a pharmaceutical product through hinting at the product without directly disclosing the product's name is effective.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

19. Automatic advertisements on the dispensary computer programme while you are dispensing, are effective.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

20. The sales representative plays an important part in building your relationship with a pharmaceutical firm.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree



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21. Your relationship with a pharmaceutical firm is strengthened when that firm sponsors you to attend courses on pharmacy management.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

22. Can you think of alternative marketing practices that would stimulate sales?



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