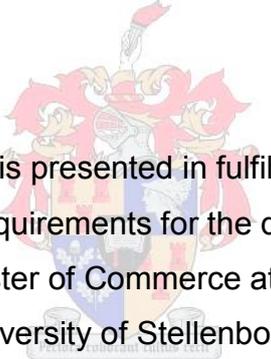


A study of the factors influencing new product development success in the South African investment sector

Kim Mc Cracken

The crest of the University of Stellenbosch, featuring a shield with a red and white design, a blue and white design, and a red and white design, with a red and white banner above it.

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of the requirements for the degree of
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December 2011

Declaration

By submitting this thesis/dissertation electronically, I, Kim McCracken, declare that the entirety of the work contained therein is my own, original work, that I am the sole author thereof (save to the extent explicitly otherwise stated), that reproduction and publication thereof by Stellenbosch University will not infringe any third party rights and that I have not previously in its entirety or in part submitted it for obtaining any qualification.

K. Mc Cracken

10 October 2011

Abstract

Organisations today form part of a global market economy characterised by constant change and a high level of competition. This is especially true for organisations functioning in competitive markets or industries, such as the service industry. New Product Development (NPD) has been recognised as an avenue for organisations to remain relevant and competitive in this constantly changing landscape. A successful new product can potentially do more good for an organisation than anything else that can happen to it. Despite this critical role, the strategic and operational aspects of the product development process are poorly understood, particularly in the service industry.

The South African financial services industry is an example of a service industry characterised by a high level of competition, rapid technological advancements, stringent regulations and changing client needs. This is particularly true for the investment sector of the industry, which endeavours to remain relevant and progressive within both a domestic and an international context. As a result, organisations functioning in the investment sector increasingly need to engage in developing and introducing new products to ensure their survival. Against this background, such organisations should realise the importance and potential benefits of an increased understanding of how to improve the success of their NPD efforts. The purpose of this study was therefore to investigate factors influencing the success of New Product Development in the investment sector of the South African financial services industry.

Twelve success factors were defined for the purpose of the study. They are: a successful launch, effective NPD management, product superiority, a favourable market environment, good use of communication, effective IT systems, a NPD-friendly corporate culture and the use of a formal NPD process, legislation, distribution of the product, the marketing budget, and the timing of the release of the product. Additionally, nine measures of success were examined, namely: commercial, technical, financial and sales measures, as well as the NPD process followed the level of client satisfaction, and the size, performance and longevity of the product.

This study made use of a structured questionnaire, which was developed, based on the literature reviewed and on the feedback from the pilot study. The questionnaire made use of a seven-point Likert scale, and was electronically administered via email to the chosen sample group.

The results from this study indicated that 10 of the 12 identified success factors have a significant influence on one or more of the measures of success. The remaining two success factors, namely, the distribution of the product and the marketing budget, were found to have no significant influence on any of the measures of NPD success. It was also revealed that three of the success factors had a significant influence on the overall measure of NPD success (all 9 measures grouped into one), namely, the characteristics of a 'superior product'; the implementation of an effective IT system; and the timing of the product release. Furthermore, the implementation of effective IT

systems revealed an unexpected negative relationship with three measures of success as well the overall measure of NPD success (all 9 measures grouped into one).

A number of implications were suggested and recommendations made, based on the findings. Specific recommendations were made to NPD practitioners, regarding methods which could be implemented to enhance and better manage the influence of the identified success factors in order to increase their product development success. An important recommendation was made regarding the IT system project requirements and associated costs. It was recommended that the IT system requirements be carefully scoped in the infancy stage of the project by consulting with an IT specialist because of its influence on both the overall costs and project success. Specific recommendations were further made regarding a number of the other identified success factors. Finally, based on the findings, several recommendations were made regarding further research.

Key words:

Competition

Investment sector

Measures of success

New product development

Services industry

South African financial services industry

Success factors

Opsomming

In die huidige klimaat van die wêreld-ekonomie staan organisasies gedurende verandering en groot kompetisie in die gesig. Dit is veral waar vir organisasies wat moet funksioneer en oorleef in kompeterende markte of industrieë, soos die diensindustrie. Dit word algemeen aanvaar dat die konsep van Nuwe Produk Ontwikkeling (NPO) 'n noodsaaklike opsie geword het vir besighede en organisasies om relevant en kompetend te bly in hierdie konstante veranderende landskap. 'n Suksesvolle nuwe produk kan vir 'n besigheid groter waarde toevoeg as enigiets anders wat daarmee sou gebeur. Ten spyte van hierdie belangrike en beslissende rol wat dit speel, is daar min begrip vir die rol van strategiese en operasionele aspekte van die Produk Ontwikkelingsproses veral in die diensindustrie.

Die Suid-Afrikaanse finansiële diensindustrie is 'n voorbeeld van 'n diensindustrie wat gekenmerk word deur sterk kompetisie, snelle tegnologiese ontwikkeling, streng regulering en veranderende kliëntebehoefte. Dit geld veral vir die beleggingssektor in die industrie, wat daarna streef om relevant en progressief te bly in beide 'n plaaslike, sowel as internasionale konteks. Gevolglik, ten einde hul voortbestaan te verseker, is dit toenemend noodsaaklik dat organisasies in die beleggingssektor gedurig nuwe produkte ontwikkel en toepas. Teen hierdie agtergrond is dit noodsaaklik dat sulke besighede die belangrikheid, sowel as die potensiële voordele daarvan besef dat 'n bewussyn gekweek word ten opsigte van maniere om die NPO se sukses te verseker. Die doel van hierdie studie was dus om die faktore te ondersoek wat die sukses beïnvloed van NPO binne die beleggingssektor van die Suid Afrikaanse finansiële diensindustrie.

Twaalf sukses faktore was vir die doel van hierdie studie geïdentifiseer. Hulle is: 'n suksesvolle bekendstelling, doeltreffende NPO bestuur, 'n superieure produk, gunstige markomstandighede, goeie gebruik van kommunikasie, doeltreffende IT-stelsels, 'n korporatiewe kultuur wat NPO vriendelik is, gebruik van formele NPO prosesse, wetgewing, verspreiding van die produk, die bemarkingsbegroting, en die tydsberekening ten opsigte van die produk se bekendstelling. Verder is nog nege maatstawwe van sukses gemeet, naamlik: kommersiële, tegniese, finansiële- en verkoopsmaatstawwe, sowel as die NPO-proses wat gevolg is, die vlak van tevredenheid van die kliënt, en die omvang, prestasie en lewensverwagting van die produk.

Hierdie studie het gebruik gemaak van 'n gestruktureerde vraelys wat ontwikkel is op die basis van die literatuur wat hersien is, asook terugvoering vanaf die loodsstudie. Die vraelys het gebruik gemaak van 'n sewe-punt Likert skaal en was elektronies geadminestrer deur middel van e-pos aan die uitgesoekte steekproef groep.

Die resultate van hierdie studie het aangedui dat 10 uit die 12 suksesfaktore wat geïdentifiseer is, 'n beduidende invloed gehad het op een of meer van die maatstawwe van sukses. Die laaste twee, naamlik, die verspreiding van die produk en die bemarkingsbegroting, het nie 'n noemenswaardige invloed gehad op enige van die maatstawwe van NPO sukses nie. Dit het ook duidelik geword dat drie

van die suksesfaktore wel 'n beduidende invloed gehad het op die algehele NPO maatstawwe van sukses (al nege saam groepeer as een), naamlik, die eienskappe van 'n "superieure produk"; die aangewend van 'n effektiewe IT-stelsel; en die tydsberekening ten opsigte van die produk se bekendstelling. Verder, die aanwending van 'n effektiewe IT stelsel het 'n onverwagse negatiewe verhouding gevorm met drie maatstawwe van sukses asook met die algehele NPO maatstawwe van sukses (al nege saam groepeer as een).

Verskeie gevolge is genoem en aanbevelings is gemaak op grond van die bevindings. Spesifieke aanbevelings is aan die NPO praktisyns gelewer ten opsigte van stelsels wat toegepas kan word om genoemde suksesfaktore doeltreffend te bestuur en te verbeter en gevolglik die sukses van die produk ontwikkeling te verhoog. 'n Belangrike aanbeveling was met betrekking tot die IT-stelsel se projek behoeftes en gepaardgaande kostes. Daar is voorgestel dat die omvang van die IT-stelsels in die beginstadium met groot omsigtigheid bepaal word en 'n kundige op die gebied van IT behoeftes moet geraadpleeg word, aangesien dit 'n groot impak kan hê op oorhoofse kostes, sowel as die sukses van die projek. Meer spesifieke aanbevelings is ook gedoen ten opsigte van sekere van die ander faktore wat geïdentifiseer is. Op grond van hierdie bevindings kan ten slotte verklaar word dat daar etlike aanbevelings ter ondersteuning van verdere navorsing was.

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List of acronyms and abbreviations

AM	Asset Management
ASISA	Association for Savings and Investments South Africa
ATL	Above the Line
AUM	Assets under Management
B2B	Business to Business
CEO	Chief Executive Officer
CFO	Chief Financial Officer
CIS	Collective Investment Scheme
CISCA	Collective Investment Schemes Control Act
CM	Commercial success
CRM	Customer Relationship Management
DEF	Definition
DP	Distribution of the product
DV	Dependent Variables
EM	Effective NPD management
FC	NPD-friendly organisational culture
FM	Financial success
FM2	Formal NPD process
FMCG	Fast Moving Consumer Goods
FME	Favourable market environment
FSB	Financial Services Board
FSP	Financial Services Provider
GC	Good use of communication
GDP	Gross Domestic Product
HOD	Heads of Department
HR	Human Resources
IP	Intellectual Property
IT	Information Technology
IV	Independent Variables
JSE	Johannesburg Stock Exchange
L	Legislation
LP	The longevity of the product
MB	The marketing budget
NEPAD	New Partnership for Africa's Development
NSD	New Service Development
PD	Product Development

PDMA	Product Development and Management Association
PLC	Product Life Cycle
PMM	NPD process success
PP	The performance of the product
PS	Product superiority
RA	Retirement Annuity
ROI	Return on Investment
SARS	South African Revenue Services
SASI	South African Savings Institute
S-D	Service-dominant
SL	Successful launch
SM	Sales success
SP	The size of the product
SPSS	Statistical Package for the Social Sciences
STM	Client satisfaction success
TGS	Total Gross Savings
TM	Technical success
TR	Timing of the release
UK	United Kingdom
USA	United States of America
VIF	Variance Inflation Factor
WWW	World Wide Web

CHAPTER 1

INTRODUCTION TO THE STUDY

1.1 BACKGROUND

Organisations within a country's domestic economy work together to assist the prevailing economic system, by producing and distributing goods and services that people need and want in their lives. The structure or condition of the economy has a direct impact on how organisations function. A free market economy allows prices and not government to allocate resources. The role of business and the degree to which it successfully performs its role within the economy, is to a large extent influenced by the decisions made by the management of an organisation. Management decisions are in turn directly influenced by both the prevailing micro- and macroeconomic-conditions. Organisations today form part of a global market economy characterised by constant change and a high level of competition. New Product Development (NPD) has been recognised as an avenue for organisations to remain relevant and competitive in this constantly changing landscape.

This is especially true for organisations functioning in competitive markets or industries, such as the service industry. Service industries are highly competitive and technologically advanced environments and remaining competitive is difficult (Froehle, Roth, Chase and Voss, 2000). This increasingly competitive environment can be attributed in part to the vital role they play in economies from around the globe. This is especially true of industrialised countries, where service industries represent the sectors with the highest growth in gross domestic product (Froehle et al., 2000).

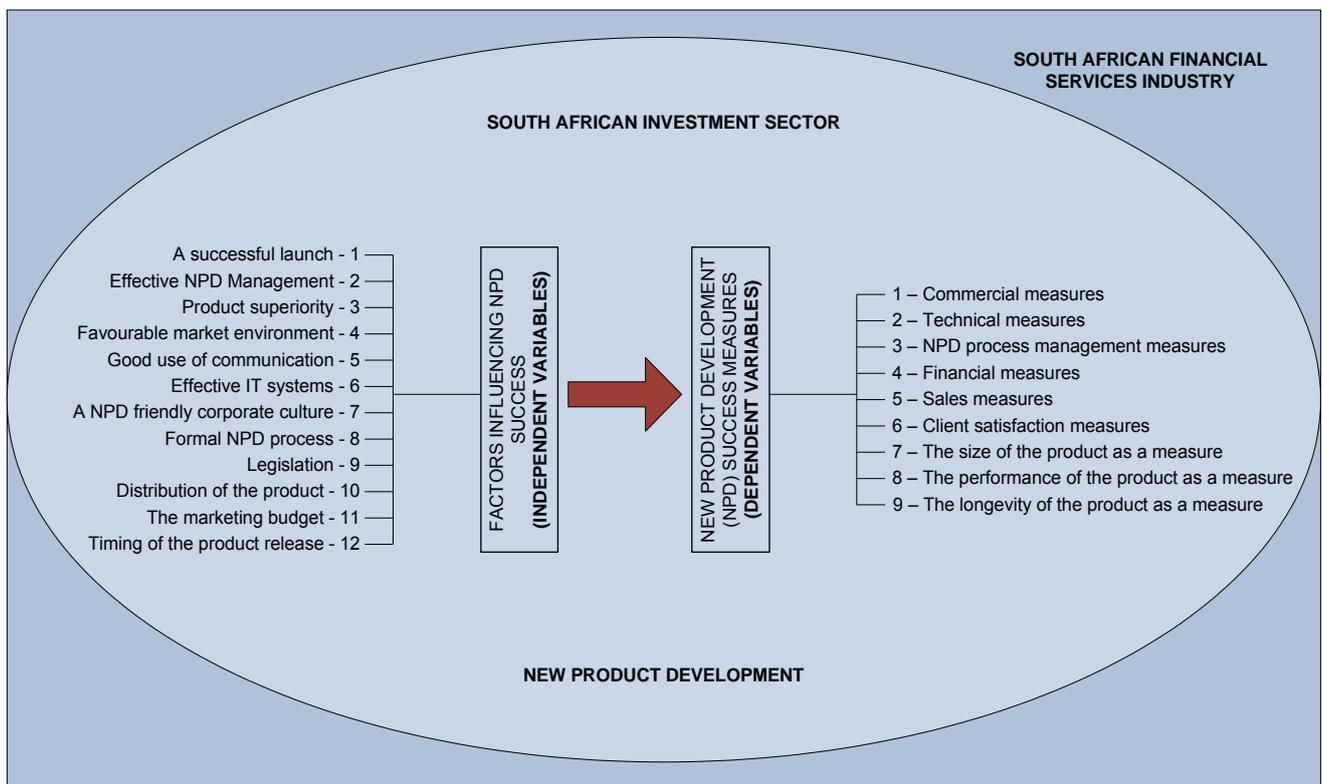
Innovation (including NPD) plays a critical role in the service industries as a means of gaining a competitive advantage in this highly competitive environment (Chen, Tsou, Huang, 2009). It is therefore noteworthy that product development in the services industry has never been more important (Froehle et al., 2000). A successful new product is able to do more good for an organisation than anything else that can happen to it (Crawford, 1994). Despite this critical role, the strategic and operational aspects of the product development process are still poorly understood (Meyer and de Tore, 1999 in Froehle et al., 2000), particularly in the service industry.

Although the services industry is growing in economic importance globally and is characterised by an ever-increasing competitive environment, most of the NPD research remains in the manufacturing sector (De Brentani and Cooper, 1991; Edgett and Parkinson, 1994; Lievens and Moenart, 2000; Oldenboom and Abratt, 2000; Smith and Fischbacher, 2005). Little research has been done in the services industry. The South African financial services industry is an example of an industry characterised by a high level of competition, rapid technological advancements, stringent regulations and changing client needs. This is particularly true for the investment sector of the industry, which endeavours to remain relevant and sustainable despite adverse local and

global developments and challenges (ASISA, 2010). As a result organisations functioning in the investment sector increasingly need to engage in developing and introducing new products for survival in this ever-changing landscape. Furthermore, NPD as part of a competitive strategy needs to provide organisations with a point of differentiation or unique offering (Ennew and Waite, 2007). Financial services organisations are advised to base their chosen strategies upon a clear understanding of consumer needs and motives, and not upon "me-too" responses to the moves of competitors (Meidan, Lewis and Moutinho, 1997).

Against this background, this study aims to enhance the knowledge and understanding of factors influencing the success of NPD in the South African investment sector. A conceptual framework of this study is presented in Figure 1.1. The model identifies the various aspects of the study, including the environment in which the empirical research was conducted, namely, the investment sector of the South African financial services industry, the relevance and importance of NPD, and the relationship between the identified NPD success factors and measures of success.

Figure 1.1: Conceptual framework



1.1.1 The investment sector of the South African financial services industry

The environment in which NPD is taking place has a bearing on both the type of product development and the unique challenges faced by practitioners. The competitive nature of the industry also influences an organisation's decision whether NPD is an appropriate avenue for their competitive growth strategy. The Association for Savings and Investments South Africa (ASISA) is the custodian body of the bulk of South Africa's savings and investments. The investment (and savings) sector of the industry is fiercely competitive and important, because of its central role in helping the country achieve its long-term growth ambitions (ASISA, 2010). Organisations wanting to remain competitive in this environment are compelled to embrace innovation such as NPD as part of their sustainable growth strategy.

1.1.2 The relevance and importance of NPD

One of the strategies available to organisations pursuing growth is NPD. Given the competitive nature of these service industries, new product development as part of a competitive strategy is becoming an increasingly important avenue for organisations to gain a unique advantage (Chen et al., 2009). An organisation functioning in a service industry wanting to increase its likelihood of NPD success should therefore ensure it understands and implements the factors influencing NPD success into its development process. A manager's knowledge of these factors can potentially increase an organisation's overall rate of NPD success and enhance the firm's competitive advantage.

1.1.3 Factors influencing NPD success and measures of success

There are a number of factors involved in the conceptualisation, development and marketing of a new product. This study presupposes that some of these factors are likely to influence the success of a NPD project. For the purpose of this study, success has been defined as "the achievement of something desired, planned or attempted" (Maidique and Zirger, 1984 in Oldenboom and Abratt, 2000). Figure 1.1 presents the twelve success factors which were identified from the literature reviewed and the pilot study. The factors are: a successful launch, effective NPD management, product superiority, a favourable market environment, good use of communication, effective IT systems, a NPD-friendly corporate culture, the use of a formal NPD process, legislation, distribution of the product, the marketing budget, and the timing of the release of the product. The measure of NPD success achieved can be described in various ways. For this study, 9 measures of success were identified namely: commercial, technical, financial and sales measures, the NPD process followed, and the level of client satisfaction as well as the size, performance and longevity of the product. The 12 independent variables (success factors) and the 9 dependent variables (measures of success) are operationalised in Chapters 4 and 5 respectively.

1.2 RATIONALE OF THE STUDY

Innovation (including NPD) has been recognised as a means of gaining an advantage in the highly competitive services environment (Chen et al., 2009). The vital role of product development in helping organisations remain competitive and create a unique competitive advantage has therefore enhanced the importance of this function in the services industry (Froehle et al., 2000).

Every year organisations spend large sums of money on NPD, investing significant resources into new products, with the strategic intent that these investments will increase their annual turnover and profit. However, despite the potential benefits a service organisation can derive from a successful new product, NPD is plagued by a high level of failure. Research suggests that for every seven new product ideas financed by an organisation, about four enter the development phase, one and a half are launched, and only one succeeds. In other words, 25-45% of new products fail (Cooper, 2001). Oldenboom and Abratt (2000) suggest that many of these failed new product outcomes are in the product manager's control. A better understanding by product managers of the factors influencing the success of new products will therefore contribute to an increase in the success rate of NPD and a decrease in the costs incurred by organisations.

Against this background, organisations functioning in this sector should realise the importance and potential benefits of an increased understanding of how to improve the success of their NPD efforts. Product development practitioners (or product champions) need to understand which factors are influencing the success of NPD, to ensure the proper management of the project selection and development strategy.

Over the past three decades most of the academic literature on NPD has focused on the developed nations, in particular North America, the United Kingdom as well as countries from Western Europe (Akamavi, 2005). This research has also been conducted primarily in the manufacturing industries, as opposed to services industries. This study focuses on identifying factors influencing the success of NPD in the investment sector of the South African financial services industry. The broad purpose of the study is to assist the South African Financial Services industry to become increasingly competitive and profitable.

1.3 PROBLEM STATEMENT

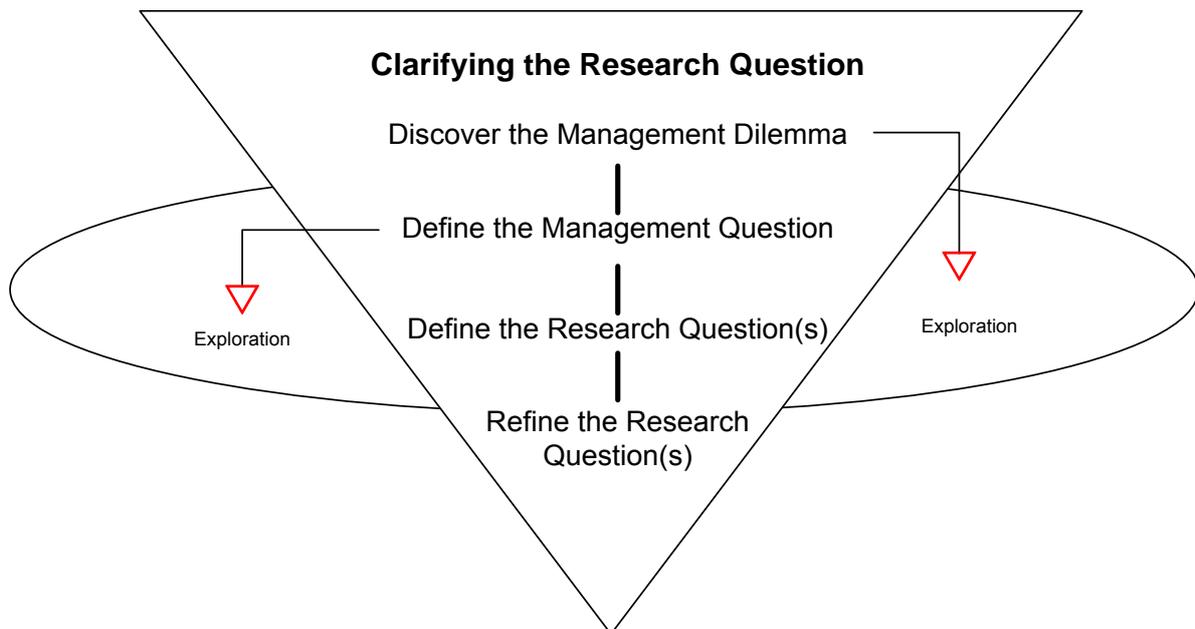
Despite the increasingly important role of the services sector, NPD literature on success factors is relatively small and to a large extent based on knowledge gained from the manufacturing sector (Cooper and de Brentani, 1991). Research suggests that a high percentage of new products ultimately fail with large associated costs (Oldenboom and Abratt, 2000; Cooper, 2001). However, studies have also shown that many of these new product outcomes fall under a manager's control (Oldenboom and Abratt, 2000). If a manager is aware of the various factors influencing success they will be better equipped to manage the process optimally and increase the likelihood of success. Therefore, further research into factors influencing the success of NPD will contribute

towards the body of knowledge associated with NPD and will also equip practitioners to decrease the current high rate of NPD failure and associated costs. Focusing specifically on the financial services industry, Akamavi (2005) suggests that there is a gap between the theory and practice of NPD in both the South African and North American industries. The purpose of this study was therefore to investigate factors influencing the success of New Product Development in the investment sector of the South African financial services industry.

1.4 OBJECTIVES OF THE STUDY

The objectives of the study were derived from the research question. This study made use of Cooper and Schindler's (2008) diagram to define the research question and the objectives of the study. Figure 1.2 below outlines the process, followed by an overview of each stage.

Figure 1.2: Clarifying the research question



Source: Cooper and Schindler, 2008: 82.

Discovering the management dilemma: the management dilemma is usually the symptom of the problem (Cooper and Schindler, 2008). Much of the exploratory work done to define this study's management dilemma was based on secondary research, which sought to identify which factors were found to be related to NPD success. Further exploration was done using a pilot study. For the purpose of this study, the management dilemma is defined as the high percentage of NPD projects which fail every year, with large associated expense to the organisation.

Defining the management question: the management question is a restatement of the management dilemma in question form (Cooper and Schindler, 2008). The management question is therefore, "How can the success rate of NPD projects be improved?" In order to address this question, a further question needs to be considered, namely "What are the various factors influencing the success of NPD? If a manager is able to implement identified success factors in their development process, this should increase the likelihood of success.

Defining (and refining) the research question: Considering the problem statement and management question of this study, the research question was defined as follows:

Do the twelve identified factors of success (factors: successful launch, effective NPD management, product superiority, a favourable market environment, good use of communication, effective IT systems, an NPD friendly corporate culture and the use of a formal NPD process, legislation, distribution of the product, the marketing budget and the timing of the release of the product) significantly influence NPD success (as measured by: commercial, technical, financial and sales measures as well as the NPD process followed, the level of client satisfaction, the size, performance and longevity of the product) in the South African investment sector?

The following objectives were defined in order to address the research question:

The primary objective of the study is to assess the influence of the identified success factors on the overall perceived success of NPD.

The following secondary objectives were formulated:

- To assess the influence of the identified success factors on commercial, technical, financial and sales success.
- To investigate the influence of the identified success factors on NPD process management as a measure of NPD success.
- To assess whether client satisfaction is influenced by the identified success factors.
- To investigate whether the size of the new product, as a measure of NPD success, is influenced by the identified success factors.
- To assess the influence of the identified success factors on the product performance, as a measure of NPD success.
- To determine whether the identified factors of success influence the longevity of a product as a measure of NPD success.

1.5 RESEARCH DESIGN

The research design is the plan or structure of the study and includes the methodology followed in addressing the research problem (Mouton, 2006). Therefore the research design will determine the method and type of data collected.

1.5.1 Secondary research

It is essential that every research study begins with a review of the literature already existing on the subject (Mouton, 2006). This published information is called secondary data (Morris, 2000). For the purpose of this study, a literature review (see Chapters 2 to 5) was undertaken to review published articles and books discussing various topics including the role and importance of NPD as well as the investment sector of the South African financial services industry. Furthermore, two important areas of research used in the construction of the questionnaire were: literature concerning previous studies on factors believed to influence NPD success, and the measurement criteria or variables of this success.

1.5.2 Primary research

Primary research uses a primary source to collect data which is inherently primary or new in nature or characteristic. Primary sources can be described as raw data without interpretation or pronouncements that represent an official opinion or position (Cooper and Schindler, 2008). Primary research by means of a survey was undertaken in order to address the objectives of this study by empirically investigating the influence of the identified success factors on NPD in the South African investment sector.

1.5.3 The sample

A sample can be described as a few members of a specific population whose responses are viewed as representative of the whole population (Lomas, 2011). The target population and sampling method are briefly considered.

1.5.3.1 The target population

A population has been defined as a complete set of group members (Saunders, Lewis and Thornhill, 2009). The target population for this study can be described as all employees with relevant investment product development experience in the current employ of a registered member company of ASISA as at December 2010 (ASISA, 2010).

1.5.3.2 The sampling method

A sample of the target population was studied. It was decided that a sample group of 100 persons would be drawn for the purpose of this study. The respondents would further need to be representative of at least 30 ASISA companies. The sampling method adopted for this study was thus non-probability sampling. There are several types of non-probability sampling, one of which is

snowball sampling, which was chosen for this study. An important practical consideration in the sampling process was the fact that not all ASISA companies would have in their employ persons willing or able to take part in the study. This is not uncommon for research of this kind, as not all persons see the benefit to both the industry and to the specific sector that can be derived from such a study, and as such they would decline the request to participate in the study. A contingency strategy was thus decided upon should fewer than 70 responses be received from 30 companies registered with ASISA. Persons willing and qualified to complete the questionnaire who were not in the current employ of an ASISA registered member company, would be permitted to take part in the study granted that certain criteria were met (Chapter 6, Section 6.5.3.2).

1.6 DATA COLLECTION

The research instrument used to conduct the survey was a structured questionnaire. The structured questionnaire was developed based on the literature reviewed and on the feedback from the pilot study. The questionnaire made use of a seven-point Likert scale producing an ordinal type of data. The questionnaire was electronically administered via email to the sample group. The administration of the emails and capturing of the responses were done via an automated online programme called Checkbox. All responses were then exported into a Microsoft Excel CSV file.

1.7 DATA PROCESSING

The data were suitably cleaned before being imported for analysis on the Statistical Package for the Social Sciences (SPSS). Statistical tests were then conducted on the data set to assess the reliability of the items in the measuring instrument. Thereafter, the descriptive and inferential data was collected and interpreted. The hypotheses, which proposed the existence of relationships between independent and dependent variables, were addressed using multiple regression analysis.

1.8 ORIENTATION OF THE STUDY

The orientation of the study was as follows:

CHAPTER 1: INTRODUCTION TO THE STUDY

This chapter provides a background to the study, presents the research problem and objectives, and discusses the research design of the study.

CHAPTER 2: THE RELEVANCE AND IMPORTANCE OF NPD

NPD as a function of marketing is addressed in this chapter. The chapter firstly reviews the discipline of economics, focusing specifically on behavioural economics as a sub-discipline of economics. This section leads to the relationship between economics and business management before focusing on a core area of business management, namely, marketing. This is followed by a specific view of services marketing, which is of particular relevance given the focus of this study on

the South African financial services industry (investment sector). For the purpose of this study, NPD is viewed as an operational area encompassed within the overall function of marketing. Therefore the final section of the chapter considers the importance of NPD as a function of marketing.

CHAPTER 3: AN OVERVIEW OF THE SOUTH AFRICAN INVESTMENT SECTOR

This chapter provides an overview of the context in which NPD takes place. A brief overview of the current condition of the South African financial services industry is presented focusing specifically on the influence of the recent global economic crisis. This section is followed by an overview of the investment sector of the finance industry, considering the four asset classes, managed funds and the NPD activity in the investment sector. Subsequently, the current condition or landscape of the investment sector is presented.

CHAPTER 4: NEW PRODUCT DEVELOPMENT: MODELS AND FACTORS OF SUCCESS

This chapter will address the literature reviewed on NPD success factors which was the first area of research critical to the construction of the study's research instrument. A process of operationalisation was undertaken to ensure that the final identified success factors (independent variables) did not overlap. The chapter also provides a brief overview of various NPD model categories.

CHAPTER 5: NEW PRODUCT DEVELOPMENT: MEASURES OF SUCCESS

This chapter presents the research on the second construct used in the development of the study's questionnaire, the measurement of NPD success. The chapter identifies various measures of success (dependent variables) which are then operationalised to ensure the final measures don't overlap. A conceptual overview of the success factors (independent variables) considered in Chapter 4 and measures of success (dependent variables) are then presented. This model is an overview of the relationship between the study's variables, upon which the hypotheses were constructed.

CHAPTER 6: RESEARCH METHODOLOGY

This chapter present the research methodology adopted in this study. The various tasks and characteristics of each of the stages of the research process are considered, including the research approach adopted, the data collection and analysis.

CHAPTER 7: RESULTS

This chapter presents various results from the statistical analysis of the data. The descriptive statistics are first reviewed, followed by a discussion of the reliability and validity of the data used. The inferential statistics are then presented against the background of each of the study's hypotheses.

CHAPTER 8: FINDINGS AND RECOMMENDATIONS

In this chapter the empirical findings of the research are presented, addressing the primary and secondary hypotheses. The recommendations to NPD managers and general practitioners are discussed by addressing each identified NPD success factor or independent variable. Following which the limitations of the study and recommendations for future research are discussed.

CHAPTER 2

THE RELEVANCE AND IMPORTANCE OF NEW PRODUCT DEVELOPMENT

2.1 INTRODUCTION

NPD has been recognised as an avenue for organisations to remain relevant and competitive in today's constantly changing global marketplace. In the services industry, NPD has been identified as a means of creating a unique advantage and sustainability in the highly competitive services environment (Chen et al., 2009). The financial services industry is characterised by a particularly challenging environment. Organisations not only have to compete for survival but they must also remain compliant with government and industry regulations, which are becoming more stringent each year owing to the need for the local industry to remain internationally relevant. The potential prospects are becoming more apparent for organisations able to successfully develop and market new products at a decreased rate of failure and associated costs. This understanding is raising awareness and recognition among organisations of the value of understanding how to improve the success of their NPD efforts. This study aims to increase the knowledge and understanding of factors influencing the success of NPD in the investment sector of the South African financial services industry.

This chapter focuses on the relevance and importance of NPD. Business Management as a discipline, and recognised sub-discipline of Management and Economic Sciences, is addressed in this chapter. The chapter reviews the discipline of economics, and specifically focuses on behavioural economics as a sub-discipline of economics. The relationship between economics and business management is then briefly covered, before focusing on a core area of business management, namely, marketing. Marketing management is reviewed in more detail, followed by a review of services marketing, which is of particular relevance given the focus of this study on the South African financial services industry (investment sector). The four areas of marketing management briefly reviewed are the marketing function, the marketing mix, the Product Life Cycle (PLC) and the Innovation Diffusion Theory. Services' marketing is reviewed by discussing the unique marketing implications emanating from the inherent differences between services and goods. Because of the intangible nature of services, a focus on the client is particularly important when developing current and new services. For the purpose of this study, NPD is viewed as an operational area encompassed within the overall function of marketing. Therefore the final section of the chapter considers the importance of NPD as a function of marketing, focusing specifically on its role as an avenue for developing an organisation functioning in a service industry. The chapter concludes with a summary.

2.2.1 Economics

Mainstream or neoclassical economics has various definitions, all of which relate to two key factors: limited resources and almost unlimited human needs. Neoclassical economics is based on a belief that free markets may deviate from equilibrium output and employment levels, but that such disturbances are both temporary and short-lived. The neoclassical economic model is built on various assumptions which share a common belief that government intervention is neither necessary nor desirable, as it is likely to increase the disturbances found in the market, rather than correct them (Nattrass, Wakeford, and Muradzikwa, 2002).

Economics has been defined as the study and explanation of outputs and prices, or in other words, the amounts of goods produced and the proportions in which they are exchanged for each other. To properly understand the relationship between economics and business, a distinction must be drawn between micro- and macro-economics. Micro-economics deals with separate markets and price theory, while macro-economics has a much broader focus and studies quantities and aggregate amounts (Van den Bogaerde and Fourie 1986). Both approaches will now be described in more detail.

2.2.2 Micro-economics

As previously mentioned, micro-economics is an area of economics which deals with separate markets and price theory. Micro-economics can be defined as a branch of economics that analyses the decisions that individual consumers, organisations, and industries make as they produce, buy and sell goods and services (Farnham, 2010). The place where these goods and services that are bought and sold is known as a market, and in this economy or system, pricing of goods and services is a central element influenced by both the market economy's labour force and production function (Nattrass et al., 2002; Farnham, 2010). Micro-economics has also been defined as the branch of economics which studies the behaviour of individual decision-making units such as households and organisations (Burton and Lombra, 2006). These behaviours are complex and have a strong influence on how the market determines the prices for both inputs and outputs of organisations in order to remain competitive and successful.

2.2.3 Macro-economics

Macro-economics can be described as an exciting and fiercely contested branch of economics which studies the total behaviour of the units such as households or organisations (Nattrass et al., 2002; Burton and Lombra, 2006). In other words, macro-economics is the study of the causes and effects of the determination of aggregate or total economic outputs. These outputs or magnitudes include gross domestic product, employment, investment and inflation (Van den Bodaerde and Fourie, 1986). Changes in these so-called magnitudes will directly influence an organisation's competitive strategy. It is therefore important that a manager has a good understanding of these

influences, and monitors them to ensure that the organisation can take advantage of opportunities and carefully manage threats.

This study is associated with both macro- and micro-economics. A country's domestic financial system is vital to the health of its economy. If one views this relationship in more detail, the production and sale of goods and services within an economic system are directly related to the financial system which manages functions such as the type of financial instruments that are traded (Burton and Lombra, 2006). The influence goes both ways. The investment structures or vehicles both listed and unlisted, are influenced by various macro-economic factors. One of the primary influences when focusing on investments is human behaviour, thus the understanding of behaviour and associated influences is important in the context of this study. The sub-discipline of economics known as behavioural economics, and the related area of behavioural finance which focuses on the physiological or human influences of economics, are covered in the next section.

2.3 BEHAVIOURAL ECONOMICS AND FINANCE

Both behavioural economics and finance hold particular relevance to this study because of their focus on the psychological or human influence in economic theory. An understanding of human nature is especially important in the development of investment products, as many people see this as an important form of security and the decision-making process is somewhat more complex than that of a Fast Moving Consumer Goods (FMCG) product.

2.3.1 Behavioural Economics

Behavioural economics attempts to enhance the explanatory and predictive power of economic theory by providing more psychologically plausible perspectives (Angner and Loewenstein, 2006). Behavioural economics can also be described as the combination of psychology and economics that investigates what happens in markets in which some of the agents display human limitations and complications (Mullainathan and Thaler, 2000).

The economic motive is the underlying force of economic activity and refers to the striving towards satisfying needs (Du Plessis and Nortje, 1981). Behavioural economics premises that the activities geared toward satisfying needs are motivated by a number of human factors, including cognitive and emotional factors (Angner and Loewenstein, 2006). It is important to consider the psychological influences motivating individuals and organisations in the financial services industry. When dealing with money, the motives at play are often unobservable, which aligns with the underlying premise of behavioural economics. These motives include cognitive, affective and emotional factors (Angner and Loewenstein, 2006). The following section reviews behavioural finance, which focuses on the underlying psychological factors influencing a consumer's decision-making process in the context of the financial services industry. The review will focus specifically on the consumer's investment decision-making, given the focus of this study.

2.3.2 Behavioural Finance

Over the past 15 years, the field of behavioural finance has grown enormously, generating both theory and empirical evidence (Hong, 2007). Many common findings generated from the empirical research have been widely applied in different studies across a large number of international markets.

In the same way that behavioural economics addresses the influence of human psychology on economics, behavioural finance considers the influence of psychology on the behaviour of financial practitioners and consumers, and the subsequent effect on markets (Sewell, 2005). Given the focus of this study on the South African investment sector, behavioural finance is viewed in terms of consumer investment decisions and psychological influences. Two aspects are of particular relevance: firstly, insight into consumers' appetites for risk or their perception and preference regarding financial risk; secondly, behavioural finance may assist with the development of investment strategies through an analysis of the rationality of individual decision-making (CFA INSTITUTE PROGRAMME CURRICULUM, 2008). Both of these insights are critical for practitioners making decisions concerning the development of new investment products, especially given that NPD is most effective when market-orientated or client-centric in nature (Cannon, Perreault, and McCarthy, 2007).

Both of the above-mentioned aspects of behavioural finance are related to an understanding of consumer purchasing behaviour in a services industry, and in particular the financial services industry. These two aspects are reviewed below.

2.3.2.1 Understanding Consumer Buyer Behaviour in a Services Industry

Understanding consumers is central to NPD and marketing, yet little research has been done on the buyer behaviour for services, and in particular financial services (Ennew and Waite, 2007). Most of the research done on consumer buyer behaviour has emphasised specific aspects of behaviour, such as the factors influencing consumer choice of the investment house or bank, usage of financial services, customer loyalty, customer expectations, perceptions and service quality as well as trust and confidence in the brand (Meidan et al., 1997; Ennew and Waite, 2007).

The nature of services influences both consumer behaviour and marketing. Services are characterised by intangibility, inseparability, and heterogeneity (Meidan, Lewis and Moutinho, 1997). Ennew and Waite (2007), in their review of empirical research, conducted on buyer behaviour of personal and corporate financial services from 1986-2005, conclude that consumers are more interested in the functional quality dimension of financial services. In other words, consumers are more interested in how the service is delivered than what is actually delivered. The development and marketing of new services considers the importance of both the understanding of consumer behaviour and an involvement by the consumer in the development process of new

products (Knudsen, 2007). Consumer involvement is also an important aspect of understanding consumer behaviour and will be considered in section 2.5 on services marketing.

An important advancement in research on how consumers make decisions, concerns the identification of principles which determine how consumers form their perceptions or their "rule of thumb". Rule of thumb is also known as "heuristics" and is the product of a consumer's experiences to date, often arising through trial and error. A number of principles which influence the consumer heuristics have been identified, two examples of which include:

- **Representativeness:** identified as one of the most important principles affecting financial decisions, this principle, simply put, is about a reliance on stereotypes.
- **Emotion and Cognition/Aversion to Ambiguity:** this principle relates to the way people think, and the relationship of these thoughts to emotions, such as fear. Based on the emotion of fear, a person's response to a new product may be aversion, due to an element of ambiguity. Aversion to ambiguity is also termed fear of the unknown (CFA INSTITUTE PROGRAMME CURRICULUM, 2008).

Both behavioural economics and finance deal with the application of psychology on human cognitive and emotional perspectives to better understand economic decisions and how they affect individuals, organisations and markets. The psychological influences have an important bearing on the realisation of organisational objectives and goals.

2.4 THE RELATIONSHIP BETWEEN ECONOMICS AND BUSINESS

Because business and its various functions are directly related to economics, an understanding of the influence of behavioural economics can assist an organisation to grasp how customers make their decisions. This relationship is illustrated by the impact of organisations on both a domestic and a global economy. Organisations today form part of a global market economy or as Dolan (1991) described it, "companies must learn to operate as if the world were one large market, ignoring superficial regional and national differences". In light of this, every organisation should have a market philosophy that guides its planning and implementation of its marketing strategy, including product and service innovation. This global environment is a competitive one, driven by technological advancements and characterised by advanced products and a sound understanding of target market consumers both locally and abroad (Dolan, 1991; Kelly and Storey, 1999; Javalgi, Martin, and Young, 2006).

The structure or condition of the economy has a direct impact on how organisations function. A free market economy allows prices and not government to allocate resources. The setting of the various commodity prices along the value chain is the decision of management. However, their decisions are directly influenced by both the prevailing micro- and macro-economic conditions. Therefore organisations work together to assist economic systems, by producing and distributing goods and services that people want to have (Sowell, 2000).

Before defining business management, it is important to consider the link between economics and business. As mentioned, both macro- and micro-economics have a direct influence on the management of an organisation. As defined in section 2.2, micro-economics influences an organisation's decision-making and is known as managerial economics, whereas macro-economics' deals with the larger economic environment in which an organisation operates. These economic environments and their events influence organisational decisions directly (Farnham, 2010).

Rationally one could conclude that the decisions made daily by both consumers and organisations in response to these economic or environmental conditions and events, are influenced by the management of the organisation. In an attempt to define business management, the words are individually considered and rationally broken down into two separate parts, namely, *business* and *management*.

Business has been defined as an economic system in which goods and services are exchanged for one another or for money, on the basis of their perceived worth (Business Dictionary, 2011), in other words, business refers to organisations engaging in the trade of goods, services, or both. Organisations are usually managed to earn a profit and increase the wealth of the shareholders or owners. The broadest meaning of an "organisation" encompasses all activity by the community of suppliers of goods and services.

Management is the process used to accomplish organisational goals through planning, organising, leading and controlling people and other organisational resources (Nickels, McHugh, and McHugh, 2006). Leadership (a component of management), is viewed as critical to the approach taken by an organisation toward functional and strategic decision-making. Leadership accounts for the vast majority of organisational problems (Aikens, 2011). Furthermore, as a component of management, it has a dynamic influence on an organisation through its ability to establish priorities, create a work culture and influence employee morale (Aikens, 2011).

Against this background, *business management* is defined as the process of accomplishing the operational and strategic objectives of managing and exchanging resources on a basis of perceived worth, to meet the overall goal of profit and growth. Organisational managers need to execute the aforementioned tasks despite the on-going changes in their local and global environment. One of the core areas of change in the global environment has come about as a direct result of the exponential growth in new technology. This technological advancement and in particular the World Wide Web (WWW), has been influential in bringing more information than ever before, to an employee's and a consumer's fingertips. This advancement in turn has an influence on how managers need to approach their responsibilities. In this age of information the need for knowledge-based management in organisations is at the centre of what managers require in such a fast-changing global environment (Ichijo and Nonaka, 2007).

The age of information has led people to become increasingly aware of the value of knowledge for organisations; this in turn has influenced both organisations and the economy. This change is evidenced by events such as Business 2.0 naming social networking the technology of the year in 2003 (Ichijo and Nonaka, 2007). Thus, managers need to make appropriate decisions in order to realise their desired goals and objectives. The decisions are influenced by both the micro- and macro-economic environment, which is characterised globally by rapid technological advancements, facilitating the transfer of information at an exponential rate, thereby influencing the manner in which organisations communicate with one another and with the consumer. The next section addresses the relationship between business and marketing management, which is the functional area, which facilitates the communication and marketing of the organisational value proposition with the client. This function has to a large extent been impacted by the continually exponential technological growth.

2.5 THE RELATIONSHIP BETWEEN BUSINESS AND MARKETING MANAGEMENT

An organisation - defined as economic systems which exchange goods and services through production and distribution objectives - needs to perform a number of functions for the purpose of accomplishing its goals (Ebert and Griffin, 2010). Some of the most common managerial functions or essential areas of an organisation include strategic leadership or management of the organisation, operational or production management, human resource or people management, marketing and promotional management, information management and financial management (Ebert and Griffin, 2010). The specific dynamics of these functions are continually changing in accordance with the landscape or environment in which they function. In today's global economy, these changes include influences such as economic power shifts, exponential technological growth, rapid population growth, global unrest and limited resources and space.

For the purpose of this study, NPD as an operational function is most appropriately placed in the marketing functional area of the organisation. Marketing is the management process responsible for the planning, direction, and control of the entire marketing function. This marketing function specifically includes the formulation and execution of the marketing objectives, policies, programmes, and strategy (Dolan, 1991). The manner in which the function is carried out is closely related to the marketing strategy, which is the specific planning of action for the realisation of designated marketing objectives (Yeshin, 1998). Given the context of this study which focuses on NPD in the South African financial services industry (investment sector), a specific view of services marketing is also considered. Services' marketing is different from goods marketing, as it requires different strategies and tactics or tasks (Zeithaml and Bitner, 2003).

In light of this study's focus, on a service industry and the positioning of NPD in the marketing function, marketing management (which directs and controls the marketing functions) will be addressed. This is followed by a review of services marketing through a presentation of the unique

marketing implications emanating from the inherent differences between services and goods, as well as any additional considerations unique to the financial services industry.

2.5.1 Marketing Management

Marketing is defined as the art and science of finding, keeping, and growing profitable customers (Kotler, 1999). Marketing management, which is the process responsible for the planning, direction, and control of the entire marketing function, is directly related to an organisation's marketing objectives and strategy. The marketing objectives refer to the measurable goals of an organisation's marketing programme, and the strategy is the specific plans of action in order to achieve these goals (Yeshin, 1998). A number of specific areas of marketing management will be considered in this section, including the various marketing functions, the marketing mix, the product life cycle and innovation diffusion theory.

2.5.1.1 The Marketing Function

The marketing function deals with identifying and meeting human and social needs (Kotler and Keller, 2006). The various aspects of this overall function include selling, trade promotion and distribution management. Importantly, the marketing function defines, measures, and quantifies the size of the identified market and its profit potential, and then designs and promotes the appropriate product or service to satisfy the needs of the market (Kotler, 2005). There are four basic tasks, which can be included in the marketing function to facilitate the consideration of two important marketing concepts. Firstly, market selection, which refers to the choice made by an organisation as to which customer needs (and wants) they will attempt to satisfy (Dolan, 1991). Market selection can be realised through market segmentation and target marketing. The second important concept is the marketing mix, which is viewed as a tool kit for marketers, and assists in answering various questions concerning the positioning of products (Dolan, 1991).

2.5.1.2 The Marketing Mix

A marketing mix is developed based on the selection and appropriate execution of the four elements, known as the "4 P's". The selection of the marketing mix is also inextricably linked to the process of developing a new product or service. The 4 P's are the four task areas of the mix: product, price, promotion, and place (Dolan, 1991; Constantinidesi, 2006). Dolan (1991) has defined the elements of the mix as follows:

- **Product policy:** refers to the designation of the characteristics of the product to be offered to the customer. Sometimes the product is an intangible service.
- **Pricing policy:** is the determination of the total financial cost of the product to the customer.
- **Distribution policy (place):** is concerned with the choice of intermediaries through which a product flows to reach a consumer.

- **Communications policy (promotion):** selecting a means by which an organisation speaks to its customers, prospective customers, and other people important to the organisation, such as distributors.

The basic task of marketing is to combine these four elements into a marketing programme to enhance the potential for exchange with consumers in the marketplace (Belch and Belch, 2004). Despite its wide acceptance as typology, the 4 P's are, however, not without their critics. Some of the weaknesses of the 4 P's include a tendency to ignore the human factor, as well as a lack of strategic focus and interactivity (Constantinidesi, 2006). The model is also said to have two other limitations, namely, an internal orientation and the lack of personalisation. For all intents and purposes, however, despite the proposed weakness, practitioners will only endorse and embrace a new framework if it can meet their management and planning needs better than the 4 P's, and also meet the important criteria of simplicity, applicability and richness (Constantinidesi, 2006).

The use of the marketing mix is closely linked to a developer's understanding of the likely Product Life Cycle (PLC) and a new innovation will follow. The tools and channels used to market a new product vary according to which stage of the PLC the product is in. The PLC is a history of the stages a new product idea goes through from beginning to end. This life and death cycle shows that markets, products and competition are continually changing. The marketing mix has to change in response to these changes to ensure that objectives are met (Cannon et al., 2007). The marketing mix and the PLC are both key considerations to be included in the development of a new product. In relation to this study, most investment products do not follow the academic PLC as their nature is different from a traditional retail product. Investment products are built like a product (seen as the investment vehicle) and marketed like a service.

New products that involve a high degree of innovation or newness (e.g. technological products) can also be managed or categorised based on Innovation Diffusion Theory. An innovation diffusion curve is much like the PLC which shows the level of total sales over time. However the innovation diffusion curve categorises products from a consumer's rather than a producer's perspective by focusing on the adoption process. In other words, the placement of a product on the diffusion curve indicates to what extent the innovation or product has been accepted or adopted. The greater the acceptance or adoption of the innovation by the consumers, the further along the curve the product will be. The relationship could be summarised by concluding that the relationship is based on the extent to which sales are proportionate to cumulative adoption (Trott, 2008).

2.5.1.3 The Product Life Cycle (PLC)

The PLC has been defined as the progression of a product from its introduction to the withdrawal. It is sometimes thought of as encompassing five stages: introduction, early growth, late growth, maturity and decline (Dolan, 1991). Each stage has distinctive characteristics, marketing objectives and strategies. A brief description of each stage is provided below (Afuah, 1998).

- **Market introduction:** this stage starts when the new product is launched. Sales are low, cost per customer is high, profits are negative, customers are largely lead-users and direct competitors are few.
- **Market growth:** in this stage sales are rising rapidly, the cost per customer starts to decline, profits start rising, and the number of customers also increases.
- **Market maturity:** sales peak, costs per customer are at their lowest, profits are high, and the number of competitors is stable in this stage.
- **Sales decline:** in this stage sales start to decline, costs per customer increase, profits are declining, and the number of competitors is also declining.

There is no set time frame that each product will follow when moving through the PLC. The length of each stage is different for each product based on various factors which include, market variables, the degree of competition and the specific product characteristics (Cannon et al., 2007). The characteristics of the stages call for specific strategies during different stages. The main drawback of using the PLC to reduce uncertainty is that the number of stages and the duration of each vary from product to product (Afuah, 1998). These stages and diagrams are briefly and dispassionately covered in the standard marketing textbook format with little attention to the social-psychological experiences of those actually participating (Pearce and Jackson, 2009). The importance of these human influences was highlighted in section 2.3.1 and are particularly relevant in the context of financial investment products.

Psychological factors can be more powerful than demographic traits in predicting customer preferences in the financial services industry (Harrison, 2000). Entrusting money to another person is both a cognitive and emotional decision and usually requires information. Another important consideration is the structure of the product, known as the investment vehicle. In the case of this study which focuses on investment products, the vehicle used can either be open-ended or closed-ended in terms of how much money it can manage. Both can target a specific sum of money, but a closed-ended product will mature at a predetermined date and pay out clients their invested capital plus the interest earned. Therefore its lifespan is determined during the NPD process, and stage four (market decline) would be redundant. The rate at which a closed-ended product is able to raise the required funds will determine the speed at which it moves from the PLC stages of market introduction to market maturity.

Due to the nature of financial products and the influences of behavioural finances, product development should always be client-centric or market-orientated in nature (Cannon et al., 2007). An understanding of what influences customers' purchase decisions will enable a marketer to accurately develop a strategy for each stage of the PLC. It will also give an indication of the duration of each stage, based on an understanding of what influences customer adoption. In light of this, the Innovation Diffusion Theory will briefly be reviewed.

2.5.1.4 Innovation Diffusion Theory

Innovation diffusion theories tend to be more comprehensive than their adoptive theory cousins (Trott, 2008). In the context of this study, it is important to understand consumer buyer behaviour influences as they can explain how and why some new product innovations are successful and why others are not. Everett Rogers is usually credited with developing the diffusion theory (Trott, 2008). He categorised consumers on the basis of their relative time of adoption. The adopter categorisation is based on the normal distribution basis and therefore takes on an S-shaped curve.

Everett Rogers classified and described different adopter positions. He utilised the average of a normal distribution of adopters in order to group them into five categories and obtain the percentage of individuals to be included in each of these categories. Innovators are seen as the adopter segment which adopts an innovation earlier than the other adopter groups. Innovators are followed by Early Adopters, Early Majority, Late Majority and Laggards. The five categories differ on the basis of demographical features; personality-related characteristics; communication behaviour and social relationships (Trott, 2008).

Understanding customer influences and their time to adoption is a critical market insight required during both the design and promotion of products or services. Furthermore client involvement and strong long-term client relationships could help to reduce development cycle time and enable managers to educate customers about new services (Akamavi, 2005).

This section has reviewed four aspects of marketing management, which is the process responsible for the planning, direction, and control of the entire marketing function. The marketing function is a central area of this study due to the placement of NPD in the marketing function of business. Given the focus of this study on the financial services industry, the following section will review services marketing. Services present special challenges which require different strategies. The development of a new product marketed into the services industry will therefore need to tailor various aspects of the marketing objectives and strategy accordingly.

2.5.2 Services Marketing

“Services” include all economic activities whose output is not a physical product; are generally consumed at the time of production, provide added value in forms (such as convenience, amusement, timeliness, comfort, or health) and are essentially intangible (Zeithaml and Bitner, 2003). Service marketing concepts and strategies have increased in response to the growing market for services and increasing dominance of services in economies worldwide (Zeithaml and Bitner, 2003). This section reviews services marketing, by considering the unique marketing implications emanating from the inherent differences between services and goods as well as the importance of the customer in service marketing.

2.5.2.1 Nature of Services: Influence on Marketing

The purchase decision by a consumer is influenced by a number of factors that differ from purchasing a service as opposed to a tangible product. In many cases tangible evidence is limited to the interaction with the service provider's client-facing or frontline personnel. The unique characteristics of a service which influence the purchase decision, including inseparability, intangibility, heterogeneity, and perishability are commonly used by marketers to differentiate between goods and services (Javalgi et al., 2006).

Managers need to take into account these unique differences when developing frameworks, concepts and strategies for marketing. The difference between goods marketing and services marketing is largely due to the inherent differences between the nature of goods and services, which creates a unique dynamic for management. Zeithaml and Bitner (2003) consider four unique characteristics of a service and the associated marketing implications, including the following:

Intangibility: services are referred to as actions rather than objects. This characteristic is the most commonly cited one in marketing literature. Common marketing challenges presented to a manager concern the inability to inventory or patent a product. Although a person cannot physically patent the product, he/she can patent the advice process. A service cannot be displayed, hence the importance of the client experiencing and brand positioning in the service industry.

Heterogeneity: the service is an action or a performance, and the customer experience is directly dependent on the personnel delivering the service. Training and continual quality control measures are essential to ensure that each customer experience is as unique as possible. Marketers therefore need to understand that the service quality is often reliant on uncontrollable factors, like the behaviour of an employee during the service delivery.

Inseparability (simultaneous production and consumption): services are often sold first and then produced, or produced and consumed at the same time. Time is therefore scarce due to the difficulty of mass production, which is often directly linked to the time of both the employee and the customer. Given the increasing voice of the customer (evidenced in the recent Consumer Protection Act), the influence among clients can be either positive or negative, both of which are very difficult to control.

Perishability: as mentioned under the heading *Inseparability*, services are often linked directly to time and therefore cannot be saved or resold. A difficulty faced by marketers is the synchronising of supply and demand in real time. Efforts toward implementing synchronised management can include comprehensive market research. However there are no guarantees and the risks of misalignment can have a tangible effect on the organisation's bottom line.

In addition to these four generic characteristics of services, Ennew and Waite (2007) identify three additional characteristics of services, relating specifically to financial services, namely, fiduciary responsibility, duration of consumption and contingent consumption.

Fiduciary Responsibility: a provider's fiduciary responsibility is in relation to the management of funds or clients' money, and the financial advice supplied to clients. A provider has a legal obligation to provide advice and services in accordance with their licensing. In South Africa this is a Financial Services Provider (FSP) licence, which is issued by the Financial Services Board (FSB). If a client is unable to receive or purchase the service, the organisation has an obligation to turn them away. The process of identifying one's target market is central to ensuring there are minimal or no misalignments. Another marketing implication concerns the employees. The employee marketing the service quite often *is* the service itself to a client. The employee needs to be educated about their responsibility not to sell products to clients who are unable to purchase them.

Contingent Consumption: with many financial services, money spent does not yield direct consumption benefits. In order for the consumer to make a purchase, they need to readily grasp the concept of deferred gratification, which is a key concept of behavioural finance. This contingent consumption presents a number of unique dynamics for marketing, as consumers, and especially this generation, want immediate gratification. Some practical measures that marketers can implement include the following:

- Clearly communicate the benefits of the product, and try and make them tangible.
- Carefully consider how the technical aspects of a product can assist in making the purchase accessible to the target market. For instance, an investment product which requires a once-off lump sum investment of R5000, and a minimum instalment of R500 per month, could be tailored to make it more attractive by waiving the upfront lump sum for a period of 12 months.

Duration of Consumption: Many of the financial service products are long-term. From a life insurance policy to a savings account, a consumer has to provide a certain amount of personal information to the provider and is usually engaged in a medium to long-term relationship. The marketing strategy should include specific measures which will assist frontline employees, and the organisation to retain and grow these relationships. In addition, the marketing manager should consider the opportunities from cross-selling, bearing in mind that a premature prompt to purchase an additional product from the organisation could do more harm than good. Loyalty schemes are a valuable initiative for financial services organisations whose client based is built upon long-term relationships.

The three additional financial service characteristics and related marketing implications are all related to the importance of people and the manner in which the service delivery process is managed. A critical observation is that it is important to attract and retain high quality employees in the ambit of a financial services organisation. Furthermore, the client's experience with and perception of the organisation is an important criterion for them in considering a long-term relationship. It makes sense then, that an increase in client involvement in the development of new products and procedures is an important success factor.

2.5.2.2 Services Industry: Importance of the Customer and Changing Perspectives

This section reviews the importance of the customer in the development of organisations functioning in the services industry. External relationships are important for product development performance particularly in the services industry, and often these external relationships are with customers (Knudsen, 2007). Customer involvement has also been viewed by a number of researchers as a process of *co-creation* (Storey and Kelly, 1999; Javalgi et al., 2006; Hoyer, Chandy, Dorotic, Krafft, and Singh, 2010). This is a process whereby the customer plays a role in the development and delivery of the organisation's value proposition (Hoyer et al., 2010). One area of an organisation where co-creation is viewed as increasingly vital is NPD. A customer's involvement in NPD holds merit for both the customer and the organisation alike. The customer feels a sense of empowerment through their involvement, and the organisation may be more able to fulfil the real needs of their clients, and potential new needs as well. Customer involvement also increases the likelihood of NPD success, as success is reliant upon an alignment between the NPD efforts and a deep understanding of the customer's real needs. Thus, organisations that carefully and effectively manage the process of customer involvement in NPD, will ultimately achieve a sustainable competitive advantage over the competition (Hoyer et al., 2010). Customer involvement is not without parameters but Knudsen (2007) for instance, has cautioned against the involvement of customers in NPD of technologically advanced products. Clients may not be able to conceptualise their needs and wants due to a lack of understanding. Knudsen (2007) further cautions that the findings from client input should be applied specifically (to the product in question) and not generally (across the spectrum of products).

The need for customer involvement in the process of value creation is enhanced in the services industry owing to the nature of a service (see section 2.5.2.1). As service organisations expand or become global, and as competition across markets intensifies, the need for an effective market orientation which involves establishing and maintaining meaningful relationships with customers, is increased (Javalgi et al., 2006).

Vargo and Lusch (2006) present their thoughts on a service-centric philosophy entitled, "service-dominant logic", through which the role of innovation in service delivery is re-examined. One of the important aspects presented is the premise that the customer is always the co-creator of value. The service-dominant (S-D) logic considers, amongst other things, the relationship between goods and services. The S-D logic implies that a "good" is an appliance used in service provision. This perspective aligns closely with the development and delivery of investment products, where the investment structure or vehicle is the good and the delivery of the service would be the advice and engagement with the client regarding their investment into this vehicle. Vargo and Lusch (2006) concur with the importance of customer involvement in product development. They highlight co-creation as encompassing two components: co-creation of value (value created through the consumption process) and co-production (involvement in the creation of the core offering). All

stakeholders are viewed as a network of value-creators and value-beneficiaries that work together through trust, learning and adaptation (Vargo and Lusch, 2006).

Customer involvement and the need to understand customers are particularly central to the effective marketing efforts in the financial services industry, a service industry characterised by a high degree of competition. As the level and sophistication of competition has increased in this industry, so has the importance of marketing in financial services (Meidan et al., 1997). Although there is a great deal more about consumer needs that organisations functioning in this sector are yet to discover, one insight found to be fairly unanimous is that the purchase of financial services is often viewed as uninteresting by the majority of consumers (Ennew and Waite, 2007). This perception by customers is an important factor motivating marketers to further involve the customer in the co-creation of new products in this industry.

2.6 NEW PRODUCT DEVELOPMENT: DEFINITION AND IMPORTANCE

This section further considers the role and importance of NPD. The strategic role of NPD in the services industry is reviewed, including a specific view of the financial services industry, given the focus of this study.

2.6.1 The Important Role of NPD

Globalisation of markets, dynamic technology development, ever shorter product life cycles and the rapid changes in customer demands have meant that organisations' competitiveness is increasingly related to their ability to satisfy customers' wants and needs by creating and incorporating higher value into products and services (Linzalone, 2008). A statement by Peter Drucker, "there are only two important functions in business: marketing and innovations; everything else is cost" quite succinctly expresses the importance of innovation and in particular NPD in today's organisations (Gruenwald, 1992). Against this background it has become critical for management to continuously improve the performance of the key processes grounding the creation of new and superior products. The improvement of NPD performances aimed at increasing the value incorporated into products is strictly related to several organisational and managerial features of the process (Linzalone, 2008).

If new products are viewed as the key to an organisation's sales growth (Gruenwald, 1992), then positioning of a product by an organisation is an important marketing consideration for an organisation in pursuit of profit, increased market share and building the profile of their brand. Product managers need to identify the competition and form some basis for positioning their products (Haines, 2009). Although the competitive positioning is usually concerning the organisation's brand, if product managers can apply themselves to defining and advocating the strategic positioning of the individual product, it can increase the overall competitiveness of the organisation's brand (Haines, 2009).

This continual development of new products is generally accepted as a requirement for the growth of organisations in today's marketing environment. Furthermore, given the increasing importance of the services sector, not enough research has been conducted to date into the development of new products in a service industries context (de Brentani and Cooper, 1991). One of the critical factors making NPD an important operational area and research topic, is a successful new product's ability to do more good for an organisation than anything else that can happen to it (Crawford, 1994). Competitors can do the most damage if two variables are left to chance. These are: firstly, when there is so little product differentiation that price cutting will take everyone's margins away and secondly, when a competitor has a new product item that consumers desire (Crawford, 1994). These factors alone, communicate the necessity and importance of continual investment in NPD.

Focusing on the importance of NPD, Thomas (1993) highlights a number of strategic reasons why an organisation should engage in continual NPD. New products are viewed as the basis for a variety of strategic reasons that define a business's direction (Thomas, 1993). Thomas's eight strategic reasons are the following:

New products can be a source of competitive advantage: an organisation can define itself by the products it chooses to offer, and to whom it chooses to offer them to. Bearing this role in mind, new products can provide a viable means for organisations to realise their goals by enabling them to increase their offering in a current market and expand into new markets.

New products can provide opportunities for reinforcing or changing strategic direction: new products can significantly assist an organisation to define strategic direction by identifying real competitive advantages.

New products can enhance a corporate image: there are numerous examples in the history books of organisations that have changed consumer perceptions through new and improved products and services. A new product has the potential to change how a customer perceives an organisation and in doing so, the overall image attached to the organisation.

New products can provide a long-term financial return on investment: new products have the ability to influence an organisation's market size, sales response, costs, profitability and cash flow. In altering any or all of these variables, a new product shows the potential to influence an organisation's Return on Investment (ROI).

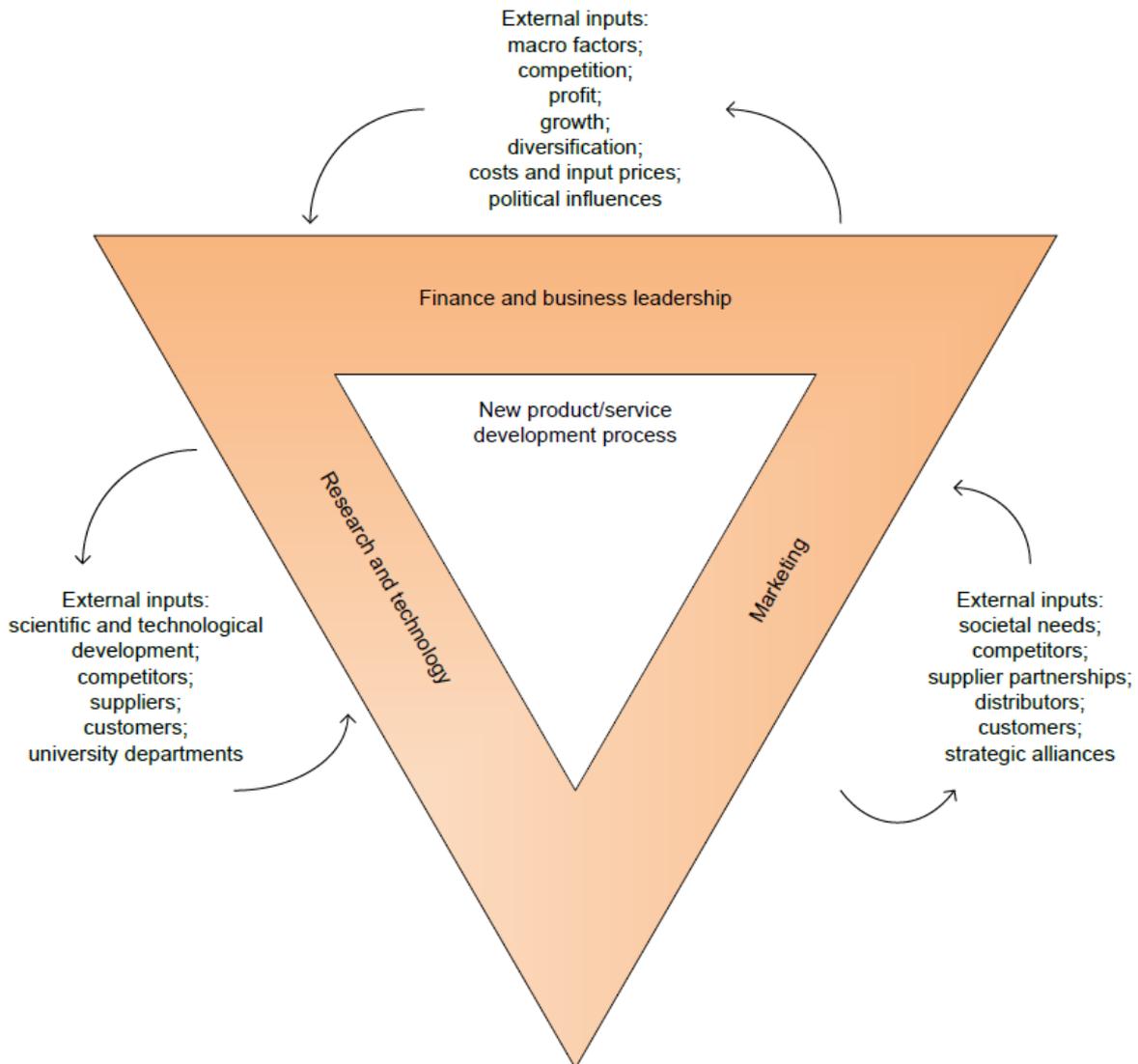
New products can capitalise on research and development: if an organisation couples its research and development capabilities with strong new product development proficiency, it can benefit the organisation in numerous ways.

New products can utilise production and operations resources: if an organisation is not operating at its production capacity and would like to improve it utilisation, one of the ways they can do so is through NPD (Thomas, 1993).

New products can leverage marketing/brand equity: marketing programmes can enhance or build brand equity through specific promotional efforts in support of a new and successful product.

New products can affect human resources: a successful new product can create new roles and opportunities in an organisation, which could increase the size of an organisation by creating new careers.

Innovation has been described as “the industrial religion of the 21st century”, or the key to increasing sustainable profits and market share (Westland, 2008). When viewing the importance of NPD, it is critical to also consider the relationship between NPD and innovation. This relationship proposed by Trott (2008) is captured in a framework presented in Figure 2.1. The figure stresses the importance of the interaction and communication within and between functions and with the external environment. The centre of the framework is represented by the process of new product development. The figure illustrates how the dynamic and complex innovation process, of which NPD is a part, needs to be managed. The actual development of new products is the process of transforming opportunities into tangible products. Having an understanding of this broader perspective is critical in understanding how to successfully facilitate the interaction between the internal functions and the flow of knowledge between them (Trott, 2008).

Figure 2.1: Innovation as a management process

Source: Trott, 2008: 16

Although there is a relationship between innovation and NPD, it does not imply that every new product is necessarily innovative or genuinely new. Ansoff's (1965, 1968) directional policy matrix shown in Figure 2.2, illustrates the different options available to an organisation pursuing growth. The matrix combines two key variables that enable an organisation to grow: an increase in market opportunities and an increase in product opportunities. According to this matrix, a growth strategy focusing on the development of new products can follow two routes: NPD or diversification. Firstly, NPD which focuses on new or improved products developed for existing markets, and secondly, diversification which focuses on new products being taken to new markets.

Figure 2.2: Ansoff Matrix

	Current products	New products
Current markets	1. Market penetration strategy	3. Product development strategy
New markets	2. Market development strategy	4. Diversification strategy

Source: Trott, 2008: 392.

An organisation's marketing strategy will determine in which quadrant the organisation positions its efforts. The quadrant chosen will in turn directly influence the level of NPD in the organisation, and the type of growth pursued.

To summarise, the importance of NPD and its critical role in assisting organisations to grow and remain competitive in their market can hardly be overemphasised. This importance spans industries, cultures, and geographic differences (Froehle et al., 2000). This said, the following section will consider the strategic importance of NPD specifically in the services industry.

2.6.2 Services Industry: The Strategic Role of NPD

The important role of innovation (including NPD) in the service industry is one means of gaining an advantage in a highly competitive environment (Chen et al., 2009). Growth through product development means developing related products and modifying existing products to appeal to current markets (Ennew and Waite, 2007). Many organisational leaders have stated and scholars have demonstrated the importance of innovation and product development, as an effective way for an organisation to accelerate its growth rate and profitability (Froehle et al., 2000; Chen et al., 2009).

Two South African organisations that are aggressively marketing services viewed as new to their traditional offering are First National Bank and Discovery Health. First National Bank, who are traditionally positioned as one of South Africa's "big four" retail banks, is actively promoting

additional services through various Above the Line (ATL) media. Their radio campaigns communicate a range of services including booking flight tickets, ordering forex and settling payments across borders. A further example of innovation in the services industry is Discovery Health, one of South Africa's largest private medical insurance providers. Discovery is offering members credit and banking facilities at discounted rates with potential rebates on any purchases made at partner outlets. These are two examples of how the services industry is investing in product development to become more competitive.

An important observation highlighted in both of these examples is the integral role of technology and the internet, which has been the basic force behind most service innovations (Zeithaml and Bitner, 2003). A more recent study by Chen et al., (2009) presenting findings on the relationship between a service organisations IT capability and their new service innovation, found that the IT capability was one of two key drivers that lead to service delivery innovation. One of the primary examples of the influence of technology on the global business arena is the internet. The internet and its relationship to technology (e.g. mobile internet) has an increasingly important role to play in the development of new products and services in the global market today (de Brentani and Cooper, 1991; Cooper, 2001; Zeithaml and Bitner, 2003; Vermeulen, 2004).

With the increase in the rate at which technology is advancing and its influence on the different avenues and tools available to develop products with an intention of remaining competitive, strategy is an important consideration. A competitive strategy is particularly important in the financial services market, which is becoming increasingly competitive (Ennew and Waite, 2007). In the financial services industry, an organisation's strategic approach toward innovation will determine what their competitive advantage is. Porter (1985) suggested that for an organisation to be competitive, it must focus either on low costs or on establishing its differentiation. Financial services organisations are advised to base their chosen strategies upon a clear understanding of consumer needs and motives, and not upon "me-too" responses to the moves of competitors (Meidan et al., 1997). If one specifically considers retail financial services or financial services developed for individuals, the strategic approach chosen has an important bearing on the relationship between the products and the channels of distribution. If the strategic approach is to broadly diversify the product range, this will result in a high degree of NPD with increasingly complex relationships between the products and channels of distribution. The strategic approach taken by an organisation will largely depend on which approach to utilise to realise a competitive advantage.

Porter (1985) identifies three broad strategic options for achieving either of the competitive advantages, namely, low costs or differentiation. The three strategic options are as follows:

- **Differentiation leadership:** this strategy tries to offer something that is unique.
- **Cost leadership:** this strategy tries to be the lowest-cost item through the provision of relatively standardised products.
- **Focus/niching:** using a low cost or differentiation strategy, the organisation concentrates on increasing a competitive advantage by focusing on a specific segment of the market.

No matter which strategic approach is chosen and what degree of technology is used, the overriding principle for a student or practitioner of innovation and NPD should be that the long-term commercial success of the organisation remains the guiding principle (or focus) on which product decisions are made.

Virtually all organisations try to ensure that their products remain competitive by regularly improving and updating their existing products (Trott, 2008). As illustrated in Figure 2.2, product development is a strategic option available to organisations wanting to grow and remain competitive. This continual development or value creation can mean survival for an organisation functioning in today's global economy. This is particularly relevant in today's service industries (specifically the financial services industry) which are increasingly competitive market environments.

2.7 SUMMARY

This chapter attempts to provide perspective on the position of this study within the broad discipline of business management. Economics is first discussed by considering the relevance of both micro- and macro-economics. Behavioural Economics as a sub-discipline of economics is then briefly reviewed as the combination of psychology and economics, which investigates what happens in markets where human limitations and complications are involved. Thereafter, behavioural economics is further reviewed by considering the sub-discipline of Financial Economics.

Business Management is then defined and the relationship between this discipline and economics is explored. Organisations are viewed as smaller units within an economy, which perform various functions to assist the economy in the production and distribution of goods and services. Of the various business functions, marketing management was considered by addressing the marketing functions, the marketing mix, the product life cycle (PLC), and the Innovation Diffusion Theory. Given the focus of this study on a services industry, services' marketing was subsequently reviewed by discussing the unique marketing implications emanating from the inherent differences between services and goods. The role of the consumer in services marketing was then considered, given their importance in the development of new products in service industries. Finally, the strategic role of NPD as an avenue available to organisations seeking continual development and competitiveness in service industries and specifically the financial services industry was reviewed.

The following chapter provides an overview of the context in which NPD is taking place, by reviewing the South African financial services industry. The industry is characterised by a high product provider diversification and a relatively low individual organisational market share (Ennew and Waite, 2007). A specific view of the investment sector of the financial services industry is also considered.

CHAPTER 3

AN OVERVIEW OF THE SOUTH AFRICAN INVESTMENT SECTOR

3.1 INTRODUCTION

The previous chapter provided perspective on the position of NPD within Business Management as a discipline and recognised sub-discipline of Management and Economic Sciences. The chapter focused on a core area of business management, namely, marketing. Marketing management was reviewed as well as a specific view of services marketing, which is of particular relevance, given the focus of this study on the South African financial services industry (investment sector). Services' marketing was reviewed by discussing the unique marketing implications emanating from the inherent differences between services and goods. For the purposes of this study, NPD is viewed as an operational area encompassed within the overall function of marketing. Therefore the final section of the chapter considered the importance of NPD as a function of marketing, focusing specifically on its role as an avenue for developing a business functioning within a service industry.

The purpose of this chapter is to provide an overview of the context in which NPD takes place. A brief overview of the current condition of the South African financial services industry is presented, focusing specifically on the influence of the recent global economic crisis. An overview of the investment sector of the finance industry is then presented. This section considers the four asset classes, managed funds and an overview of the current condition of the sector. Finally a review of the NPD activity currently taking place within the investment sector is provided. This chapter concludes with a summary.

3.2 THE SOUTH AFRICAN FINANCIAL SERVICES INDUSTRY

The South African financial services industry is viewed as one of the most sophisticated of the domestic industries, and in 2009 it was ranked fifth out of 133 nations in the Global Competitive Index for market sophistication (Schwab and Porter, 2008). The domestic industry is inextricably linked to the macro-economic conditions prevailing in the country or jurisdiction within which it operates, as well as to global market conditions. There are a number of factors which influence the condition of the domestic market, including industrial and technological advancements; unemployment levels and flexibility of the labour market; fiscal and political policies; the overall productivity of a nation; the judiciary system; the state of the health and educational systems; as well as interest and inflation rates (Bradley, Higgins and Abey, 2000). The dynamic nature of the finance industry is well illustrated by its relationship with these various factors. Furthermore, the importance of sound regulation and corporate governance in the various institutions of the industry is viewed as critical by both regulator and client.

This section will consider the recent events in the global financial arena, focusing specifically on how they have affected South Africa. This is followed by a brief view of the current condition of the South African financial industry.

3.2.1 The recent journey of the industry

At the beginning of the 21st century, the global financial village was viewed very much as a free marketplace, which held much opportunity for investment houses and individuals alike. This free market was to a large degree due to the lifting of government controls on financial markets around the world. South Africans specifically could also access foreign investment markets with ease (Bradley et al., 2000). The changes experienced in the South African industry were to a large extent influenced by the country's political condition, which changed from an apartheid government to a free democratic society, bringing with it the establishment of a free marketplace. This market structure was influenced by fundamental institutional and organisational changes which were introduced into the country (Visser, 2005). South Africa's role and ambition on the African continent and its increased number of trading partners directly influenced the activities and condition of the financial services industry. South Africa's ambition was clearly evidenced when in 1998 Thabo Mbeki (South African President) optimistically declared the twenty-first century the "African Century", and launched the African Renaissance project (Kahn, 2011). This campaign known as the New Partnership for Africa's Development (NEPAD), was soon joined in 2000 with the creation of a new body, the African Union (Kahn, 2011).

At this time, the United States of America (USA) was positioned as the powerhouse of the world economy and was instrumental in encouraging this free market environment which was characterised by free trade and consequently lowered investment barriers. This period of time was also one of exponential growth in the IT industry and the World Wide Web (WWW). A combination of these and other factors catapulted the world's domestic markets into what is now known as globalisation. With time however, the weaknesses of the global system began to surface and the world soon found that international growth and cross border trading was not without vulnerability. This vulnerability came to the fore in 2008/2009 with the market crash in the United States. The financial services industries around the world felt the impact of the crash and subsequent economic events which caused a ripple effect across most of Europe, North America and Asia (United Nations, 2009). This market crash found its roots in the sub-prime mortgage crisis in the USA, and many large global, multi-national and domestic North American companies went through a turbulent time in its wake. The companies and countries worst impacted were those with the greatest exposure to securities linked to sub-prime mortgage markets. The influence of the crash spread throughout the entire banking structure of the west, thus changing the financial landscape as it was known (Liberty Life Market Update, 2008). Some of the tangible impacts of the crash were evidenced in October 2008 through events including a drop in stock markets by more than 40% from their recent highs; the collapse of a number of investment banks; the drafting of rescue

packages involving more than a trillion US dollars; a decrease in global economic activities such as shipping rates and the cutting of interest rates around the world (Overseas Development Institute, 2008).

The South African financial markets were fortunately affected to a lesser degree by the global financial crisis than the likes of North America, Europe and parts of Asia (Liberty Life Market Update, 2008). The limited influence was in part due to the local or domestic economy being less exposed to securities linked to the sub-prime mortgage markets. Given the volatility and uncertainty of the global industry at the time, businesses wanting to survive in the long term quickly realised the need to be able to adapt to the continually changing landscapes. This change was characterised by heightened global competition, rapid technological change and shifting patterns of world market opportunities.

Innovation, which has been defined as “the use of new knowledge to offer or develop a new product or service that a customer wants” (Afuah, 1998) was increasingly identified as an avenue through which to remain competitive and survive this changing landscape, quite aptly dubbed the “new normal”. Furthermore, NPD as a type of innovation could potentially enable a business to remain competitive, profitable and in turn survive a global market characterised by increased change and competition (Owens, 2006). Thus, identifying the need for today’s organisations to ensure that their products remain competitive by investing in NPD activity, characterised by a lower failure rate (and associated costs) and a genuine potential to increase the bottom line (Trott, 2008).

3.2.2 The current condition of the industry

A few years have passed since the global financial crisis and the South African industry as a part of the global industry has witnessed global financial stability slowly return and the associated risks subside through a period of good recovery (The FSB Annual Report, 2010). The South African regulatory environment has played an important role in averting the worst of the impact of the global financial crisis’ impact on the country (The FSB Fourth Quarter Bulletin, 2010). However, South Africa faces the challenge of trying to decrease its unemployment rate which is still among the highest in the world (Harvard University Centre for International Development Project on South Africa., 2006). This worrying problem adversely affects the financial services industry, due to its dependence on a growing and well-paid working population (The FSB Annual Report, 2010). However, one specific sector of the industry has displayed positive growth despite this jobless growth, this being the investment sector (specifically collective investment schemes). This result is in part due to the sector’s continued flow of investments which positively influence both the South African personal savings and employment rate (The FSB Annual Report, 2010).

Tangible growth in the industry is evidenced by the number of FSB licences granted during the course of 2010. During 2010 the FSB finalised the processing of 20 413 Financial Service Provider (FSP) licences, with 1954 applicants being denied due to the stringent requirements not being met (FSB Fourth Quarter Bulletin, 2010). The number of licences granted is indicative of the

organisational growth currently being experienced in the industry. Recently an additional regulatory requirement was introduced to the financial services industry by way of regulatory examination for all licence holders. The examinations are the result of the practical implementation of The Determination of Fit and Proper Requirements for FSP's stipulated in the Board Notice 106 of 2008 (The Financial Services Board (FSB) Fourth Quarter Bulletin, 2010). These exams form part of the competence requirements for representatives, key individuals and sole proprietors, and are having a definite impact on the competence of engagement between the industry and customer. A further measure being reviewed regarding industry and customer engagement is a regulatory initiative known as Treating Customers Fairly. This programme is similar to the one launched in the United Kingdom. The initiative requires that an organisation considers the treatment of their customers at all stages of the product lifecycle, including the design, marketing, advice, point-of-sale and after-sale stages (The FSB Annual Report, 2010).

External relationships are important for product development performance particularly in the services industry, and often these external relationships are with customers (Knudsen, 2007). The involvement of customers in NPD has also been termed co-creation and holds merit for the organisation and customer alike. Organisations stand to increase their customer satisfaction and loyalty, while customers will increase the likelihood of their needs and wants being met through their involvement in the initiation and development of new products. The following three sections address the investment sector of the South African financial industry by reviewing structural considerations, NPD in the sector, and the current condition of the investment sector.

3.3 THE SOUTH AFRICAN INVESTMENT SECTOR: STRUCTURAL CONSIDERATIONS

The following two sections will provide some insight into the building blocks of the South African investment sector. Section 3.3.1 presents each of the asset classes, specifically focusing on their characteristics and product examples. Section 3.3.2 considers a specific type of investment category called managed investments. This section briefly reviews the main stakeholders in the Collective Investment Scheme (CIS) industry, as well as three major types of pooled or managed fund categories, namely, trusts, endowments and retirement funds.

3.3.1 A brief overview of the asset classes

There are two basic factors to consider when considering an investment: risk and return. In order to effectively manage these two factors, a prospective investor will need to find the right diversification of their investment portfolio, in order to balance their appetite for risk, with their required return on investment (ROI) (Dixit and Pindyck, 1994; Darst, 2003). Diversification has been defined as the allocation of surplus funds to more than one financial instrument in order to reduce risk (Burton and Lombra, 2006). Diversification of an investment portfolio is based on the selected ratios between the four asset classes: cash; bonds; property; and equity (Bradley et al., 2000). Diversification is further influenced by the type of investments selected from each of these

asset classes. This section presents a brief overview of the four asset classes, considering the various concepts and investment types within each.

There are four asset classes or principal investment markets an investor can invest in. These include cash (the short-term money market), bonds (the long-term money market), property and equities (the share market) (Bradley et al., 2000). How a person chooses to invest in these will determine the type of investment, and how the ratio split among the asset classes will determine a person's investment strategy. Bradley et al., (2000) provide a definition for each of these asset classes:

- **Cash:** this is the safest investment but also provides the lowest return over time.
- **Bonds:** interest-bearing investments which involves a longer maturity period and a locked-in interest rate.
- **Property:** the asset class covers the whole ambit of real estate investment, and is viewed as a medium to high risk asset class.
- **Equities:** this is the highest risk and highest return category of investments. Investors take a direct share in the profits or losses of companies.

Cash and bonds are similar and both provide a return, which is known as an interest-bearing investment. Equities and property give a return which is directly related to the performance of the company or property in which an investor has invested. The following section considers the fundamental character and relevant investment examples for each of the asset classes.

3.3.1.1 Cash and Bonds

Cash and bonds are interest-bearing investments which involve three elements, namely an interest rate, a maturity, and a principal amount. The maturity is the time span between the date of issue of the security or deposit and the day that it matures, when the borrower is required to pay the money back. The face value is the amount to be paid back at maturity, excluding any interest payment. South African investors have thousands of interest-bearing investments to choose from. These investment options are best viewed through three categories. These include short- and long-term securities, and deposit investments provided directly by intermediaries such as a bank (Bradley et al., 2000). Product examples per investment type include the following:

- **Long-term securities:** bonds, debentures, and mortgage-backed securities (Bradley et al., 2000; Burton and Lombr, 2006; Downie, 2010).
- **Short-term securities:** short-term government bond instruments, banker's acceptance, short-term debentures (Bradley et al., 2000; Burton and Lombr, 2006; Downie, 2010).
- **Deposit investments:** fixed-term deposits, interest-bearing accounts, and money market unit trusts (Bradley et al., 2000).

3.3.1.2 *Equities*

Equities are also known as common shares (CFA Institute Programme Curriculum, 2008). The basic understanding with equities or common shares is that organisations borrow money from private sector individuals with the intent that the profit from using this loan will outweigh the interest payments (Bradley et al., 2000). A share is a unit of ownership in an organisation and takes various forms based on the structure of ownership chosen. Two basic share types can be highlighted:

- **Ordinary shares:** entitle the investor to a share in the profits and a share in the assets in the event of liquidation and a voting right (Downie, 2010).
- **Preference shares:** generally, a preference shareholder is given preference over ordinary shareholders in one or more aspects, including voting rights and pay out of dividends (Downie, 2010).

There are also various indirect ways in which an investor can invest in equities, through managed funds. This investment route allows the investor to still receive the higher potential returns by taking on less risk for a marginal fee. This investment option is known as managed funds and will be reviewed in section 3.3.2.

3.3.1.3 *Property*

Traditionally a property investment was viewed as the purchase of a house or a flat and this purchase allowed a person to take total ownership (Abey and Ford, 2007). In the past three decades the process of securitisation has been introduced. It is now possible to buy an interest in a property in association with other investors through various vehicles, for example, property syndications (Bradley et al., 2000). This option may be preferable for some investors, as it requires less up-front capital, less exposure to risk, and can be less time consuming and stressful due to the investor not having to manage the physical property and/or engage with tenants. When viewing the type of investment option, one should consider three different dimensions, namely, the market functions (who and what are the stakeholders in the property); the nature of property (e.g. free holding; flat; house; apartment); and the investment vehicle. An example of a property investment structure is a property trust or syndication.

The construction of an investment portfolio based on asset allocations is viewed as a reasonable way in which to construct and manage a portfolio in light of the availability of historic market information and systems with which to monitor the investments (Darst, 2003). There are a number of factors influencing the asset allocation chosen by or on behalf of an investor. However, arguably one of the most important relationships with asset allocation is an investor's time horizon (Brennan, Schwartz and Lagnado, 1997). It is important that an investor understands the difference between "time in the market" and "timing the market"; there is no substitute for the former. The relationship between asset allocation and time is a complex one. Common traits of this relationship are

identified as an increased time horizons ability to decrease the risk an investor is exposed to; and increase the likelihood of an investor achieving their objectives. An important factor influencing an investor's ability to remain committed to their investment time horizon is emotion. Psychological biases and emotions have a high degree of influence on investor decisions and can cause investors to make decisions that are not rational (Nofsinger, 2011). The premise or assumption that even smart people are affected by psychological biases and that investors are not always rational, is incorporated in the study of behavioural finance (covered in Chapter 2, section 2.3.2). Therefore, an investor's time horizon has a significant influence on the asset allocation of an investor's portfolio, and an investor's ability to respond rationally and remain committed to their time horizon is affected by emotions and resultant psychological biases.

This section gave a brief overview of the four asset classes and relevant product examples. An understanding of the four asset classes will afford an investor a basic insight into the nature of investments and portfolio construction. The next section will cover managed investments. Managed investments or managed funds is an area in the investment sector with a high level of product development activity due to the continual requirement of managed investment vehicles to comply with current legislation and meet investor requirements efficiently and effectively in an increasingly competitive sector of the financial services industry. This section considers three types of managed investments, namely endowments, retirement funds and trusts.

3.3.2 A brief overview of Managed Investments

For many South African investors, a good way to invest in the different asset classes is through managed investments, as most South Africans do not have the skills required to invest directly into each asset class and manage the portfolio daily. Managed investments pool funds from multiple individual investors to increase the amount of money being handled by one portfolio manager per asset class, thereby achieving economies of scale. This section briefly reviews the main stakeholders in the Collective Investment Scheme (CIS) industry, as well as three major types of pooled or managed fund categories, namely trusts, endowments and retirement funds. For the purposes of this study, specific focus is placed on the unit trust structure, which falls under the trust fund category. The reason for this focus is that the unit trust is a common investment structure in the retail investment market, and many of the questionnaire respondents developed products using or incorporating this structure.

3.3.2.1 The CIS Industry

The managed investment section of the investment sector in South Africa is an important one to both the private and public sector. Government regards the industry as very important for a number of reasons. Firstly, it represents the largest concentration of investment capital (ASISA, 2010), and secondly, it takes care of a number of social functions like retirement income and insurance which, in other non-capitalist systems, the government would have to address. Lastly, the managed

investments generate significant incomes which are seen as a lucrative tax base for government (Bradley et al., 2000).

There are five main role players or stakeholders in the CIS schemes industry. These are the management company (also referred to as CIS managers), the trustees, the asset managers, the regulatory authorities, and the planner or advisor. Each of these stakeholders is briefly reviewed, giving some background and context to the environment in which the managed funds are administered.

Management companies: the management company is usually the company that launches the CIS. This company is responsible for administration, appointing of asset managers and trustees, and marketing the fund to potential investors (Profiles Unit Trusts and Collective Investments, 2011).

Trustees: the trustees are usually a public company, a bank or an insurance company, unless they are independent, in which case they are nominated in their individual capacity as a trustee to a fund by the board (Profiles Unit Trusts and Collective Investments, 2011). The word trustee is used when a fiduciary duty is conferred onto a committee member of a fund (Downie, 2010).

Asset Managers: are appointed by the CIS Company to handle the investment portfolio. Examples of asset managers in South Africa include Investec Asset Managers and RMB Asset Managers (Profiles Unit Trusts and Collective Investments, 2011). Asset managers need to manage the investment portfolio within the parameters of the fund mandate which is prepared by the CIS Company.

Regulatory Authorities: there are two primary regulatory bodies, namely, The Association for Savings and Investments South Africa (ASISA) and the Financial Services Board (FSB).

ASISA is the licensed body regulating the collective investment schemes industry within the parameters of schedule 4 of the Collective Investment Schemes Control Act (CISCA) (Profiles Unit Trusts and Collective Investments, 2011). The FSB is the regulatory body of CIS industry. Collective Investment Schemes must be registered with the FSB in order to legally operate (Downie, 2010; Profiles Unit Trusts and Collective Investments, 2011)

The Planner or Advisor: a financial planner or advisor offers an intermediary service to investors by assisting them with their investment portfolio, which forms a part of their personal financial plan.

The following section reviews three major types of managed funds.

3.3.2.2 Types of Managed Funds

As previously mentioned, there are three major types of pooled or managed fund categories, namely, endowments, retirement funds, and trusts. Each one is briefly reviewed focusing on key characteristics.

a) An endowment

It is a long-term fund generally owned by non-profit institutions (CFA Institute Programme Curriculum, 2008). In layman's terms, an endowment is also known as a tax-free insurance bond. However, they are not bonds nor are they genuinely insurance products, and are taxed. Endowments are provided by life companies and were initiated in response to the demand of clients who were looking for investment avenues. Investors in endowments take units or sections of equity in a specific fund, and the return on their investment depends on the return of the underlying assets. The government provides tax concessions to encourage people to hold on to their endowments for a long time. Endowments become tax-free in the hands of the investor after five years. However, the reality is quite different. The earnings of the endowment are taxed at 30% in the hands of the life office. If a person's personal tax bracket is above this, then an endowment is an appropriate option. From an NPD perspective, endowment policies have become a modern product in many instances and have become more sophisticated (Bradley et al., 2000).

A retirement fund: The formal South African definition of a retirement fund is presented in the Pension Funds Act No. 24 of 1956, which defines the retirement fund in three separate paragraphs detailing all objects (Downie, 2010). In layman's terms a retirement fund can be defined as an investment vehicle for retirement savings which is characterised by inflexibility and tax advantages. The primary purpose of a retirement fund is to provide a form of benefit to its members when they retire or for their dependents when they die (Downie, 2010). There are three different types of retirement funds, namely, a pension fund, a provident fund and a retirement annuity. The pension and provident funds can only be initiated by an employer, whereas the retirement annuity is initiated by a self-employed person or any other individual. All South African funds are registered with the Financial Services Board (FSB) and approved by the South African Revenue Services (SARS). Trustees are appointed to manage the fund and they are required to do so according to the investment guidelines stipulated in regulation 28 of the Pension Funds Act. A fund has a legal identity and the power to enforce decisions and activities under the law (Downie, 2010). The three types of retirement funds will briefly be reviewed.

A pension fund: Contributions are made to a person's pension fund during their employment, and at retirement the fund will provide for the payment of a pension. At the point of retirement a retiree can take up to one-third of the investment as a lump sum and the remaining two-thirds will be paid out as a pension (Bradley et al., 2000). A pension fund can be a defined benefit (what you get out) or a defined contribution (what you put in) fund (Downie, 2010).

A provident fund: Much like the pension fund, an employee makes a contribution to a provident fund during their employment. At retirement the member of the fund can receive the full benefit or pay-out available to them in the form of a lump sum. The member is not obliged to receive the full lump sum payment and can use a portion to purchase a pension. Importantly, apart from the legislation and regulations governing a fund, the rules of the fund are important in determining what

a member can and cannot do (Bradley et al., 2000). A provident fund can also be a defined benefit (what one gets out) or a defined contribution (what one puts in) fund (Downie, 2010).

A retirement annuity (RA): It is a private pension fund. An investor can make contributions until the age of 70, and can only start receiving their benefit at the age of 55. They must, however, start taking their benefit or pay-out from the age of 70. Similar to a pension fund, at retirement the investor is required to receive at least two-thirds of the value of their fund as a pension, and up to one-third can be taken out as a lump sum (Bradley et al., 2000).

b) A trust

Trusts are the purest form of collective investments, and involve a group of people investing in pooled asset classes. One of the primary reasons why trusts have become so popular for businesses and individuals alike is due to the tax laws governing trusts. In South Africa the tax regime sees unit-trusts as tax-neutral and the investor is taxed as if they were investing directly. There are various types of trust investment structures, the most common of which is the unit trust. The unit trust is a very popular collective investment and it has grown tremendously over the past 50 years. As such the unit trust will be reviewed, covering a brief history of unit trusts, as well as their key features and the various types available.

c) Unit trusts

The launch of the first unit trust by Sage in 1965 was one of the most significant product developments in the South African investment market (Profiles Unit Trusts and Collective Investments, 2011). The unit trust was an investment vehicle that could enable the man on the street to access the Johannesburg Stock Exchange (JSE), which previously required a large amount of money to warrant broker fees or the required skills. Unit trusts offered professional management, low initial investment amounts, diversification, and access to expensive blue-chip shares. Today the industry has blossomed and an investor needs to make a decision between various types of unit trusts, including general funds, theme funds, fund of funds, hedge funds, bond funds, multi-manager funds, passive funds, and many more (Profiles Unit Trusts and Collective Investments, 2011).

The industry growth was slow between 1965 and 1980 with only 12 funds being developed and launched over a 15 year period. This changed however, when the share market entered a bull phase in the second half of the 1980's, and in 1987, 11 funds were launched in one year. In 1989 there were 31 registered funds in South Africa. The 1980's would appear quite insignificant when compared to the growth seen in the 1990's. By the end of 1999 there were 271 rand-dominated unit trusts, with a market value of R112.8 billion. This growth can be attributed to two main factors, namely, consumer sophistication and product differentiation by the companies that managed the unit trusts (Profiles Unit Trusts and Collective Investments, 2011).

An important development in the unit trust industry is that of the managed prudential funds, which allowed unit trusts to attract investments that historically had been the preserve of the retirement fund industry. These funds were managed and developed according to Regulation 28 of the Pension Funds Act. The unit trust industry was now able to target the retirement funding market and this gave rise to a surge in the development of not only managed prudential funds, but also linked products which have unit trusts as their underlying assets. Today, investors in a unit trust have full rights to the profits of the trust, based on their share of assets or units within the trust. This profit is viewed as the investor's share of income and capital growth, according to the number units held by the investor. As previously mentioned there are a variety of types of unit trusts. Funds are firstly categorised into either domestic (South African) or offshore or a combination.

The unit trust growth witnessed in the South African investment sector is viewed as a prime example of the development experienced in the investment sector of the South African financial services industry. This growth is not only due to the aforementioned factors of professional management' low initial investment amounts' diversification and access to expensive blue-chip shares' but also the continual influence of both globalisation and exponential technological advancements. The growth in the unit trust sector has been exponential and since 1991 has grown from R11, 398 million to a total unit trust assets (as at December 2010) of R938, 779 million. Today unit trusts continue to grow at a soaring rate. The growth over the past two years alone was recorded at thirty-eight percent (Profiles Unit Trusts and Collective Investments, 2011).

The next section provides a very brief overview of the current South African investment and savings sector, highlighting specifically commentary from global organisations such as the World Bank, and South African-specific bodies such as ASISA.

3.4 CURRENT INVESTMENT SECTOR OVERVIEW

The South African investment sector and financial industry as a whole is recognised as world class in terms of its infrastructure and technology (Prather-Kinsey, 2006 in Arya, Bassi and Phiyega, 2008). It is however confronted by a number of challenges, which are to a large extent the influence of the country's demographics and skills distribution. These challenges include low levels of black participation in corporate management (especially at senior management level); poor access for lower income earning brackets to appropriate financial products and required financial education (contributing toward a low level of national savings); and insufficient corporate social investment aimed at black groups by private organisations functioning in the industry. These challenges are also true for the investment sector, as a part of the financial services industry as a whole. This section provides an overview of the investment sector by considering some of the current strengths and challenges it faces.

Like all markets, the South African domestic investment sector has strengths and weaknesses. An area of concern highlighted by both the public and private sector is that of Total Gross Savings

(TGS). Although the savings rate has increased year-on-year since 2003, it has been at a pace below the country's Gross Domestic Product (GDP) growth rate. As a result, the ratio of TGS to GDP has declined over recent years. In 2008 South Africa's gross savings accounted for 15.4% of GDP. This figure is considered low by the World Bank and is a primary factor contributing to the reliance of South Africa on Foreign Direct Investments (FDI) (World Bank, 2008). Government, in association with the private sector, has put a few initiatives in place to address this national savings shortage. One of these initiatives is the annual savings month run by the South African Savings Institute (SASI). A further initiative is the Financial Services Board's National Consumer Financial Literacy drive which is set to launch early 2012. Education plays a pivotal role in sustainably addressing the national savings crisis. Financial education on topics such as debt management, budgeting and basic money management is lacking by the majority of lower income earners or traditional blue collar' workers. Private sectors are addressing this, particularly in the pension fund industry, by providing basic workshops on financial literacy. Old Mutual is an example of one of South Africa's largest and most established financial service providers who are investing in financial education through their Financial Wellbeing Programme.

The transformation in private sector management from the traditional white male dominant demographic to a more accurate representation of South Africa's demographics has not been a simple exercise and continues to pose a serious challenge to the industry. In order to drive transformation in the financial services industry, organisations from within the industry (including the investment sector) developed the Financial Sector Charter. The charter established the principles upon which black economic empowerment would be implemented, and has had a significant influence on the landscape of the investment sector. Arya et al. (2008) present six perspectives of the Charter, including:

- **The human resource development perspective:** measures the representation of black people at the senior, middle, and junior management levels.
- **The procurement and enterprise development perspective:** focuses on increased procurement from black-owned companies as a percentage of total procurement by the institution.
- **The access to financial services perspective:** measures increased representation of banks in previously under-represented (black majority) areas in South Africa and also measures funds spent by institutions on education of 'unbanked' consumers to help them make measured decisions regarding their finances (e.g. The Old Mutual Financial Wellbeing Programme).
- **The empowerment financing perspective:** allows institutions to earn points for transformational infrastructure loans given to the government and municipalities for development of infrastructure, such as roads and dams.

- **The ownership and management control perspective:** required that by 2010, each financial institution will have a minimum of 10% direct black ownership. The corporate social investment perspective requires that each financial institution directs at least 0.5% per annum of post-tax operating profits to corporate social investment.

The Financial Sector Charter has been a positive initiative for the investment sector and industry at large. The Charter underwent a second round review early in 2011 and the negotiations with industry participating stakeholders were said to be characterised by a spirit of increased trust and cooperation (ASISA, 2010).

Within the investment sector particularly, being socially responsible is seen to influence both the way in which a business functions and the products they provide. Socially responsible investing is a real consideration in investment sector and is being demanded by both private and institutional investors. Members of pension funds are asking trustees for responsible investments in their pension portfolios. This has resulted in industry professionals having to put much time into developing quantitative investment approaches that allow a portfolio to be constructed in a way that not only considers environmental, social and governance issues, but also produces consistent stable returns (Harris, 2008).

The investment sector underwent various regulatory reforms during the course of 2010 (some of which rolled out into 2011). These projects influence both the development of investment products and the engagement of providers with their customers. ASISA Annual Report (2010) reported on a number of these projects, some of which include:

- Amendments to Regulation 28 which influences the management of pension funds
- The Consumer Protection Act which regulates the manner in which providers engage with consumers
- Conflict of Interest legislation has had a large impact on the rules of engagement between Financial Service Provider licence holders.

From a business environment perspective, South Africa as an investment market has fared well over recent years. The South African National Treasury accredits this performance primarily to capital formation as an economic driver. By the end of 2007, gross fixed capital formation was a little over twenty-one percent of GDP. This percentage was in part due to a rise in South Africa's share of fixed investments accounted for by private organisations, which were responsible for almost three-quarters of total investments (World Bank, 2011).

The performance of the investment sector has been tumultuous over the past few years, primarily due to it being a part of a larger global community and being exposed to the recent global economic crisis. A more recent view reflects a positive picture, with 2010 being dubbed by many as the "the year of the bond". This is primarily due to foreign direct investments which flowed into

South Africa in the form of government bonds. The influx is viewed as a result of increased international confidence since South Africa hosted the soccer world cup in 2010 (Salmon, 2011).

Overall, the South African investment sector and financial industry as a whole is characterised by continual development and innovation. The industry is vibrant and strives to remain sophisticated and competitive in terms of global standards. Industry professionals would agree that there is always room for further improvements, however the overall condition of the industry is said to remain in good health (The FSB Fourth Quarter Bulletin, 2010).

The next section considers the NPD activity in the investment sector, focusing on the type and level of activity taking place.

3.5 NPD WITHIN THE INVESTMENT SECTOR

Chapter Two provided an overview of the importance of NPD as an operational area of business that is best positioned in the marketing function. The chapter reviewed the unique marketing implications emanating from the inherent differences between services and goods, as well as the importance of the customer in service marketing. Inseparability, intangibility, heterogeneity, and perishability were identified as four characteristics that are most commonly used by marketers to differentiate between goods and services (Kotler and Keller, 2006). Furthermore, a specific view of the characteristics of financial services and their marketing implications was presented. The characteristics include fiduciary responsibility, contingent consumption and the duration of consumption (Ennew and Waite, 2007). This section provides an overview of the type and level of NPD activity in the South African investment sector.

ASISA released a number of figures in their 2010 Annual report which give some context to how much of the product development has taken place in the investment sector over the past two years. The 2010 annual report indicated that the CIS industry in South Africa recorded a growth from December 2009 to December 2010 of R109 Million in Assets under Management (AUM). Furthermore, the movement year-on-year was from R786 billion in 2009 to R939 billion in 2010. The actual number of funds in this period grew from 904 in December 2009 to 943 in December 2010, which is an 11% growth in the number of funds released in one year (ASISA, 2010).

This ASISA report gives an indication of the amount of funds or products being released by their members which ASISA represents the majority of South Africa's asset managers, collective investment scheme management companies, linked investment service providers, multi-managers and life insurance companies. However, the nature or type of products being released is not indicated through the ASISA report. In the investment sector, organisations regard their NPD research and development as a trade secret and as such this intellectual property or knowledge is not publically available through a notice or report. For the purposes of this study, the decision was therefore made to further investigate the level and type of NPD activity taking place in the investment sector via the use of a questionnaire given to an identified pilot study group.

To further investigate the level and type of NPD activity taking place in the investment sector, an exploratory study consisting of fourteen persons representing six different investment organisations was chosen to complete a questionnaire. Where there were multiple representatives from a single organisation, the persons were selected from different divisions. The six organisations selected represent different types of industry providers including a life company, asset management houses, specialised or niche finance operations as well as advisory businesses. The questionnaire was designed to produce data in four areas, including the amount of NPD activity taking place in their organisation; the level of innovation that characterises their organisation's NPD activity; the perceived amount of NPD activity taking place in the South African investment sector, and the perceived innovation that characterises the sector's NPD activity. A table detailing the results is presented in Appendix A. Below is a summary of the findings for each of the four questions.

Question One: This question asked respondents how they would rate the level of NPD activity taking place in their organisation, measuring the response on a scale of one to ten (with one being minimal and ten being a high level). The average result was 6.78 with thirteen of the fourteen respondents rating the level of NPD activity in the sector six or higher. The average was therefore brought down significantly by one outlier. This response came from a well-established Life company, indicating that perhaps the amount of NPD taking place in companies with similar characteristics and structural make up is lower than the average.

Question Two: The second question asked respondents how they would rate the level of innovation that characterises the NPD activity in their company by using a scale of one to ten (with one being minimal and ten being a high level). Three respondents gave a rating of five and the rest were higher, with an overall average rating of 6.71. This response indicates a fairly positive outlook on the level of innovation associated with organisational NPD activity.

Question Three: Question Three focused on the investment and savings sector at large as opposed to a specific organisational view. The question asked respondents what their perception was regarding the amount of NPD activity taking place in the overall South African investment and savings sector. The overall average rating from the pilot study was 5.42 which indicate that on average, the respondents believe that there is a fair amount of NPD taking place in the South African investment and savings sector.

Question Four: Half the respondents viewed the type of NPD activity taking place in the sector as most appropriately positioned in Quadrant Three of Ansoff's Matrix, namely, Product Development Strategy. This result indicates that the majority of respondents view the current growth activity as the development of new products in the current market. Quadrant Two which indicates that the NPD activity is developing current products in new markets, was selected by two respondents. Finally, one respondent selected Quadrant Four, which indicates that the activity is both new in product development and market entry. From these results, the level of innovation taking place in the investment sector is viewed as positive, with ten of the fourteen respondents indicating that

either the product, or the market, or both, are being developed and introduced in the sector as genuinely new.

The pilot study - undertaken to investigate the level and nature of NPD activity in the investment sector of the South African industry - produced insight on both an organisational and sector level. On an organisational level, the amount of NPD activity taking place, as well as the degree to which this NPD activity was viewed as innovative, was both viewed as above average with mean scores of 6.78 and 6.71 respectively. The findings revealed that different types of organisations have varying levels of NPD activity. On a sector level the results showed that the perceived level of NPD activity taking place in the investment sector is just over 50 percent, returning a mean score of 5.42. This is an interesting result, in that it implies that the majority of the respondents perceived their organisational NPD activity as seven, or above out of ten. Therefore, the pilot study's perception of the industry NPD activity is somewhat lower than that of their organisational NPD activity. The level of innovation respondents felt could be attributed to the NPD activity in the investment sector, was fairly high with ten of the fourteen respondents indicating that innovation was present in the product, the market or both.

The results of the pilot study indicate that organisations operating in the investment sector are making use of NPD as means of remaining competitive, and in most cases relevant, in this highly competitive environment. The majority of respondents viewed the NPD activity as the development of new products in current or existing markets. If this growth strategy is being implemented by the majority of organisations, it will further increase the competitive environment of the sector, and in turn will increase the need for innovative new products that can tangibly provide an investment provider with a unique competitive advantage.

3.6 SUMMARY

Given the focus of this study on NPD success in the South African investment sector (part of the financial services industry), an understanding of the various aspects considered in this study is required. These aspects include:

- both the role and importance of NPD as a function of marketing;
- the influence of the unique characteristics of a service on NPD;
- the influence of the additional characteristics of a financial service;
- an understanding of the environment in which NPD is being investigated, namely the South African financial services industry.

Chapter 2 considered factors 1 to 3. The purpose of this chapter was to consider factor 4, the environment in which NPD is being investigated, namely the financial services industry. An organisation functioning in the financial services industry requires a good understanding of the sectors environment in order to more accurately make a decision on whether NPD is an appropriate avenue for organisational growth and increased competitiveness.

This chapter attempts to give a broad level overview on some of the key areas of the South African investment sector, relevant to this study. The South African financial services industry was first introduced and some background given to ensure sufficient context before focusing specifically on the investment sector as a part of the industry. A section focusing on the investment sector considered the various asset classes (cash, bonds, equities and property); managed investments (endowments retirement funds, and trusts); as well as a brief overview of the current sector conditions. Finally, the NPD activity currently taking place in the investment sector was considered. This section highlighted the absence of any high level reporting on NPD activity in the sector. As such, a small exploratory study was conducted to investigate the nature and level of NPD activity currently taking place in the investment sector.

Chapters 4 and 5 consider further factors required to gain a better understanding of NPD success in the investment sector of the South African financial services industry. These considerations include which factors were identified from the literature reviewed as influencing NPD success, and how this success is measured. The following chapter (Chapter 4) considers the characteristics of NPD by reviewing various NPD model categories, as well as factors identified as having an influence on success. Chapter 5 then considers the various measures of NPD success. Importantly Chapters 4 and 5 were cornerstone research chapters used in the construction of this study's exploratory study and final questionnaire.

CHAPTER 4

NEW PRODUCT DEVELOPMENT: MODELS AND FACTORS OF SUCCESS

4.1 INTRODUCTION

The role and importance of NPD as a function of marketing, as well as the influence of the unique characteristics of a service on NPD are two key aspects of this study, both of which have been discussed. Given the focus of this study on the investment sector of the South African financial services industry, the environment of this sector was also considered by discussing various aspects including the four asset classes and managed investments as well as the level and type of NPD activity currently taking place in the investment sector.

The following two chapters present the findings from the literature reviewed around two constructs, namely, factors influencing the success of NPD, and the measurement of NPD success. This chapter will address the literature reviewed on NPD success factors, which was the first area of research critical to the construction of the study's research instrument. A process of operationalisation was undertaken to ensure that the final identified success factors (independent variables) did not overlap. The chapter begins by providing a brief overview of various NPD model categories.

4.2 DIFFERENT MODELS OF NEW PRODUCT DEVELOPMENT

The model of new product development chosen by a manager will determine how they transform a good idea into a successful product. One of the simplest ways to achieve this transformation is to use a Product Management Lifecycle Model (Haines, 2009). This model consists of three different task areas, including new product planning, introduction and post-launch product management. The manner in which this Lifecycle Model is practically implemented emanates from the approach by an organisation toward this innovation process. There are two main approaches to the description of an innovation process. These include technical planning and development of new products; and the marketing of the concept or product (Trott, 2008; Moutinho and Southern, 2009). The former approach refers to the engineering design and the latter to innovation and innovation management. Both approaches are represented by the models described by Trott (2008). Drawing on the earlier work of Saren (1984) Trott classifies numerous NPD models presenting seven distinct NPD model categories. The first model category is the departmental-stage model.

4.2.1 Model category: Departmental-stage model

Departmental-stage models are based on the linear and hierarchical model of innovation and represent the early form of NPD models (Moutinho and Southern, 2009). These models are also referred to as over-the-wall models, as each department is seen to throw the project or allocated tasks over the wall to the next department. Importantly, it is accepted now that the departmental view held by these models hinders the overall development process, as inter- and intra-departmental communication and cooperation are key to achieving NPD success (Trott, 2008). Furthermore cross-functional team structures are believed to directly influence the effectiveness of organisations operating in a service industry (Froehle et al., 2000)

4.2.2 Model category: Activity-stage and concurrent engineering models

Although similar to departmental-stage models, both activity-stage and concurrent engineering models provide a better representation of reality as they emphasise the activities conducted in a realistic and overlapping manner. More recent models have highlighted the simultaneous nature of the NPD activities from across various departments; thus also highlighting the need for a cross-functional approach (Trott, 2008; Haines, 2009). This model category is also known as overlapping NPD and ensures that there is no disconnect in the handover between stages, which is common in models of a sequential nature (Thomas, 1993; Crawford, 1994).

4.2.3 Model category: Stage-gate process models

The stage-gate or phase-gate model was popularised by the research of Robert Cooper (2001). It is a widely employed process model that divides time-sequenced stages by management decision gates. These models follow a sequential approach and are usually more appropriate for projects characterised by a high degree of uncertainty (Thomas, 1993). Haines (2009) highlights five different phases and gates, namely, concept, feasibility, definition, development, and launch. The gate at the end of each phase is a decision point. Multi-functional teams must successfully complete cross-functional tasks and get management approval before proceeding to the next stage (Trott, 2008).

4.2.4 Model category: Cross-functional models (teams)

The cross-functional approach involves a dedicated project team representing employees from a variety of functions. The cross-functional team has been defined as “a team consisting of representatives from the various functions involved in product development, usually including members from key functions required to deliver a successful product” (Haines, 2009). The use of a cross-functional team requires a fundamental modification to an organisational structure (Trott, 2008). An example of a company who have implemented this structure is the financial advisory company, Acsis Limited (South Africa). Acsis use a cross-functional model to avoid potential communication problems between different departments. James Fraser (head: project office) commented, “I am of the opinion that having a separate department, like a project office, whose

sole responsibility and function is to manage NPD projects (and others) is the only way to effectively and efficiently manage dynamic projects that require interdepartmental co-operation" (Fraser, 2011).

4.2.5 Model category: Decision-stage models

This model views the NPD process as a series of decisions that need to be taken in order to advance the project (Trott, 2008; Kotler, 2007). The decision-stage models are very similar to the stage-gate or stage-phase models as they both depend on key decisions being made at predetermined times, in order for the project to progress. Like the stage-gate models, they also follow a sequential approach and are usually more appropriate when there is a high degree of uncertainty (Thomas, 1993). The models have a built-in feedback loop which facilitates the transfer of knowledge between the various decision-makers. Importantly, the type of knowledge can either be new or existing to the organisation (Afuah, 2003). This classification will assist an organisation in understanding how the innovation or new product should be developed and thus which type of model is most suitable.

4.2.6 Model category: Conversion-process models

The conversion-process models centre on the concept of a "black box". This model category is mostly structured and static. It views new product development as a process involving numerous inputs (information) which are converted into outputs (action). However, how these conversions should take place is not prescribed. A major criticism of this model is the lack of detail surrounding the conversion of the various inputs (Trott, 2008). Thomas (1993) classified this approach or model category as chaotic due to the absence of a structured process. This approach is not necessarily a bad one however, as it allows for creative solutions to problems as and when they arrive.

4.2.7 Model category: Response models

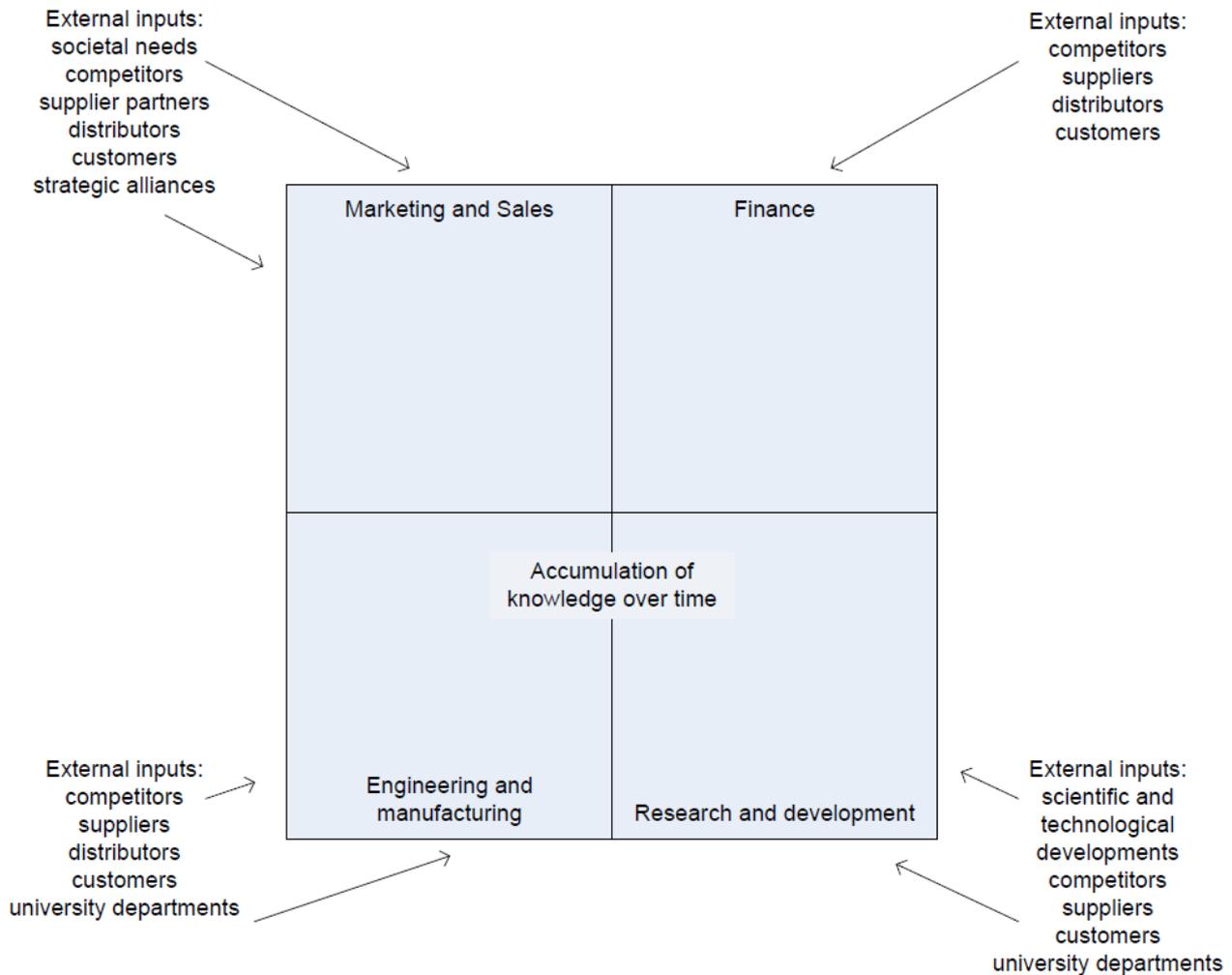
Response models adopt a behaviourist approach to analysing change and are based on the work of Becker and Whistler (1967). The models consider employees and organisational responses to a new project or idea (Trott, 2008). This model category employs the NPD principle of moving slower in the beginning phases, so that the project can accelerate later on. The careful analysis not only of the product concept, but also of human factors assists in gaining the support of senior management.

4.2.8 Model category: Network models

The most recent thinking on the subject of NPD models is represented by the networking models. Researchers who have explored these models in detail include Hagendoorn (1990); Trott (1993); and Nonaka and Takeuchi (1995). Figure 4.1 graphically illustrates this model category. These models emphasise the belief that external linkages coupled with the internal activities are key contributors to NPD success. The network models suggest that NPD should be viewed as a knowledge-accumulation process that requires inputs from a wide variety of sources. This new

approach toward NPD is also known as Holistic NPD and employs the rugby style, in which a *team* moves through the phases of NPD together, passing the *ball* back and forth (Thomas, 1993; Trott, 2008). Notably, the team can include the involvement of clients. Client involvement can also be referred to as co-creation, and is increasingly vital in the area of new product development (Hoyer et al., 2010).

Figure 4.1: A Network Model of New Product Development



Source: Trott, 2008: 411.

The various categories of NPD models which have emerged over the past 50 years have been considered in this section of Chapter 4. Each model category displayed some merit, as well as a degree of weakness. The more recent network or holistic models try to include external linkages in their perspective toward NPD process management and in doing so are more complex than some of the other aforementioned models but also more realistic in their approach.

4.3 FACTORS INFLUENCING SUCCESS IN NEW PRODUCT DEVELOPMENT

This section considers the literature reviewed on factors influencing NPD success and covers two primary areas of research, firstly, literature focused on identifying NPD success factors in various industries, and secondly literature covering research into NPD success factors identified in various financial service industries. Both areas of literature reviewed covered a range of countries or jurisdictions. A jurisdiction, for the purpose of this study, is viewed as an area which may include multiple countries or dependencies governed under a common law.

Financial service industries are governed by stringent regulations which to a large degree impact upon the way in which products are developed and marketed. This affects the key success and measurement factors that are uniquely applicable to financial product development. Although there may be factors that are applicable across industries, this study focused on factors unique to the financial industry. Separating literature into two key areas is also viewed as a risk control tool against the effects of averaging (Story, Smith and Saker, 2000). This principle implies that success factors and measurements identified across various industries over a number of years are too often incorrectly implemented by a practitioner in a different industry, owing to his/her lack of insight regarding the unique nature of a particular industry.

The eight success factors identified in this study were based on a literature review and supplemented by a pilot group study which added practical insight into specific factors influencing NPD success. Persons chosen for the pilot study either currently operated in, or had operated in, the South African financial services industry. Both sets of factors (from the literature reviewed and the pilot group) were used in the compilation of the questionnaire used as the measuring instrument in this study

4.3.1 NPD Success Factors: various industries and countries

Johne and Snelson (1988) reported on the total span of product development tasks in a sample of United Kingdom and North American firms across a variety of industries including electrical and electronic engineering, mechanical engineering, chemical and food. A number of different types of innovation relating to these industries were identified. Of these types, NPD and marketing innovation were identified as the primary contributors to an organisation wanting to increase their competitiveness. Focusing specifically on NPD, three key factors were identified by John and Snelson as important when considering how to realise NPD success. These factors were the strategic approach toward NPD, the leadership of senior management, and the team's skill level.

Barclay (1992) attempted to evaluate and improve on the NPD process by primarily addressing three topics. These included reviewing previous research results on success and failure in NPD; reviewing correct development practice; and thereafter drawing on these results to see how the practice of developing new products could be improved. The sectors covered included electrical and electronic/mechanical engineering in America, the United Kingdom and Europe. The study

involved the development of a new product questionnaire that consists of five sections, each representing one of five major attributes associated with success in NPD. Similar to the research by Johne and Snelson (1988), Barclay found open-minded and professional management; as well as a good market knowledge and strategy to be two of the key factors associated with success. The remaining three success factors were a unique and superior product meeting customers' wants-- good communication, and proficiency in technical activities.

Montoya-Weiss and Calantone (1994) based on their meta-analysis of the new product literature, concluded that most of the factors affecting new product success were controllable by management, thus suggesting, much like both Johne and Snelson (1988) and Barclay (1992), that management of NPD is a crucial factor in achieving success.

Song and Parry (1994) investigated the dimensions of new product success and failure in state enterprises in China. Six dimensions emerged as significant correlates of success. Similar to the views of Barclay (1992) marketing potential and marketing proficiency were identified, as well as relative product advantage, and technical synergy and proficiency. Other dimensions included competitive intensity, production start-up proficiency, perceived risk and an ability to accurately determine the market needs.

In their study on factors influencing NPD success, Poolten and Barclay (1998) concluded that while several decades of research and development studies have produced a good deal of data with respect to the variables associated with the success and failure of new products, the management of NPD is one of the most important factors of success in their study. This finding is similar to the findings of Johne and Snelson (1988), Barclay (1992), and Montoya-Weiss and Calantone (1994). Managers were found to still be reliant upon their gut-feelings regarding best practice in NPD.

Di Benedetto (1999) provided insight into how an effective product launch can be a key driver in realising a top performing new product. The launch was identified as the single costliest step in NPD. Successful launches were found to be related to four key areas, namely perceived superior skills, strategic activities, tactical activities and information-gathering activities. Furthermore the success of the product timing, as found by Song and Parry (1994), was seen as a key factor determining ultimate product success, because of its influence in particular on the product launch.

In contrast to research done purely on NPD dealing with tangible products, Kelly and Storey (1999) investigated companies using systematic procedures to generate and screen ideas in New Service Development (NSD). The research was conducted in the United Kingdom across five sectors from various industries (banking, telecommunications, insurance, transportation and media). They found that NSD initiation strategies were largely informal processes. Furthermore service firms with more formal strategies were seen to be more satisfied, highlighting the need for more firms to develop structured approaches to NSD. Importantly, Kelly and Storey (1999) found that the innovation and management literature indicated that the development of a service product is different from the development of a tangible product. Furthermore it was stressed that owing to the unique nature of

a service (intangibility, heterogeneity and simultaneity) the initiation strategies pursued by service businesses would need to differ somewhat from those adopted by tangible product developers.

Story et al., (2000) provided a more detailed insight into the development process activities in a single sector, namely the United Kingdom automotive components industry. The purpose of the investigation was to determine to what extent averaging had an effect on the variables used in assessing development projects. Furthermore, they sought to provide more detailed information on NPD process issues and variables. They concluded that an important factor influencing the success of the final NPD outcome was the type of innovation characterising the new product. Industry-specific differences were shown to have an important effect on the appropriateness of many variables, thus highlighting the impact of averaging. Their research was successful in identifying the problem of assuming that general measures can be applied across industry sectors and cultural boundaries.

Jensen and Harmsen (2001) found that studies highlighting the key success factors of NPD were consistently similar to their own findings, which concurs with the findings of Barclay (1992); and Montoya-Weiss and Calantone (1994). Their research revealed that success factors identified through empirical research and academic publications have only been sparingly implemented in companies' NPD practices. The study made use of six groups of success factors identified by the earlier research of Craig and Hart (1992). These factors include strategy, NPD management, company characteristics, NPD process, people or employees and information (Craig and Hart, 1992). It became apparent that both the theoretical and empirical research pointed toward the potential benefit to NPD of an improved understanding of the role and importance of individuals' knowledge and skills, as well as their values and norms. Notably this finding of Jensen and Harmsen (2001) concurs with the earlier findings of Johnes and Snelson (1998).

In their study on product development, Suomala and Jokioinen (2003) found success to be elusive, multifaceted and difficult to measure. Project selection was pivotal to the effective risk reduction in product development and the use of a scoring model was shown as crucial in the selection process. The body of literature reviewed on NPD success suggested that there is a rather versatile set of factors affecting success. The information collated was structured into groups of factors under different domains including company business, strategy, customer and competition and technology. They conclude that it would be questionable to present any standard formula for new product success. However Suomala and Jokioinen (2003) did identify three key variables they believed influence success. The variables concur with earlier studies done by both Barclay (1992) and Song and Parry (1994), and include product superiority, market need and competitive positioning.

Kandemir, Calantone, and Garcia (2006) surveyed a broad spectrum of NPD projects from the biochemistry industry in North America, Canada, Germany, the United Kingdom and Belgium for the purpose of exploring the role of organisational activity factors in NPD success. They found that

a sustained competitive advantage does not come cheap. The resources committed to the NPD process are a significant factor in creating a competitive advantage. With respect to NPD processes, these resources were viewed in terms of people resources (top management commitment, involvement of a strong champion, use of a multi-disciplinary team, and focus of a dedicated team); development resources (preliminary market assessment, detailed market research, business/financial analysis prior to product development); testing resources (in-house product testing, customer tests of the product, test market/trial sell, and production start-up); and launch resources (quality and amount of advertising and promotion activity). The study concluded that the level of resources committed to the activities directly influences the skills and abilities in each, and the effective and efficient use thereof will determine the levels of NPD project success. Furthermore, similar to Craig and Hart (1992), the key organisational activity primarily affecting the success of the project was found to be detailed market research.

Cheng and Shui (2008) explored the critical success factors of NPD in Taiwan's electronics industry. The innovation in this industry classically used a type of innovation termed re-innovation. Product innovation has been commonly classified into radical innovation and incremental innovation. The study saw re-innovation at the incremental end of the scale but adopted the term re-innovation as an option presenting reality and simplicity. The findings of the study showed that product re-innovation success may or may not be realised, depending on the ability of the NPD process to implement these six key factors. Of these six factors, all except one (lower cost in the product manufacturing) concur with earlier studies, including Barclay (1992), Craig and Hart (1992), Song and Parry (1994), Kelly and Storey (1999), and Suomala and Jokioinen (2003). Cheng and Shui's identified success factors included a shorter time spent in the development process; lower cost in product manufacturing; products with greater customisation; products with relative advantage and added value; firms with greater internal coordination and external cooperation; more appropriate product introduction timing; and competitors with less aggressive responses. Furthermore their study concluded that these success factors, although specific to the type of innovation termed re-innovation, also show commonality with other innovation type success factors.

Barczak, Griffin and Kahn (2009) presented results, recommendations, and implications for NPD practice stemming from the Product Development and Management Association's third best practices study, conducted in 2003. Respondents represented a large variety of industries from various countries. Their study highlighted the NPD areas that are still in need of improved management. Organisations were divided into two groups, namely, "the best" and "the rest". They concluded that when comparing the groups, the best were found to have fundamental business strategies, this finding concurs with the earlier findings of John and Snelson (1988). The best also used more formal processes for generating ideas; and were more likely to put supporting

organisational mechanisms and processes in place for key business functions. The best were also more likely to implement and test different kinds of NPD tools.

A synopsis of the success factors identified in the literature reviewed is presented in Table 4.1.

Table 4.1: NPD Success Factors (various industries and jurisdictions)

Success Factors	Source(s)
NPD management (style)	(Montoya-Weiss and Calantone, 1994). (Barclay, 1992). (Craig and Hart 1992) (Johne and Snelson, 1988)
Product superiority	(Suomala and Jokioinen, 2003) (Barclay, 1992) (Cheng and Shui, 2008) (Song and Parry, 1994)
Strategic planning and management	(Johne and Snelson, 1988) (Barclay, 1992) (Craig and Hart, 1992) (Barczak, Griffin and Kahn, 2009)
The type of NPD process followed	(Craig and Hart, 1992) (Kelly and Storey, 1999) (Cheng and Shui, 2008) (Barczak, Griffin and Kahn, 2009)
Achieving launch criteria	(Di Benedetto, 1999) (Cheng and Shui, 2008) (Song and Parry, 1994)
Market needs	(Suomala and Jokioinen, 2003) (Barclay, 1992) (Song and Parry, 1994)
Competitive position	(Suomala and Jokioinen, 2003) (Cheng and Shui, 2008) (Song and Parry, 1994)
Proficiency in technical activities	(Barclay, 1992) (Song and Parry, 1994)
A company's dominant characteristics	(Craig and Hart, 1992) (Cheng and Shui, 2008)
Employee ability and attitude toward NPD	(Craig and Hart, 1992) (Johne and Snelson, 1988) (Jensen and Harmsen, 2001)
The availability of accurate and useful information	(Craig and Hart, 1992) (Kandemir, Calantone, and Garcia, 2006)
The resources committed to the NPD process	(Kandemir, Calantone, and Garcia, 2006)
Source/Type of NPD	(Story, Smith, and Saker, 2000)
Lower cost in the product manufacturing	(Cheng and Shui, 2008)

Table 4.1 lists the 14 success factors identified in the literature reviewed on the factors influencing NPD success from across various industries and countries. Various studies identified the same factors as important to the success of NPD, thus highlighting the point made by Jensen and Harmsen (2001) that factors influencing success are similar across various industries, methods and designs. From 14 identified success factors, the following four were the most commonly cited factors, namely, the style of NPD management, product superiority, strategic planning and

management, and the NPD process followed. The last factor identified by Cheng and Shui (2008), namely, lower cost in product manufacturing, has been excluded from the final factor grouping as it is not relevant in the context of this study.

The success factors identified in Table 4.1 were used in the development of success factor groups (section 4.3.3). These success factor groups were later used in the construction of the questionnaire sent out to the pilot group and final respondents, as well as in the development of the hypotheses.

4.3.2 NPD Success factors: various financial service industries

Generally, the nature of financial service industries is unique in so far as the level of regulations governing the industry. Financial service industries from across the globe are highly regulated and financial product and service providers need to remain compliant with their relevant licence requirements in order to continue operating. In the South African financial services industry (which includes the investment sector) an organisation's licence dictates which products they are allowed to develop and market to the public.

The factors involved in successful product development in the financial services industry were found to be both generic (found across various industries) and unique to the industry (influenced by the unique nature of the industry). Edgett and Jones (1991) examined the development of a successful new product in the provincial and national building society in the United Kingdom. A number of success factors were identified of which the most prominent was the level of detail relating to the development process. Other factors identified include adequate financial resources thorough market research; a clearly identified target market; a thorough and well organised NPD process; a high level of enthusiasm and commitment from the product development manager throughout the development process; a high level of personal contact between the product development manager and all persons involved; a product champion (the product manager) who is prepared to push the new product through the system and overcome delays and difficulties; a strong launch campaign supported by sufficient funding; a product that can be differentiated from all other products currently in the marketplace (competitive advantage); and a continually strong commitment to the project from senior management.

De Brentani and Cooper (1991) identified eleven important factors affecting the success of new products in the industrial financial services sector (banks, near-banks, insurance companies, and investment brokers) in North America. Two of the factors previously identified by Edgett and Jones (1991) emerged in this study, namely, the importance of a strong launch campaign, and the importance of a unique product advantage. The objective was not only to identify these factors but also to assess the degree of similarity between factors affecting success or failure in financial service industries, and those in the manufactured goods industry. Research into why service products fail or succeed, in contrast to manufactured products, was found to still be in its infancy stage. Many of the success factors for new industrial services were similar to those found in

studies of manufactured products. Of the eight key factors found to underlie manufactured product success, all but one was found to be a determinant of new service success. The additional success factors identified were either unique to services or not measured for physical products. The eleven success factors identified include, synergy (between the new service and the resources, skills and experience of the firm); product/market fit; quality of execution of the launch; unique/superior products; quality of execution of marketing activities; market growth and size; service expertise; quality of execution of technical activities; quality of service delivery; quality of execution of pre-development activities; and the presence of tangible elements of the service offering.

Edgett and Parkinson (1994) researched the characteristics that distinguish between the success and failure of new retail financial services in the United Kingdom. They found that the characteristics of a service (intangibility, heterogeneity, reparability and perishability) influenced the various components of the NPD process for service organisations. The general framework of NPD and many of the traditional NPD activities used in developing tangible new products were found to be relevant in the development of a new service. Similar to the findings of Edgett and Jones (1991), the use of a formal, complete and proficient NPD process was found to be an important factor affecting NPD success. Furthermore, both the involvement of frontline employees, as well as a unique competitive advantage was shown as important factors, which concurs with factors listed by De Brentani and Cooper (1991). The need for a strong market synergy; a rigorous form of service development activity (a planned approach to NPD positively influences the development and launch of new product); organisational traits which positively affect new products; and closer working relationships were all identified as important among functional groups when developing new services.

Storey and Easingwood (1996) conducted their research in the United Kingdom financial services industry with the aim of identifying the key success factors from across all sectors in this industry. Focusing specifically on the development process, they found quite a number of factors strongly linked to new product success, most of which were similar to previous research conducted. Similar to Edgett and Jones (1991) and Edgett and Parkinson (1991) Storey and Easingwood found the use of formal, complete, and proficient NPD processes to be an important success factor. The support of management or a product champion was found to be important, which concurs with both De Brentani and Cooper (1991) and Edgett and Jones (1991). A careful focus on upfront activities, and the importance of involving the frontline employees throughout the process was identified as important due to their crucial role in service quality control and the transfer of their customer knowledge. Both of these findings concur with De Brentani and Cooper (1991) and Edgett and Parkinson (1994). Product and market testing, as found in De Brentani and Cooper (1991), was identified as an important success factor. In addition to the aforementioned factors, the quality of execution of the development process as well as the use of good communication between all functions during the development process was identified as important factors influencing success.

Further to the development process success factors, Storey and Easingwood also identified the corporate environment (internal setting in which the product is developed and launched) as having a strong influence on the success of new products, which concurs with Edgett and Parkinson (1994).

A further study undertaken into the banking and insurance services industry was that of Oldenboom and Abratt (2000), which considered the factors affecting success and failure in the development of new banking and insurance services in South Africa. Although 70% of NPD expenditure is devoted to products that fail or are cancelled, many of the product outcomes are within the manager's control. Oldenboom and Abratt (2000) explored the success and failure factors of innovation in South Africa specifically, because the majority of research over the past two decades had focused on North America. Their belief is that in order to be internationally competitive, South African managers need to understand the innovation activities of organisations from a wider perspective.

Many of the highlighted reasons for success and failure by Oldenboom and Abratt (2000) were consistent with those identified by studies focused on industries from across various countries. The critical need for long-term management commitment and support throughout the development process was identified as key, which is consistent with Storey and Easingwood (1996). Similar to Storey and Easingwood's views, effective communication was identified by Oldenboom and Abratt as a key success factor. Synergy (between an organisation's resources and culture and the NPD requirement) and efficiency (e.g. formal not informal planning, good market research, and measurement of performance) were also identified as important success factors. This finding concurs with four previous studies, namely, those of Edgett and Parkinson (1991), Edgett and Jones (1991), De Brentani and Cooper (1991); and Storey and Easingwood (1996).

In addition to these factors, three further success factors were identified. A strong market orientation - which implies the ability to understand and respond to the client's needs - as well as involvement of the marketing function in the development process, was identified as important factors influencing success. The importance of having a structured development programme was also found to positively influence NPD success. The findings by Oldenboom and Abratt (2000) highlighted that top-performing banks had more formalised and better structured development programmes than banks with lower performances. The three additional identified success factors concurred with the previous research reported by Edgett and Parkinson (1991), De Brentani and Cooper (1991); and Storey and Easingwood (1996).

Lievens and Moenart (2000) report on the role and nature of communication during the innovation process of new financial services, focusing specifically on Belgian banks. Their research presented an in-depth look at the past studies done in this area, as well as concise conclusions drawn from empirical research. Despite the importance of innovation for service-based companies, they found that very little research attention has actually been focused on the role of communication in a

services innovation context. Past research on the factors determining service success and failure was identified as scarce and mostly limited in scope. Several key factors which determine new product success emerged from past studies reviewed in the industrial service companies; these were subsequently investigated in a business service environment. Similar to previous research done by Edgett and Jones (1991), De Brentani and Cooper (1991), Storey and Easingwood (1996), and Oldenboom and Abratt (2000), the support of senior management was identified as a key factor influencing the success of NPD. Marketing and technological synergy (synergy refers to the fit between the needs of the innovation project and the firms capabilities and resources); competitive advantage, as well as product superiority were also identified as important factors, which is consistent with those reported by Edgett and Jones (1991), De Brentani and Cooper (1991), Edgett and Parkinson (1994), and Storey and Easingwood (1996). The quality of execution and proficiency of activities during the project life cycle were further identified as success factors, consistent with Storey and Easingwood (1996). In addition to the aforementioned factors, market attractiveness and product/market fit (the degree to which the new service clearly satisfies the customer needs) were also identified as factors influencing success.

The study of innovation in the financial services industry is a relatively new area of business research, and Lievens and Moenart found that the research stream on this topic started around the mid-1980's. A study by De Brentani and Cooper (1991) also indicated that accounting for the specific characteristics of services during new financial service development increases the likelihood of success. Furthermore, flexible organisational structures, high levels of specialisation and formalisation, and a high level of involvement and participation in decision-making were identified as important antecedents of new financial service performance (Morgan et al., 1995). Lievens and Moenart argue that management should aim for a balanced approach between intra-project and extra-project communication. Similar to De Brentani and Cooper (1991), Edgett and Parkinson (1994), and Storey and Easingwood (1996), Lievens and Moenart (2000) conclude their study by identifying the important, and often crucial role of team leaders in acknowledging the role that project members and front-line employees assume in the initiation, development, and launch of new services.

Vermeulen (2004) identified barriers to innovation in banks and insurance companies in the UK. These included functionally departmentalised structures (labour in the banks/insurance companies were divided into relatively small tasks, resulting in tension between the various parts of the organisation); limited use of NPD tools; conservative organisational culture (the organisational culture was seen to be a huge barrier to product innovation); and constraining information technology (IT was seen to be a major bottleneck with respect to the innovative performance of banks and insurance companies). A change in organisational structure, and particularly in the perception of senior management, was identified as a success factor, which concurs with the earlier work of De Brentani and Cooper (1991); Edgett and Jones (1991); Storey and Easingwood

(1996); Lievens and Moenart (2000); and Oldenboom and Abratt (2000). Similar to the findings of Edgett and Parkinson (1994), Storey and Easingwood (1996); and Oldenboom and Abratt (2000), the underlying values and beliefs of a company were also identified as important success factors. A further factor identified as influencing NPD success was Information Technology (IT), previously identified by De Brentani and Cooper (1991). Lastly, one of the key issues in becoming more innovative in the financial services sector was seen as the need to explicitly designate a place for product development to take place.

In a seminal article, Akamavi (2005) holistically reviewed the literature, examining critically and summarising systematically the major pioneering works of 61 studies in the field of new products in the financial services industry. The critical findings on the factors affecting success from the literature reviewed on NPD for service industries included a well-planned and co-ordinated development process, which concurred with Edgett and Jones (1991); Edgett and Parkinson (1994); Storey and Easingwood (1996); and Oldenboom and Abratt (2000). Client involvement and strong long-term client relationships, were seen to help reduce the development cycle time and enable managers to educate customers about new services. The involvement of support staff (HR, legal, CRM and Marketing) was also identified as a factor affecting the success of NPD, which is similar to the findings of De Brentani and Cooper (1991); Edgett and Parkinson (1994); Storey and Easingwood (1996); and Lievens and Moenart (2000). Market research is a success factor which was found to be the missing ingredient in many financial services organisations, which is consistent with the findings of Edgett and Jones (1991); Edgett and Parkinson (1994), Storey and Easingwood (1996); and Oldenboom and Abratt (2000). Communication, and in particular marketing communication, was identified as a key success factor which raises client awareness of the new product by convincing customers of the benefits of the new product. This was a prominent factor previously identified by De Brentani and Cooper (1991), Edgett and Jones (1991); Storey and Easingwood (1996); Lievens and Moenart (2000); Oldenboom and Abratt (2000); and Vermuelen (2004).

Smith and Fischbacher (2005) sought to increase the understanding of both the process of new service development and the nature of services delivered to customers. Four case studies were considered, comprising two private sector financial service projects (bank mortgage product and bank retail outlet/distribution network) and two public sector health service projects. Similar to the research by Edgett and Jones (1991); De Brentani and Cooper (1991); Storey and Easingwood (1996); Lievens and Moenart (2000); Oldenboom and Abratt (2000); Vermuelen (2004); and Akamavi (2005), the commitment and involvement of senior management was identified as vital to NPD success. Consumers were found to be dormant stakeholders, in that management perceived them to be of little importance in the NPD process. The complex, multi-layered and multifaceted processes involved with NPD highlighted the need to manage multiple, potentially conflicting interdependencies and stakeholder interests and often without legitimate power. In light of this,

Smith and Fischbacher concluded that practitioners will increasingly require cognitive, social and behavioural skills to deal with such complexities and to be effective leaders.

Costonzo and Ashton (2006) researched the UK financial services industry focusing specifically on the interest-bearing deposit account as a key savings vehicle. Their research highlighted that financial service executives have recognised that in order to compete effectively in a dynamic business environment; they must continually develop new products. While a highly innovative product stands a better chance of commercial success, fast-follower or less innovative products may also produce higher performances. This finding is due to the fact that first-to-market products do not retain the dominant position for a long time. Within the process of NPD, it was argued that poor consideration of customers' needs make such development processes organisationally-orientated rather than client-orientated. Customer input was not generally built into their process of NPD, often leading to disconnected new products. This factor is similar to that identified by both Akamavi (2005) and Smith and Fischbacher (2005) both of whom identified customer involvement in NPD as an important factor influencing the success.

A summary of the identified success factors from section 4.3.2 are presented in the Table 4.2.

Table 4.2: Success factors: various financial service industries

Success Factors	Source(s)
The type of NPD process followed (defining characteristics)	Storey and Easingwood (1996) Akamavi (2005) Oldenboom and Abratt (2000) Edgett and Jones (1991) Edgett and Parkinson (1994)
The quality of execution of the development process	Storey and Easingwood (1996) Lievens and Moenart (2000)
Effective development process communication	Barclay (1992) Storey and Easingwood (1996) Oldenboom and Abratt (2000) Lievens and Moenart (2000)
Support of NPD by management	Storey and Easingwood (1996) Akamavi (2005) Vermeulen (2004) Oldenboom and Abratt (2000) Edgett and Jones (1991) Smith and Fischbacher (2005) Lievens and Moenart (2000) De Brentani and Cooper (1991)
The ability to gather key information from up front activities	Storey and Easingwood (1996) Akamavi (2005) Oldenboom and Abratt (2000) Edgett and Jones (1991) Edgett and Parkinson (1994) De Brentani and Cooper (1991)
The involvement of front line and operations staff	Storey and Easingwood (1996) Akamavi (2005) Edgett and Parkinson (1994) Lievens and Moenart (2000) De Brentani and Cooper (1991)
A supportive corporate environment (including their values and beliefs)	Storey and Easingwood (1996) Vermeulen (2004) Oldenboom and Abratt (2000) Edgett and Parkinson (1994)
Stakeholder involvement in the development process	Akamavi (2005) Costonzo and Ashton (2006) Smith and Fischbacher (2005)
Effective marketing communication	Akamavi (2005) Oldenboom and Abratt (2000) Lievens and Moenart (2000)
Choice of Information Technology (IT) systems	Vermeulen (2004) De Brentani and Cooper (1991)
A strong launch campaign	Edgett and Jones (1991) De Brentani and Cooper (1991)
Unique product advantage	Edgett and Jones (1991) Edgett and Parkinson (1994) Lievens and Moenart (2000) De Brentani and Cooper (1991)
Market attractiveness	Lievens and Moenart (2000)

Table 4.2 presents a concise listing of the thirteen success factors that were identified in the literature on the factors influencing NPD success in various financial service industries. Three of these were identified as most commonly cited, namely, the use of a formal, complete, and proficient NPD process; the support of senior management, including an organisational structure that actively supports NPD; and the importance of involving front-line employees. The success factors identified in Table 4.2 were used in the development of success factor groups (section 4.3.3). These success factor groups were later used in the construction of the questionnaire sent out to the pilot group and final respondents, as well as in the development of the hypotheses.

Section 4.3.1 and 4.3.2 reviewed literature on factors influencing NPD success in two separate areas, namely, articles based on various industries and countries (jurisdictions), and articles focused on various financial service industries. The review sought to identify any factors that were unique to the financial services industry. By comparing Table 4.1 to Table 4.2, it becomes apparent that the literature focusing on the financial services industries places great importance on the role of communication during the development process, as well as on the important collaborative role of stakeholder's and front-line employees in the development process.

4.3.3 Success Factor Groups

A process of operationalisation was undertaken whereby all 26 identified success factors (Table 4.1 and 4.2) were placed into factor groups to avoid overlapping and redundancy of the final questionnaire results. This operationalisation process resulted in eight success factor groups presented in Table 4.3. The process of operationalisation is detailed further in Chapter 5, section 5.3.1.

Table 4.3: NPD Success Factors

Success Factors	Grouped Success Factors	Source(s)
A Successful Launch	Achieving Launch Criteria	Di Benedetto (1999) Cheng and Shui (2008) Song and Parry (1994)
	A strong launch campaign	Edgett and Jones (1991) De Brentani and Cooper (1991)
Effective NPD Management	NPD management style	Montoya-Weiss and Calantone (1994) Barclay (1992) Craig and Hart (1992) Johns and Snelson (1988)
	Support of NPD by management	Storey and Easingwood (1996) Akamavi (2005) Vermeulen (2004) Oldenboom and Abratt (2000) Edgett and Jones (1991) Smith and Fischbacher (2005) Lievens and Moenart (2000) De Brentani and Cooper (1991)
Product Superiority	Product Positioning	Suomala and Jokioinen (2003) Barclay (1992) Cheng and Shui (2008) Song and Parry (1994)
	Source/Type of NPD	Story, Smith, and Saker (2000)
	Unique Product Advantage	Edgett and Jones (1991) Edgett and Parkinson (1994) Lievens and Moenart (2000) De Brentani and Cooper (1991)
Favourable Market Environment	Market need	Suomala and Jokioinen (2003) Barclay (1992) Song and Parry (1994)
	Competitive position/ Market attractiveness	Suomala and Jokioinen (2003) Cheng and Shui (2008) Song and Parry (1994) Lievens and Moenart (2000)
Good Use of Communication	Effective development process communication	Barclay (1992) Storey and Easingwood (1996) Oldenboom and Abratt (2000) Lievens and Moenart (2000)
	Effective marketing communication	Akamavi (2005) Oldenboom and Abratt (2000) Lievens and Moenart (2000)

Table 4.3: NPD Success Factors (continued)

Effective IT Systems	Proficiency in technical activities	Barclay (1992) Song and Parry (1994)
	The availability of accurate and useful information	Craig and Hart (1992) Kandemir, Calantone, and Garcia (2006)
	The ability to gather key information from up front activities	Storey and Easingwood (1996) Akamavi (2005) Oldenboom and Abratt (2000) Edgett and Jones (1991) Edgett and Parkinson (1994) De Brentani and Cooper (1991)
	Choice of Information Technology (IT) systems	Vermeulen (2004) De Brentani and Cooper (1991)
An NPD 'friendly' Corporate Culture	A company's dominant characteristics	Craig and Hart (1992) Cheng and Shui (2008)
	Employee ability and attitude toward NPD	Craig and Hart (1992) Johne and Snelson (1988) Jensen and Harmsen (2001)
	The involvement of front line and operations staff	Storey and Easingwood (1996) Akamavi (2005) Edgett and Parkinson (1994) Lievens and Moenart (2000) De Brentani and Cooper (1991)
	A supportive corporate environment (including their values and beliefs)	Storey and Easingwood (1996) Vermeulen (2004) Oldenboom and Abratt (2000) Edgett and Parkinson (1994)
Formal NPD Process	Type of NPD process followed (defining characteristics)	Storey and Easingwood (1996) Akamavi (2005) Oldenboom and Abratt (2000) Edgett and Jones (1991) Edgett and Parkinson (1994) Craig and Hart (1992) Kelly and Storey (1999) Cheng and Shui (2008) Barczak, Griffin and Kahn (2009)
	Strategic planning and management	Barclay (1992) Craig and Hart (1992) Johne and Snelson (1988) Barczak, Griffin and Kahn (2009)
	The resources committed to the NPD process	Kandemir, Calantone, and Garcia (2006)
	The quality of execution of the development process	Storey and Easingwood (1996) Lievens and Moenart (2000)
	Stakeholder involvement in the development process	Akamavi (2005) Costonzo and Ashton (2006) Smith and Fischbacher (2005)

Table 4.3 illustrates the eight final success factor groups. Table 4.3 combines the results shown in Table 4.1 and Table 4.2. The success factor groups (referred to as the identified success factors

for the remainder of this study) were used in the construction of the questionnaire sent out to the pilot and final respondents, as well as in the development of the hypotheses. They also served as the dependent variables in this study.

4.4 SUMMARY

The chapter began by presenting the various NPD models that have emerged over the past 50 years. Seven model categories were briefly reviewed, considering both their merit and possible shortcomings. The section concluded that all the models reviewed have merit; however the more recent network or holistic models which try to include external linkages in their perspective are more realistic in their approach towards NPD process management.

The following section presented the literature reviewed on NPD success factors. Two separate groups of literature on NPD success factors were considered. The first group considered literature on the factors influencing NPD success from across various industries and countries. Fourteen success factors were identified, and the following four were most commonly cited: the style of NPD management, product superiority, NPD strategy and the NPD process followed. The second group focused on the success factors identified from literature focusing on the factors influencing NPD success in various financial service industries. From the articles reviewed, twelve factors were identified. Three of these were most commonly cited, namely, the use of a formal, complete, and proficient NPD process; the support of management, including an organisational structure that actively supports NPD; and the importance of involving front-line employees.

Finally, a process of operationalisation was undertaken involving all 26 identified NPD success factors being placed into factor groups to avoid overlapping and redundancy in the final questionnaire results. This operationalisation process resulted in eight final success factor groups which were used in the construction of the final questionnaire.

The following chapter (Chapter 5) will address the second research area which was critical in the construction of this study's questionnaire: the measurement of NPD success.

CHAPTER 5

NEW PRODUCT DEVELOPMENT: MEASURES OF SUCCESS

5.1 INTRODUCTION

Chapter 4 presented the literature reviewed on NPD success factors (independent variables) which is the first area of research critical to the construction of the study's questionnaire. This chapter will cover the second construct or area of research, by presenting the literature reviewed on the NPD measures of success (dependent variables). A process of operationalisation was undertaken to ensure that the final measures of success identified did not overlap. A conceptual overview of the factors and measures of success is then presented in Figure 5.1. This model is an overview of the relationship between the study's variables, upon which the hypotheses were constructed. The chapter closes with a brief summary.

5.2 NEW PRODUCT DEVELOPMENT: MEASURES OF SUCCESS

This section considers the literature reviewed on the measurement of NPD success across various industries and jurisdictions. The identified measures of success are then operationalised resulting in six final measurement groups. The measures of success were broadened by the pilot group study which gave practical insight into specific criteria for measuring NPD success. The pilot group study will be covered in more detail in the Methodology chapter (Chapter 6).

5.2.1 New Product Development Measures of Success: various industries and countries

Barclay (1992) conducted a two-part study on the NPD process. Part Two considered improving the process of product development and presenting a number of recommendations to practitioners regarding potential evaluation and improvement of their processes. Barclay's survey suggests four primary measures of success in product development. Barclay (1992) stated that a product which achieves the expected profit and market share, meets the required quality standards and delivers on the specified launch date can use these criteria as measures of overall success. Another suggested measure of success was the realisation by a new product project of the cost and performance objectives, relating specifically to the development phase.

Griffin and Page (1993) reported the findings of a Product Development and Management Association (PDMA) task force studying measures of product development success and failure. They identified five general categories of success measures, namely, *measures of customer acceptance*, *measures of financial performance*, *product-level measures*, *measures of firm benefits* and *programme-level measures*.

Specific measures used in these five categories were presented. Category One (*customer acceptance*) included twenty sub-measures; the most frequently highlighted measures included revenue, market share and the attainment of the unit volume goals. Category Two (*measures of*

financial performance) included three specific sub-measures, namely, profit and margin goals, break-even time and Return on Investment (ROI). Category Three (*product-level measures*) included thirteen specific sub-measures, the most commonly highlighted being: the speed to market, performance to specification, development cost, quality specification and product launch. Category Four (*firm-level measures*) included six specific sub-measurement criteria; the new products percentage of all sales was identified as the most common among the six. No specific sub-measurements were given for Category Five (*programme-level measures*).

The second part of their research considered a comparison on a number of NPD critical factors, between academia and a practitioner perspective. Three measures were found to be common among to both. These were the realisation of revenue and profit goals, and whether the product got to market on time. It was further identified that practitioners (organisations) used more customer and financial measures (Categories One and Two), while academia made use of more firm-level and product-related measures (Categories Three and Four). Griffin and Page (1993) concluded their research by confirming their belief that measures of NPD success are generally multidimensional.

In their study on product development, Storey and Easingwood (1996) researched the UK financial services industry with the objective to identify key success factors from across all divisions in this industry. Their study was reviewed in Chapter 4 and focused on the success factors identified. Through their research on the dimensions of new product performance they found that potential benefits emanating from the launch of a new service could go beyond the traditional financial benefits (market share, sales, and profits) by improving the competitive standing of the organisation as a whole. Storey and Easingwood (1996) identified 13 measures of new product performance which were classified into three underlying performance dimensions, including sales performance (straight forward sales, sales growth and market share measures); enhanced opportunities (less tangible measures, such as the enhancement of the corporate image, opening up new markets and also creating platforms to introduce new products); and profitability (included both immediate profits and long term performance). The identification of sales performance and profitability was a key measurement criterion which concurs with both Barclay (1992; and Griffin and Page (1993).

Di Benedetto (1999) provided insight into how an effective product launch can be a key driver in realising a top performing new product. The product launch as a potential success factor was addressed in Chapter 4. As identified by Barclay (1992), Griffin and Page (1993), and Storey and Easingwood (1996), Di Benedetto (1999) identified profitability and additional market share as a measure of product success. In addition to these formal measures, perceived profitability was recognised as a third measurement criterion. Perceived possibility implies an intrinsic value to being profitable. Perhaps the new product has shifted the public image or positioning of the organisation, or provided a much needed motivation for employees.

A further study undertaken into the banking and insurance services industry was that of Oldenboom and Abratt (2000), which considered the factors affecting success and failure in the development of new banking and insurance services in South Africa. This study identified a number of success factors (detailed in Chapter 4) and a number of measurements of success. The measurements of success identified in the study were primarily found in the development process. Similar to the findings of Barclay (1992), Griffin and Page (1993), Storey and Easingwood (1996) and Di Benedetto (1999), sales and profitability were identified by Oldenboom and Abratt as important measurement criteria. Technical success was also highlighted as an important measurement, which concurs with both Barclay (1992) and Griffin and Page (1993). Furthermore, design, commercial and effective cost management were presented as measures of NPD success, all of which concur with those identified by Griffin and Page (1993). Activity measures were also identified by Oldenboom and Abratt (2000) which concur with the findings of Storey and Easingwood (1996).

Story, Smith, and Saker (2000) presented a detailed study of the NPD process activities in a single sector: the United Kingdom automotive components industry. They sought to provide more detailed information on NPD processes and related issues and after reviewing previous literature they confirmed their belief of the need for more comprehensive measures of NPD success. The comprehensive measures would gauge the performance of NPD projects by considering all aspects of new product success, and in particular those with specific relevance to the industry under investigation. (The effect of averaging and success factors was covered in Chapter 4). Identified measures of success were grouped under three headings: financial measures, customer or marketplace measures, and product or technical measures.

Financial measures concurred with all articles previously reviewed in this section. The specific measurements include profitability (as the key financial measure), as well as the need to remain within budget, which concurs specifically with Griffin and Page (1993) and Oldenboom and Abratt (2000). Customer or marketplace measures included the following specific criteria: the realisation of market share and unit volume goals, and customer satisfaction and acceptance. Customer measures concurred with Griffin and Page (1993); and with Oldenboom and Abratt (2000). Finally, similar to Barclay (1992), Griffin and Page (1993), and Oldenboom and Abratt (2000) technical measures which included quality targets, namely, product reject and warranty levels, were identified as important measures of NPD success.

Lievens and Moenart (2000) reported on the role and nature of communication during the innovation process of new financial services, focusing specifically on Belgian banks. As found by Storey and Easingwood (1996) and Di Benedetto (1999), multiple success measures for evaluating new financial service performance were identified, including profit and sales-based measures, as well as measures relating to cost performance. Non-financial measures including competitive performance of the product, its influence on other products' sales and market share were further

identified. Further measures of success that were identified include, the enhancement of a corporate reputation; the improvement of new service development capability; creating cross selling opportunities, and the improved loyalty of existing customers.

A study by Suomala and Jokioinen (2003) suggests that alongside the selection of NPD performance measures, one should also consider the concept of success. A number of product development cases were reviewed, all of which were evaluated according to a component of success identified in a study done by Rouhiainen (1997). This study included the following types of success: project management success, which concurs with both Griffin and Page (1993) and Barclay (1992); technical success, which concurs with Griffin and Page (1993), Barclay (1992), Oldenboom and Abratt (2000), and Story, Smith, and Saker (2000); and financial success, which concurs with all previously reviewed articles. Suomala and Jokioinen conclude that success is an elusive issue and that the three identified forms of success seldom go hand-in-hand.

Akamavi (2005) holistically reviewed the literature on the major pioneering works of 61 studies in the field of new products in the financial services industry. The study identified the most frequently used performance measures as profit- and sales-based measures of success. This finding is similar to the findings of Griffin and Page (1993); Storey and Easingwood (1996); and Story, Smith, and Saker (2000). Other potential measures of success include enhancing customer loyalty and introducing new work procedures, which concur with Storey and Easingwood (1996), and Oldenboom and Abratt (2000). Reducing customer complaints and increasing their satisfaction were also identified as performance measures, which concur with Griffin and Page (1993); Storey and Easingwood (1996); and Story, Smith, and Saker (2000). Further measures of NPD success include eliminating duplication of work, reducing NPD cycle time, creating new opportunity, and raising the market book value, all of which concur with Storey and Easingwood (1996); Oldenboom and Abratt (2000); and Lievens and Moenart (2000).

A study done by Manion and Cherion (2009) researched the 1996 survey by members of the PDMA proposing that organisations' NPD performance measures should vary by their strategic type. Based on research undertaken in the financial services industry, the importance of 21 performance measures were compared by strategic type, with the intention of highlighting significant differences. The core finding was that strategy is a key determinant of NPD success, though it is infrequently included in NPD success studies.

Manion and Cherion (2009) found that several studies specifically relate strategy to NPD success. The 1996 members' survey included 19 key measures used by both practitioners and academics. Customer service and value-added services were then included in their study, totalling 21 key measures.

Their study then grouped these measures into three categories, namely customer based, technical and financial measures of success. The 21 included:

- **Customers based:** customer's satisfaction; customer acceptance; revenue goals; customer number; revenue growth; customer service; unit volume; market share.
- **Technology:** product quality; perceived innovativeness; product performance; launch timeliness; competitive advantage; customer value; cost reduction; development time; resource cost.
- **Financial:** product Return on Investment (ROI); profit goals; margin goals.

The strategic types or groups differed on the importance they attached to twenty of the 21 success measures in this research. However, as if to be the one exception that proves the rule, one success measure was of similar importance to all three strategic types, namely, the realisation of a competitive advantage. The paper concluded by suggesting that NPD professionals may be more effective in managing their portfolios and that academics may be more relevant and rigorous, if both parties focus on a select set of success measures based on an organisations strategy.

A synopsis of the measurements of success identified in the literature reviewed is presented in Table 5.1.

Table 5.1: NPD Measures of success: various industries and countries

NPD Success Measurements	Source(s)
Sales performance based on projected targets	Storey and Easingwood (1996) Di Benedetto (1999) Barclay (1992) Akamavi (2005) Oldenboom and Abratt (2000) Story, Smith, and Saker (2000) Lievens and Moenart (2000) Griffin and Page (1993) Manion and Cherion (2009)
Profitability	Di Benedetto (1999) Storey and Easingwood (1996) Suomala and Jokioinen (2003) Barclay (1992) Griffin and Page (1993) Akamavi (2005) Oldenboom and Abratt (2000) Story, Smith, and Saker (2000) Lievens and Moenart (2000) Manion and Cherion (2009)
Project management success	Suomala and Jokioinen (2003) Barclay (1992) Griffin and Page (1993)
Various design measures and technical success	Suomala and Jokioinen (2003) Barclay (1992) Oldenboom and Abratt (2000) Story, Smith, and Saker (2000) Griffin and Page (1993) Manion and Cherion (2009)
Enhancing customer loyalty	Griffin and Page (1993) Akamavi (2005) Story, Smith, and Saker (2000) Manion and Cherion (2009)
Introducing new and innovative opportunities	Akamavi (2005) Oldenboom and Abratt (2000) Storey and Easingwood (1996)
Effective cost management	Oldenboom and Abratt (2000) Story, Smith, and Saker (2000) Lievens and Moenart (2000) Griffin and Page (1993) Manion and Cherion (2009)
Commercial measures: including, raising the market book value; and enhanced opportunities for the firm/brand	Oldenboom and Abratt (2000) Lievens and Moenart (2000) Griffin and Page (1993) Manion and Cherion (2009) Akamavi (2005) Storey and Easingwood (1996)

Table 5.1 presents a concise listing of all NPD measures of success identified in the literature reviewed based on various industries and countries (jurisdictions). From these articles, eight measures of success were identified, and the following four were found to be the most commonly cited, namely, sales performance, profitability, technical success, enhancing customer loyalty and

effective cost management. The success measurements identified were from research based on various industries; however one of the studies, Storey and Easingwood (1996), highlighted a number of success measures based specifically on the financial services industry. These measures included the enhancement of corporate reputation; the improvement of new service development capability; the achievement of cross-selling, and the improved loyalty of existing customers.

5.2.2 Success Measurement Groups

A process of operationalisation was undertaken whereby all eight identified measures of success (Table 5.1) were grouped to avoid overlapping and redundancy of the questionnaire results. The operationalisation process resulted in six final success measurement groups presented in Table 5.2. The process of operationalisation is detailed further in section 5.3.2.

Table 5.2: New Product Development measures of success

Success Measures	Grouped Success Factors	Source(s)
Commercial Measures	Various Commercial Measures: include specifically, raising the market book value; and enhanced opportunities for the brand	Oldenboom and Abratt (2000) Lievens and Moenart (2000) Griffin and Page (1993) Manion and Cherion (2009) Akamavi (2005) Storey and Easingwood (1996)
Technical Measures	Various Design Measures and Technical Success	Suomala and Jokioinen (2003) Barclay (1992) Oldenboom and Abratt (2000) Story, Smith, and Saker (2000) Griffin and Page (1993) Manion and Cherion (2009)
NPD Process Measures	Project Management Success	Suomala and Jokioinen (2003) Barclay (1992) - meet launch date Griffin and Page (1993)
	Introducing New and Innovative Opportunities	Akamavi (2005) Oldenboom and Abratt (2000) Storey and Easingwood (1996)
Financial Measures	Effective cost Management	Oldenboom and Abratt (2000) Story, Smith, and Saker (2000) Lievens and Moenart (2000) Griffin and Page (1993) Manion and Cherion (2009)
	Profitability	Di Benedetto (1999) Storey and Easingwood (1996) Suomala and Jokioinen (2003) Barclay (1992) Griffin and Page (1993) Akamavi (2005) Oldenboom and Abratt (2000) Story, Smith, and Saker (2000) Lievens and Moenart (2000) Manion and Cherion (2009)
Sales Measures	Sales Performance Based on Projected Targets	Storey and Easingwood (1996) Di Benedetto (1999) Barclay (1992) Akamavi (2005) Oldenboom and Abratt (2000) Story, Smith, and Saker (2000) Lievens and Moenart (2000) Griffin and Page (1993) Manion and Cherion (2009)
Client Satisfaction Measures	Enhancing customer loyalty	Akamavi (2005) Story, Smith, and Saker (2000) Storey and Easingwood (1996) Griffin and Page (1993) Manion and Cherion (2009)

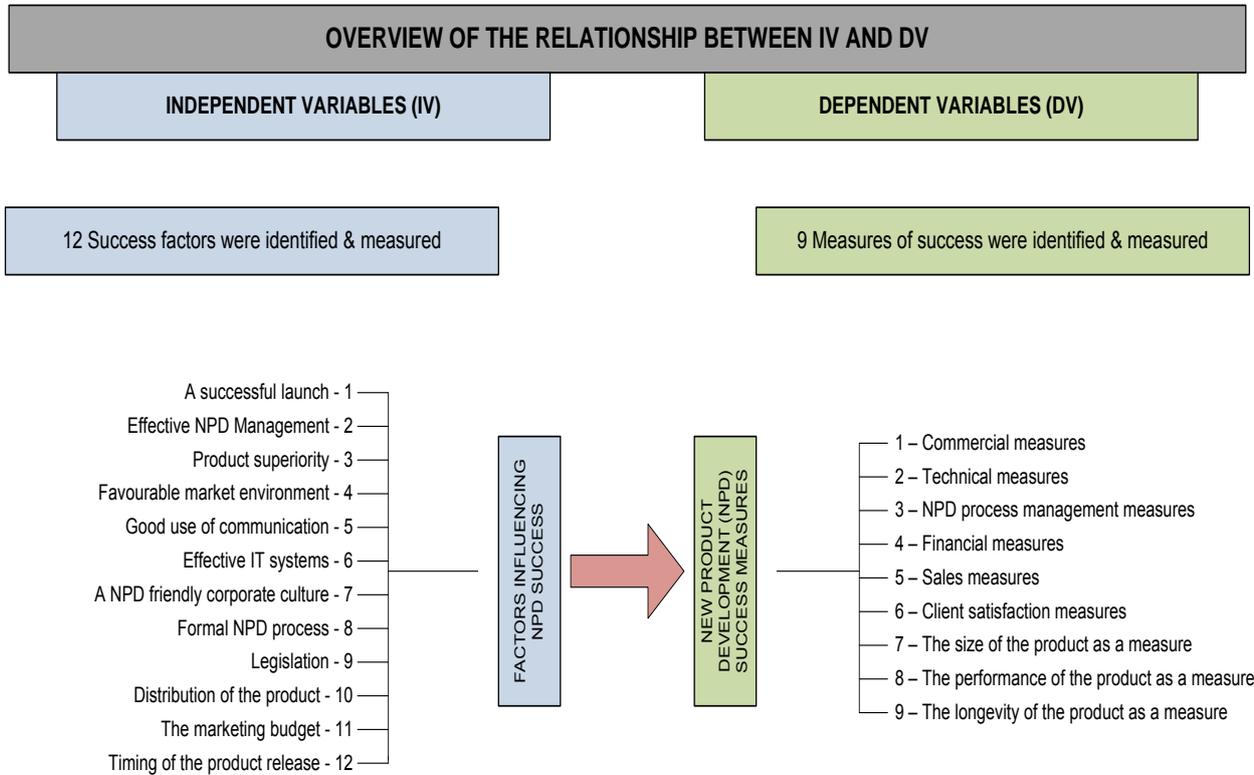
Table 5.2 presents the six final success measurement groups, which are the result of the operationalisation of the measures of success presented in Table 5.1. The success measurement groups (referred to as the measures of success of dependent variables from now on) were used in

the construction of the questionnaire sent out to the pilot and final respondents, as well as in the development of the hypotheses.

5.3 CONCEPTUAL OVERVIEW OF THE STUDY

A conceptual overview of the success factors (independent variables) and measures of success (dependent variables) is presented in Figure 5.1.

Figure 5.1: Relationship between the independent and dependent variables



This model is a conceptual overview of the relationships between the study's variables. Twelve final success factors (independent variables) were identified for the purposes of this study. Eight of these came from the literature review and the remaining four resulted from the pilot study. The dependent variables or measures of success have been presented on the right-hand side of the overview. Six of the nine variables emanated from the literature review and the remaining two were identified in the pilot study. The operationalisation of the success factors and measures of success which were used in the construction of this model has been presented in Chapter 4 (success factors) and Chapter 5 (measures of success). A more detailed review of the operationalisation process for both the success factors and measures of success arising from the literature review will now be presented. The factors and measures of success resulting from the pilot study will be covered in Chapter 7 (results).

5.3.1 Operationalisation: Success factors (IV)

For the purpose of this study, success has been defined as, “the achievement of something desired, planned or attempted” (Oldenboom and Abratt, 2000). Table 4.3 (Chapter 4) presented eight final success factors that were identified from the literature reviewed. These were: a successful launch, effective NPD management, product superiority, a favourable market environment, good use of communication, effective IT systems, an NPD friendly corporate culture, and the use of a formal NPD process. Figure 5.1 presents an additional four success factors, namely, legislation, distribution of the product, the marketing budget and the timing of the release of the product. These four emanated from the pilot study and will be covered in Chapter 6.

The operationalisation of each success factor is now presented, covering the individual concepts per construct or factor, as well as the success factor definition for the purposes of this study.

a) A Successful Launch

A successful launch is operationalised through two components:

- Achieving launch criteria

Definition: the realisation of the launch criteria through excellent strategic, tactical and information-gathering activities, as well as appropriate product introduction timing.

- A strong launch campaign

Definition: a campaign supported by adequate resources, in particular financial resources, which is executed with excellence and achieves the specified launch goals.

b) Effective NPD Management

Effective NPD Management is operationalised by including two components:

- The style of management

Definition: a management style which places value on the need for an open-minded and professional approach to NPD from senior management downwards.

- The support of NPD by management

Definition: A high level of enthusiasm and personal contact from the NPD manager or product champion throughout the project.

c) Product Superiority

Product superiority is operationalised with four factors:

- The positioning of the product/service

Definition: The effective positioning of a product/service that is characterised by the communication of the ability to meet customers' wants in a superior manner; possessing a relative advantage, and having a greater degree of customisation.

- The source/type of NPD

Definition: The impact of industry-specific differences on the appropriateness of the success measurements and their effect on the overall NPD success.

- A unique product advantage

Definition: When a product/service can be differentiated on the basis of competition from all other products/services in the marketplace (Edgett and Jones, 1991)

- Lower cost in the product manufacturing

A decreased manufacturing cost was the fourth concept identified from the literature reviewed. Because this study was based on a service industry, this concept was not considered relevant and was excluded from all further empirical research.

d) Favourable Market Environment

A favourable market environment is operationalised through two components:

- The alignment of market needs

Definition: the alignment of an organisation with the needs of the market involves possessing good market knowledge and aligning strategy.

- A strong competitive positioning

Definition: a relatively large marketing potential and budget, coupled with a high level of competitive intensity in the organisation, as well as more passive competitor responses.

e) Good use of Communication

Good use of communication is operationalised through two components:

- Effective development process communication

Definition: the use of appropriate and effective communication between all persons and functions in the process which includes both intra- and extra-project team communication stretching across the initiation, development and launch of the new product.

- Effective marketing communication

Definition: the extent to which the client's awareness of the new product was raised, as well as the degree to which the new product (benefit) was effectively communicated.

f) Effective IT Systems

Effective IT systems were operationalised through four components:

- Proficiency in technical activities

Definition: the ability of the organisation's IT staff or department to meet the technical requirements of an NPD project in a proficient manner.

- Accurate and useful information

Definition: the timeous gathering and application of accurate and useful information in an NPD project.

- Key information gathered from up-front activities

Definition: the effective involvement of front-line staff in gathering information facilitated by in-depth upfront market research.

- Choice of IT systems

Definition: an IT system which is capable of meeting the specific infrastructure requirements of the NPD project, with a particular emphasis on producing and managing high quality information.

g) A NPD-friendly Corporate Culture

A NPD-friendly corporate culture is operationalised through four components:

- An organisation's dominant characteristics

Definition: an organisation's ability to internally (employees) coordinate and achieve external (client) cooperation for the benefit of the overall NPD objectives.

- Employee ability and attitude towards NPD

Definition: an employee shown to possess a superior set of skills specifically relating to the product being developed, as well as a positive personal attitude which is related to their professional values and norms.

- The involvement of the front-line employees

Definition: a high degree of involvement between NPD operational groups including front-line employees, which can also extend to client engagement in the process.

- A supportive corporate environment

Definition: the collective influence of organisational traits on NPD success, as well as the synergy between an organisation's culture (values and beliefs) and resources, and its NPD requirements for success.

h) Formal NPD Process

For the purposes of this study a formal NPD process is operationalised including five components:

- The type of NPD process followed

Definition: a thorough, well organised NPD structure or programme, characterised by a shorter development process that acknowledges the need for generation of formal ideas

- Strategic planning and management

Definition: strategic planning and management which is viewed as the implementation of specific NPD strategies at various levels by an organisation, and in particular at the business level.

- The resources committed to the NPD process

Definition: resources are defined in terms of people, development, testing, and launch resources. An increased commitment in resources and the efficient use thereof will increase the likelihood of success.

- The quality of execution of the development process

Definition: the quality of execution and proficiency of activities during the development process of the project life cycle has a direct influence on the overall success of the NPD project.

- Stakeholder involvement in the development process

Definition: The ability to educate and involve stakeholders in the development of new products, while simultaneously managing the complexities of involving stakeholders in the development process.

5.3.2 Operationalisation: Measures of success (DV)

Table 5.2 presented six final measures of success which were identified from the literature reviewed. These were commercial, technical, financial, sales measures, the NPD process followed and the level of client satisfaction. Figure 5.1 presents an additional three measures of success, namely the size, performance and longevity of the product. These three emanated from the pilot study and will be covered in Chapter 7.

The operationalisation of each of the six measures of success is now presented, covering the individual concepts per construct or measure, as well as their definitions for the purposes of this study.

a) Commercial Measures

Commercial success as a measure of NPD success is operationalised through three components:

- Enhancement of the corporate reputation

Definition: the enhanced image and profile of the organisation due to the launch of a new product/service.

- Increasing the market book value

Definition: an increase in the perceived financial value or going rate of an organisation due to the launch of a new product.

- Attaining a competitive advantage

Definition: The new product/service's ability to meet the needs of the target market in an advantageous manner.

b) Technical Measures

Technical success as a measure of NPD success is operationalised through the inclusion of two components:

- Realising the design performance specification targets

Definition: the new product complies with all legal and authority standard requirements set out, while still being able to provide the function for which it was created.

- A positive perception of innovativeness

Definition: a positive perception by the client of the new product's innovativeness.

c) NPD Process Management Measures

NPD Process Management as a measure of NPD success is operationalised through two components:

- Process management success

Definition: the new product was delivered on the specified launch date, and all cost and performance objectives for the development phase were fulfilled.

- Enhancing the management process

Definition: introducing new procedures and creating new platforms in the development phase.

d) Financial Measures

Financial measures as a measure of NPD success is operationalised with two components:

- Effective cost Management

Definition: a development process which remained in the budget and is characterised by a minimal ongoing cost, and a relatively low break-even time period

- Profitability

Definition: realisation of the targeted profit margins; ROI and market share.

e) Sales Measures

Sales success as a measure of NPD success is operationalised through one component, namely, sales performance (based on projected targets).

Definition: the new business placed or sales made over a specified period of time based on the revenue, sales growth; and/or unit volume goals of the new product.

f) Client Satisfaction Measures

Client satisfaction as a measure of success is operationalised through two components:

- Enhancing client loyalty

Definition: fulfilling client satisfaction goals through the provision of the desired level of client services, which in turn reduces client complaints.

- Increasing client base

Definition: the attainment of an increased market share or client base, through an increased client acceptance and/or conversion rate.

5.4 SUMMARY

This chapter focused on the literature reviewed on NPD measures of success. The literature is based on various industries and jurisdictions identifying criteria used in the measurement of NPD success. From the articles reviewed eight factors were identified with the following five being mostly commonly cited: sales performance, profitability, technical success, enhancing customer loyalty and effective cost management. Furthermore a number of financial services-specific success measures were identified including the enhancement of corporate reputation; the

improvement of new service development capability; the achievement of cross-selling, and the improved loyalty of existing customers. A process of operationalisation was undertaken involving all eight identified measures of success being placed into groups to avoid overlapping and redundancy of the questionnaire results. This process resulted in six final success measurement groups which were used in the construction of the final questionnaire.

A conceptual overview of the success factors (independent variables) and measures of success (dependent variables) was then presented in Figure 5.1. This model illustrates the relationship between the independent and dependent variables upon which the study's hypotheses were constructed. The following chapter (Chapter 6) considers the study's methodology and begins by presenting the primary and secondary hypotheses of this study.

CHAPTER 6

RESEARCH METHODOLOGY

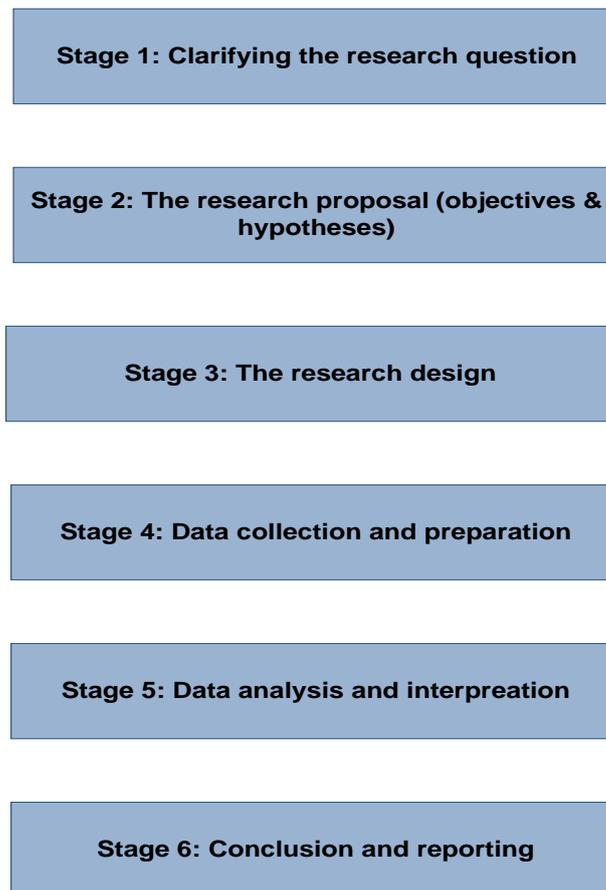
6.1 INTRODUCTION

This chapter focuses on the research methodology adopted in this study. The task of researching is usually treated as a sequential process, although in practice the various stages can take place simultaneously. A research process was implemented in this study to ensure that the various aspects of the chosen methodology are executed in a sequential order. The research process starts by revisiting and clarifying the research question. The remainder of the chapter reviews the tasks and characteristics of each of the stages of the research process.

6.2 THE RESEARCH PROCESS

The research process adopted for the purposes of this study is proposed by Cooper and Schindler (2008). Their process includes six defined stages. Stages 3 and 4 were reported on in the same section of this chapter as this area of the process involved overlapping tasks. The six-stage research process is illustrated in Figure 6.1.

Figure 6.1: The research process



6.3 STAGE 1: CLARIFYING THE RESEARCH QUESTION

The research process usually begins with a management dilemma that triggers the need for a decision (Cooper and Schindler, 2008). Defining the research question is a required step in defining the problem statement, as well as for the development of the study's objectives, all of which were covered in Chapter 1. This section begins by briefly revisiting the problem statement, research objectives and hypotheses of this study.

The problem statement was derived from the research question detailed in Chapter 1. The research question was based on the management dilemma and question. The management dilemma was identified as the high percentage of New Product Development (NPD) projects which fail every year, with large associated expense to the company. The management question sought to address this dilemma, by considering how the success rate of these projects could be increased. More specifically, factors influencing or associated with the success of NPD were investigated. For the purposes of this study, the objective was to address this question by focusing specifically on the South African investment sector. The problem statement was therefore, 'a need exists for identifying the success factors influencing New Product Development (NPD) in the South African investment sector'.

From the literature reviewed (see Chapters 4 and 5), it was clear that further research into factors influencing the success of NPD would contribute towards the understanding of the reasons for the high rate of NPD failure. Another important motivation for this study was the important role that NPD plays in helping an organisation remain competitive in the global economy. This importance was aptly summarised by Thomas (1993): "Intense global competition, rapid technological change, and shifting patterns of world market opportunities compel firms to continually develop new products and services – if not for profit, at least for survival." The rate of innovation has certainly accelerated over the last two decades, and in a highly competitive and regulated industry such as the South African financial services industry, the need to remain proactive and continually involved in new product and service related developments is more critical than ever before. Based on the problem statement, a number of objectives were formulated.

6.4 STAGE 2: OBJECTIVES AND HYPOTHESES

The research proposal includes such aspects as budgeting, evaluation, and the formal drafting of this proposal, which is submitted in either a written or a verbal format. The proposal considers the purpose of the study, detailing the primary research objectives as well as the management dilemma being addressed. These research objectives are then transformed into hypotheses.

A hypothesis is a proposition formulated for empirical testing. The descriptive statement describes the relationship between two or more variables (Cooper and Schindler, 2008). However, one of the most important limitations of statistics in empirical research is that statistics are unable to emphatically prove anything at all (Lomas, 2011). In other words, if a researcher wants to know

whether something is true, he/she uses statistics to try and prove the opposite. If this fails, then it can be said that the opposite is likely (Lomas, 2011). In light of this, the hypotheses have been stated in the null hypothesis format. The following hypotheses were developed for the purposes of this study.

a) Primary hypothesis (H0¹)

The identified New Product Development (NPD) success factors have no influence on the overall perceived success of New Product Development (NPD).

Based on the primary hypothesis, several secondary hypotheses were formulated.

b) Secondary hypotheses

H0²: The identified success factors have no influence on commercial success as a measure of New Product Development (NPD) success.

H0³: The identified success factors have no influence on technical success as a measure of New Product Development (NPD) success.

H0⁴: The identified success factors have no influence on the NPD development process management as a measure of New Product Development (NPD) success.

H0⁵: The identified success factors have no influence on the financial success as a measure of New Product Development (NPD) success.

H0⁶: The identified success factors have no influence on sales success as a measure of New Product Development (NPD) success.

H0⁷: The identified success factors have no influence on client satisfaction as a measure of New Product Development (NPD) success.

H0⁸: The identified success factors have no influence on the size of the product as a measure of New Product Development (NPD) success.

H0⁹: The identified success factors have no influence on the performance of the product as a measure of New Product Development (NPD) success.

H0¹⁰: The identified success factors have no influence on the longevity of the product as a measure of New Product Development (NPD) success.

The dependent (measure of success) and independent (success factors) variables used in the construction of both the primary and secondary hypotheses are considered perceived rather than objective for the purposes of this study.

The next section will review Stages 3 and 4 of the research process.

6.5 STAGE 3 AND 4: THE RESEARCH DESIGN AND DATA COLLECTION

The research design is the plan or structure of the study and includes the methodology followed in addressing the research problem (Mouton, 2006). The type of design will determine the type of data produced. Research designs can be classified into three types, namely, exploratory; descriptive; and causal (Jankowicz, 2005).

Exploratory: this design helps a researcher understand the key issues in order to properly grasp the research question.

Descriptive: this will assist a researcher to explore the identified issues of the study systematically.

Causal: this is a process a researcher undertakes to identify the reason why the outcomes of a study are sought.

The secondary research undertaken during this study was the literature review which assisted in the construction of the questionnaire. Various articles on the factors believed to influence NPD success, and the measurement criteria or variables of this success were reviewed. The primary research method employed in this study is also covered, by reviewing the development of the questionnaire as well as the pilot study that was undertaken prior to conducting the empirical research. Finally the sample profile and the target population are discussed.

6.5.1 The secondary research

It is essential that every research study begins with a review of the literature already existing on the subject (Mouton, 2006). This published information is called secondary data (Morris, 2000). There are various types or locations that can be used as a source of literature to review, including books, journal articles, newspapers, as well as thesis dissertations. Secondary sources have been defined as interpretations of primary data (Cooper and Schindler, 2008). The comprehensive literature review was built on two core constructs, namely, the factors influencing success in NPD and the measurement of NPD success. Chapter 4 of this study covers all literature reviewed on the factors believed to influence NPD success. This is followed by Chapter 5 which covers all literature reviewed on the measurement criteria or variables of this success.

6.5.1.1 Factors influencing NPD success

Two different groups of articles were reviewed to identify factors influencing the success of NPD. These were: literature covering NPD success factors from across various industries and countries, and literature covering NPD success factors from various financial service industries. A table listing the factors identified from the literature was then developed. A process of operationalisation was then conducted (covered in Chapter 5) to form the final success factor groups. The operationalisation process grouped the success factors from the two separate literature reviews, in a logical manner to avoid overlapping. This process resulted in eight final success factor groups which were used in the final construction of the questionnaire.

6.5.1.2 Measurements of NPD success

Literature on various measurements of NPD success was reviewed and various measurement criteria were identified. The literature reviewed was based on research from across various industries and countries. All measurement criteria identified were then summarised into a concise table, before being operationalised (covered in Chapter 6). Operationalisation involved a process whereby all the measurement criteria were grouped in a logical manner to avoid overlapping. Six final measurement factor groups were identified and incorporated into the construction of the research instrument.

The literature review and the pilot study both contributed toward the development of the research instrument used in the primary research. The following section describes the primary research conducted, focusing specifically on the design of the study, the development of the questionnaire, and the pilot study.

6.5.2 The primary research

Primary research uses a primary source to collect data which is inherently primary or “new” in nature or characteristic. Primary sources have been described as raw data without interpretation or pronouncements that represent an official opinion or position (Cooper and Schindler, 2008). The primary data is collected through the chosen source and is used to address the research question. Primary data is the data collected specifically for the research project undertaken (Saunders et al., 2009). The research methodology adopted in this study was positivistic, which calls for the collection and analysis of quantitative data. The other primary paradigm or research methodology available to a researcher is qualitative research. Qualitative research is designed to tell the researcher how (process) and why (meaning) things happen as they do (Cooper and Schindler, 2008). There were two primary reasons for choosing a quantitative methodology over a qualitative one: time and privacy. This study focuses on the investment sector of the financial services industry. The industry is regulated by stringent regulations that govern the flow of information between various license holders and external parties. Privacy is an important facet of the industry, and trade secrets are closely guarded as the Intellectual Property (IP) of a company is often what may give them the competitive edge and separate them from other competitors. Time is also viewed as a scarce commodity for most persons working in the investment sector. This is especially true for those working in product development, as the dynamic skills set required to perform the role is difficult to accumulate and is held by only a few. Considering these factors, the decision was made to adopt a quantitative research methodology for the purposes of this study. In addition, this study sought to statistically test the relationship between the independent and dependent variables. The ability to test this relationship is only possible with quantitative data, thus enforcing the decision to choose a quantitative research methodology.

According to Mouton (2006), there are three basic types of research technique for collecting and analysing primary data that is quantitative in nature. These are surveys, laboratory experiments,

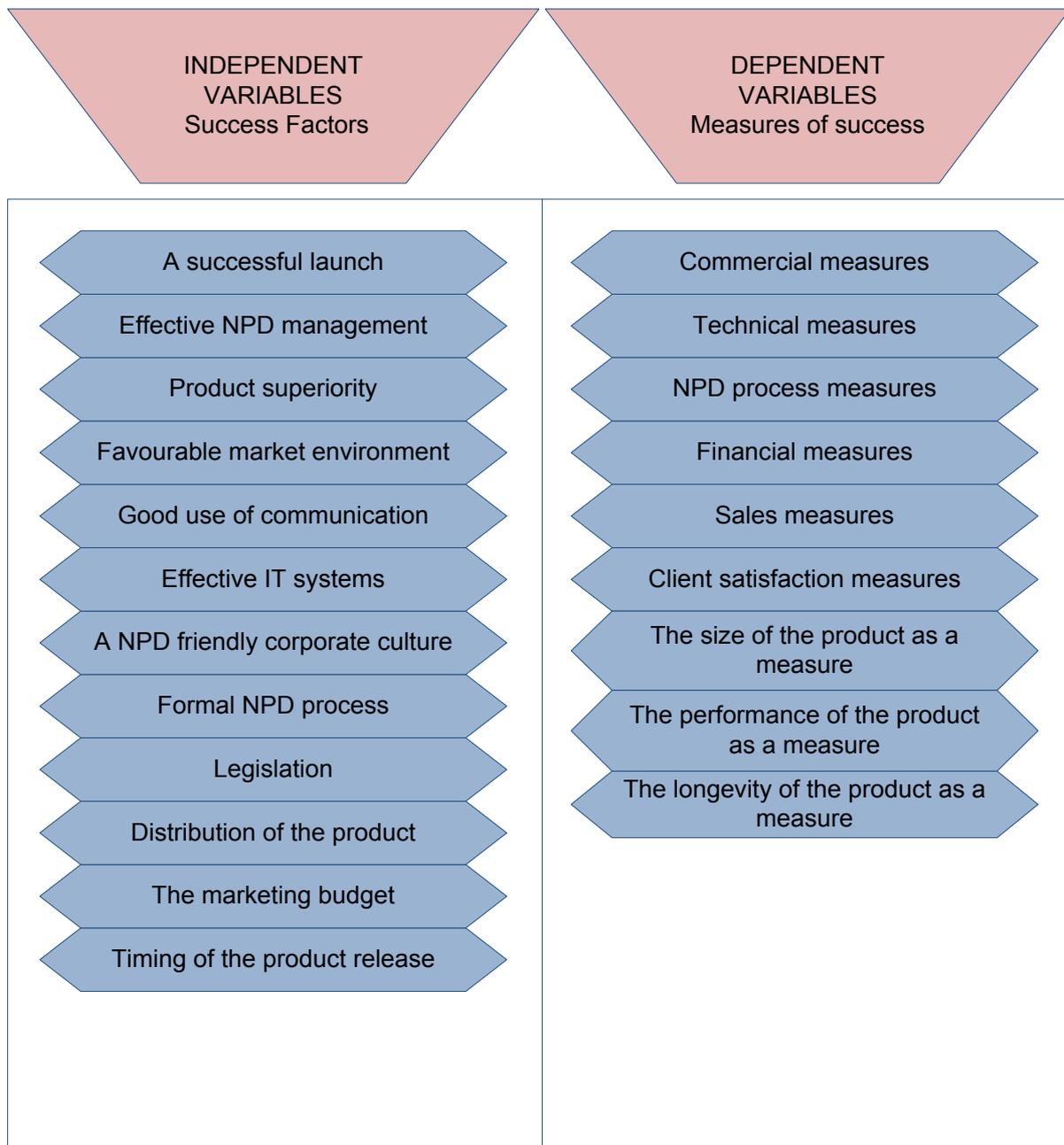
and field experiments. Modelling and simulation studies are also seen as a method of collecting quantitative data; however the nature of the data is not purely primary. For the purposes of this study, the survey research technique was used, and information was collected from a sample group by means of a questionnaire. The survey technique was selected given the time constraints and daily work activity of the target population, as well as the costs involved in obtaining the data through another technique. The survey was also viewed as the best method, given the nature of the study, which is to empirically test the relationship between variables.

A survey is by definition suitable for studies that are usually quantitative in nature, and provide a broad overview of a sample which is representative of a larger population (Mouton, 2006). The nature of the survey is more theory-driven and aims to test the hypotheses of the study. There are various ways of administering a survey including personal interviews (door-to-door and mail intercept), telephone interviews, and mail or internet surveys (Zimund and Babin, 2007). The instrument used to conduct the survey was a structured questionnaire.

6.5.2.1 *Developing the questionnaire*

A questionnaire is viewed as a data collection tool where each person in a sample group is given the same set of questions which are in a predetermined order, and individuals are asked to respond to them (Saunders et al., 2009). It is of critical importance that the designing or development of the questionnaire is carried out properly, as it has a direct bearing on the quality of the data produced. Careful planning should go into the development of the questions, to ensure that they are meaningful and unambiguous to respondents. Furthermore if the questions are constructed properly, the information received will be meaningful and contribute toward answering the research question (Lamos, 2011).

The questionnaire was developed to measure both the independent and dependent variables of the study. The separation of these two sets of variables was also the basis upon which the two separate sections of the questionnaire were formed. Each independent and dependent variable encompasses a number of constructs, which were used to measure the variables. Figure 6.2 provides a summary of the dependent and independent variables identified.

Figure 6.2: Dependent and independent variables

A process of defining each variable and its underlying constructs was undertaken for the purpose of this study. These definitions have been detailed in Chapter 5.

A structured questionnaire was developed as the research instrument for this study, and all questions included in the questionnaire were structured or closed. A closed question gives the respondent a fixed set of choices, whereas an open question provides them with an opportunity to give unlimited input.

There are various scale types available that can be used to design a questionnaire. By consulting with academic professionals as well as various business research text books, the decision was made to use a Likert-type scale for all questions in the final questionnaire. This is where all categories are named or questions defined, and the respondents indicate the degree to which they

agree or disagree with the statement (Mooi and Sarstedt, 2011). The Likert scale chosen was a 7-point scale producing an ordinal type of data. The respondents were asked a number of questions in a statement format, which they could answer by selecting from *one* to *seven* on the scale, with *one* being *strongly disagree* and *seven* being *strongly agree*.

The development of the questionnaire was carefully done to ensure that the respondents were able to answer with relative ease in a limited amount of time, which was estimated at 15 to 30 minutes per respondent, while still ensuring that the information was useful. Before commencing with the answering of the questionnaire, the respondents were asked to select one product with which they had personally been involved in developing and taking to market. The chosen product remained private, and at no time were they asked to disclose the name of the specific product. The respondents chosen product needed to be one which they were personally involved in developing. Furthermore, it was required that the product had been developed and taken to market to ensure that an accurate judgement could be made regarding the measure of success achieved. This is a retrospective methodology and is common in NPD research (Benedetto, 1999).

The questionnaire was divided into two sections. Section 1 measured the success of the respondents' chosen product. This section consisted of nine compulsory structured questions. The first six questions were developed from the secondary research and literature review, and the final three emanated from the pilot study. Section 2 investigated respondents' opinions on the prevalence of the various success factors in their specific product development experience. This section consisted of 12 compulsory structured questions. The first 8 were developed from the secondary research and literature review and the final 4 were based on the pilot study feedback.

6.5.2.2 Pilot study

A pilot study is typically conducted to test for any weaknesses in the design of the research instrument, and also to provide proxy data for the selection of a probability sample (Cooper and Schindler, 2008). The pilot test undertaken in this study was conducted via a questionnaire, and served two core purposes. The first was to ensure that the industry-relevant NPD factors and measurements of success identified were relevant. The second ensured that opportunity was provided for NPD factors and measurements of success used in the construction of the questionnaire to be sourced from practitioners, as well as from the literature reviewed. An important understanding here is that the purpose of the pilot study was not to comment on the questionnaire upon completion, but rather to add to the questionnaire in two possible ways: either by commenting on the NPD success measurements and factors identified, or by providing critical industry-relevant insight on other possible NPD measurements and factors. Notably, all of the suggested success measures and factors concurred with the literature reviewed (thus evidence of face validity), and were therefore already part of the questionnaire.

The pilot study questionnaire was administered via email and responded to by a representation of 10% of the sample group. The respondents were all professionals who were either currently working in the South African investment sector, or who had done so during the past three years.

The questions posed to the pilot group were divided into two separate sections, namely measures of NPD success and factors influencing NPD success. The separation of these two sections is also in alignment with the final questionnaire sent out to the sample group. The pilot group was asked to answer three open-ended questions, which were the same for both sections. The questions solicited their personal or subjective opinion on the suggested measures and factors of success. The three questions asked were:

Do you agree with the suggested measurements and their definitions?

Are there any other measurements or factors that you would add?

What influence do you think the suggested measurements and factors will have on the NPD success?

Section 1 presented three measures of success and their relevant definitions for the purpose of this study. Each measurement was accompanied by a definition (DEF). This included:

i) Size of the product

DEF: The achievement by the investment product of the targeted size of Assets Under Management (AUM).

Performance of the product

DEF: The ongoing ability of the investment product to ensure that investors receive their expected Return On Investment (ROI).

Growth and time

DEF: The ongoing ability of the product to continue growing in AUM by effectively marketing to potential new investors.

Section 2 presented four factors of success and their relevant definitions for the purpose of this study. Each measurement was accompanied by a definition (DEF). This included:

i) Legislation

DEF: The influence of legislation on the success of NPD.

Two examples of legislation were presented.

Conflicts of Interest: A piece of legislation effecting business to business (B2B) marketing. One Financial Services Provider (FSP) may only give to/receive from another FSP holder within specified parameters, where both parties are seen to have an actual or potential interest.

National Credit Act enforcing plain and simple language: The ordinary consumer of the targeted market for whom the document is intended, with average literacy skills and minimal credit

experience, can understand the content, significance, and importance of the document without undue effort.

Distribution of the product

DEF: The channels available to the company to distribute/market the new investment product.

The marketing budget

DEF: The financial resources that have been allocated to the marketing and communication of the new investment product.

Timing of the release

DEF: The influence of the condition of the market environment at the time of the investment product release.

The outcomes of the pilot study were used directly in the compilation of the questions for the final questionnaire. Comments from the respondents as well as the final questions for each of the measures are presented below.

Section 1 presented three measures of success. All respondents agreed that the size of the product as well as its performance were relevant measures of success in NPD. The size of the product as a measure of success was also defined as a basic measure of volume in the profit equation. The measure of volume further relates to the size of AUM. A new product was viewed by respondents as having a threshold AUM where the break-even point would be met and it would become profitable or "successful". An interesting comment by many of the respondents was that short-term and long-term performance needed to be weighed up carefully by the product provider. The performance of a product in the short-term may win customers, but long-term performance creates loyalty. The third measure of success suggested was "growth and time" which was viewed as a product's ability to continue growing in AUM. This measure was changed to "the longevity of a product as a measure of success" and refers to the relevance of the product over the long term. This relevance refers to the level of AUM after which there is a negative implication for the success of the product. This negative impact can be due to a ceiling in the marketing capacity or an increased difficulty of a product to outperform the market average over a certain size. The respondents did not suggest any new measures of NPD success that were not already sourced from the literature review.

The feedback from the respondents assisted in the compilation of Questions 7, 8 and 9 of Section 1 of the final questionnaire. These questions are listed below.

Question 7 – The size of the product

Code	Questions
SP1	The targeted AUM was achieved by the product
SP2	The targeted AUM would be achieved at a minimal cost to the company
SP3	The targeted AUM would provide a maximum revenue for the company
SP4	The targeted AUM would provide a maximum profit for the company

Question 8 – The performance of the product

Code	Questions
PP1	The product produced better returns than the relative market benchmark
PP2	The product produced better returns than its peer group funds
PP3	Performance was achieved within the targeted timeframe
PP4	Performance was achieved with adherence to the risk mandate
PP5	The actions of the fund manager were in the best interest of the client at all times

Question 9 – The longevity of the product

Code	Questions
LP1	The product produced a relatively consistent performance
LP2	The product grew organically (incrementally and consistently with time)
LP3	If organic growth was achieved, it can be said that the marketing strategy implemented, positively assisted with this growth
LP4	Product scalability: a relatively large growth capacity exists between the products breakeven point and the boundary (or ceiling) of profitability

Section 2 presented four factors potentially influencing NPD success. All four suggested factors influencing NPD success were accepted as relevant.

A number of specific comments were made and shared by respondents regarding the various factors. Legislation was viewed by many as an environmental factor influencing NPD success. An important comment made by one of the respondents concerned the required perspective of product developers to ensure a product complies with current legislation and is also proactive in anticipating likely future regulatory changes. Many respondents saw the ability of a product to effectively distribute to various channels as being linked to a provider's sales and marketing strategy and largely dictated by remuneration structures. The marketing budget and timing of release were viewed as critical by all respondents. The effective utilisation of the marketing budget was further highlighted as a critical consideration. Further comments made, highlighted the opinion that timing is not a science and can be constrained by development, operations, and regulation.

Finally, a number of factors were suggested by the pilot group, all of which were already included in the questionnaire based on the literature review.

The feedback from the respondents assisted in the compilation of Questions 9, 10, 11 and 12 of the final questionnaire. These questions are listed below.

Question 9 - Legislation

Code	Questions
L1	The new product complied with the required government legislation
L2	The new product complied with all FSB specific regulations
L3	The product team was proactive in anticipating likely future regulatory changes
L4	The new product complied with new regulations when required

Question 10 – Distribution of the product

Code	Questions
DP1	The products chosen distribution channels was supported by an effective marketing strategy
DP2	The distribution channels chosen gave the product the desired reach
DP3	The distribution channels used increased the products competitiveness within the market

Question 11 – The marketing budget

Code	Questions
MB1	The financial resources (budget) allocated to the marketing of the product was adequate
MB2	The marketing budget was spent on achieving key marketing strategy objectives

Question 12 – The timing of the launch

Code	Questions
TR1	The timing of the product release allowed the product to establish a first mover advantage
TR2	The source of motivation for the new product was to meet an existing need in the market
TR3	The timing of the product release positively impacted on its success
TR4	At the time of the product release the prevailing interest rate had a positive influence on the pricing of the product
TR5	The condition of the market at the time of the product release had a positive influence on investor behaviour

The next section focuses on the sample chosen and covers the target population; the sample frame used; the sample size and the sample method used.

6.5.3 The sample

A sample can be described as a few members of a specific population whose responses are viewed as representative of the whole population (Lomas, 2011). The target population, the sample frame and size, and the sampling method will now be reviewed.

6.5.3.1 The target population

A population has been defined as a complete set of group members (Saunders et al., 2009). "Group" implies that the people, or objects, are similar in some way and form the subject of the study (Lomas, 2011). The selection of a target population for this study was not a straightforward process, since finding a ring-fenced group posed various challenges. After much research and industry discussion, the target population was described as: all employees with relevant investment product development experience in the current employ of a registered member company of the Association for Savings and Investments South Africa (ASISA) as at December 2010 (ASISA, 2010). ASISA represents the majority of South Africa's asset managers, collective investment scheme management companies, linked investment service providers, multi-managers and life insurance companies. It was therefore an appropriate avenue to follow in sourcing persons with the required product development experience. ASISA has 22 full members, 52 ordinary members, 13 associate members and 65 affiliate members. This is a total of 152 registered members. For the purposes of this study ASISA's registered members were seen as a good indication of the number of companies functioning in the South African investment sector. Importantly, this study solicited the opinions of practitioners functioning in the investment sector on the various factors influencing the success of NPD. Although the ASISA-registered companies were used as a target population, it was not the companies' opinions which were sought, but rather those of individual employees based on personal experience. The next section will address the selection of the sample group.

6.5.3.2 The representative profile

The sampling frame is the lists, indexes, maps or other records of a population that a researcher can use in order to select the sample group (Lomas, 2011). The sample size refers to the number or quantities based on the selected frame. In the South African investment sector there are a small number of larger companies, traditionally known as life companies for example Old Mutual, that employ a large number of persons. Then there are many small businesses and companies which employ anywhere from 2 to 25 employees. This understanding of the sector's structural makeup was important when defining a ratio between the numbers of companies to the number of employees to be selected for the purposes of this study. It was decided that a sample group of 100 persons with a target of at least 70 responses would be chosen. The respondents would further need to be representative of at least 30 (19.74%) ASISA companies. The researcher targeted a sample size in the region of 20 percent of the target population, with the number of individual employees representative of roughly three times this amount.

The sampling method adopted for this study was non-probability sampling. This method of sampling does not allow the target population an equal chance of completing the questionnaire. This method is said to be the least reliable design but is also normally the cheapest and easiest to conduct (Cooper and Schindler, 2008). There are several types of non-probability sampling, one of which is Snowball sampling, which was chosen for this study. Snowball sampling involves a process where participants refer researchers to others who have characteristics, experiences, or attitudes that are similar to or different from their own (Cooper and Schindler, 2008). Thus, the sourcing of respondents to complete the questionnaire grew in an organic manner. Various key individuals in the industry were approached and through them other respondents were contacted. This assisted in networking and growing the sample size in an efficient and credible manner which also ensured that in most instances a cooperative response was received. The chosen method of non-probability sampling is viewed as encompassing certain elements of purposive (judgement) sampling. Judgement sampling is said to occur when a researcher selects sample members to conform to some criterion (Cooper and Schindler, 2008). This additional method is based on the specific criterion a respondent was required to meet in order to successfully complete the questionnaire.

An important practical consideration was taken into account in the selection and sourcing of persons to complete this questionnaire. Not all ASISA companies would have in their employ persons willing and able to take part in the study. Unwillingness to part-take from various employees was anticipated, as not all persons see the benefit to both the industry and the specific sector of such a study, and as such they decline the request to partake. Two key reasons were given to the researcher during the course of the study, including a personal shortage of time as well as the concern for risks associated with the disclosure of personal and employer details. It is worth mentioning that each and every person who completed this questionnaire was personally contacted and their privacy ensured. The financial services industry is highly regulated, and confidentiality and personal security are an important part of the products and services provided. Product providers in some cases keep “gate keepers” around their product development processes and intellectual property.

A contingency strategy was decided upon should fewer than 70 responses be received from 30 companies registered with ASISA. Persons willing and qualified to complete the questionnaire who were not in the current employ of an ASISA-registered member company, would be permitted to take part in the study if certain criteria were met. The person would need to be in the employ of a current licensed asset manager, collective investment scheme management company, linked investment service provider, multi-manager or life insurance company. They would also need to function in the South African investment sector and have the relevant product development exposure or experience.

6.6 STAGE 5: DATA ANALYSIS AND INTERPRETATION

This section will review the data analysis techniques that were used. This includes how the data was tested for reliability and validity, followed by the descriptive and inferential data analysis process that was used.

The findings from the empirical research were converted into a format that could be easily interpreted and analysed. The responses were then captured via an automated online programme called Checkbox, after which they were exported into a Microsoft Excel CSV file. The results were then cross checked by the researcher and all incomplete responses were removed. Once the data had been suitably cleaned it was imported for analysis on the Statistical Package for the Social Sciences (SPSS).

6.6.1 Reliability and validity

Two important considerations for analysing a data set are reliability and validity. Both of these considerations are directly linked to the research instrument used for the study. The questionnaire used was required to enable valid and reliable data to be collected. A valid questionnaire will allow accurate data to be collected, and the reliability of the questionnaire will determine to what degree the data is consistent (Saunders, et al. 2009). Reliability and validity will now be discussed in more detail.

a) Reliability

Reliability can be defined as the extent to which the data collection technique produces consistent findings (Saunders et al., 2009). For this study, reliability was an indication of the consistency of the data set produced by the questionnaire. There are three common tests for reliability which are usually carried out after the data collection has taken place, and should also be considered when designing the research instrument. The three methods include test-retest reliability, alternative forms reliability and internal consistency reliability (Hair, Jr.), Money, Samouel and Page, 2003). For the purposes of this study, internal consistency was tested by using the internal consistency coefficient to measure the degree to which the questionnaire items were homogeneous and therefore reflected the same underlying constructs (Cooper and Schindler, 2008). This coefficient is known as coefficient alpha or Cronbach's alpha (Hair et al., 2003), and a specialised correlational formula is used to calculate this reliability measure. A value of 0.7 and above on the Cronbach's coefficient alpha indicates that the measurement has a satisfactory level of reliability and can be used in further statistical analysis.

b) Validity

Validity has been defined as the extent to which data collection methods accurately measure what they were intended to (Saunders et al. 2009).

Internal validity refers to the ability of the instrument used in the measurement process to measure what it was intended to in the study (Cooper and Schindler, 2008). The three basic types of validity

estimates are content, criterion-related, and construct validity. They are briefly detailed below (Hair et al., 2003).

Content validity: this measures the degree to which the content of the items adequately represents the universe or total number of all relevant items within the study.

Criterion-related validity: measures the degree to which the predictor is adequate in capturing the relevant aspects of the criterion.

Construct validity: to evaluate construct validity, both the theory and the measuring instrument being used are considered. By identifying the underlying constructs being measured, construct validity can test how well the test represents them.

Given the small size of the study's sample, it was not possible to assess these validities. The only validity the study can claim is that of face validity. The perceived face validity of the research instrument was investigated in two ways, firstly, through the feedback received from the pilot study, and secondly, by soliciting the objective opinions of a number of industry experts prior to the finalisation of the questionnaire. Both of these engagements are presented in Chapter 7 (Results and Findings).

Next, the data was analysed from a descriptive and inferential perspective. Both methods will now be discussed in a more detail.

6.6.2 Descriptive analysis

The descriptive analysis of a sample provides the researcher with an overview of the primary characteristics relating to the location, spread and shape of the data (Cooper and Schindler, 2008). In other words, descriptive statistics enable a researcher to describe sample variables numerically (Saunders et al. 2009). The following descriptive analysis was used in this study:

- Mean
- Standard deviation

6.6.3 Inferential analysis

Inferential statistics include the estimate of population values and the testing of statistical hypotheses (Cooper and Schindler, 2008). It has also been defined as statistics that help a researcher to make a prediction or judgement about a population, based on the sample group (Hair et al., 2003). This study made use of an inferential analysis to test each of the hypotheses. The hypotheses were tested by establishing their statistical significance, which in turn was an indicator of whether or not to reject the null hypotheses.

Multiple regression analysis was conducted on the data set to determine whether the study's null-hypotheses would be rejected. Regression analysis is perhaps the most widely used data analysis technique for measuring a linear relationship between two or more variables (Hair et al., 2003). This analysis technique was used in this study to assess the relationship between all 12

independent variables with each dependent variable. This analysis calculated the regression coefficient which is a number between 0 and +1 that indicates the strength of the relationship between the dependent variable and independent variables (Saunders et al., 2009).

The final stage of the research process will now be covered.

6.7 STAGE 6: CONCLUSION AND REPORTING

The final stage in a research process is to communicate the analysis and interpretation of the data or findings in a way that is meaningful to the reader. The findings can be submitted to the audience, who in business research is usually a decision-maker, in a number of formats. For the purposes of this study, the report will be submitted in written format.

6.8 SUMMARY

This chapter gave an overview of the methodology adopted in this study. A 6-step process was adopted, which assisted in ensuring that the various elements of the methodology were explained in sequential order. The first two sections revisited the research question and hypotheses to ensure perspective on the objectives of the study. The following section covered Stage 2 and 3 of the research process, namely, the research design and data collection. The research design included both primary and secondary research. The secondary research investigated literature into two key areas namely, literature on factors influencing NPD and literature on the various measurements of NPD success. The primary research design, development of the questionnaire, as well as the pilot study conducted, was subsequently covered. The next section focused on the sample profile and target population. This section focused on the specific considerations made when defining who would be most appropriate, given the research objectives, to take part in this study. This careful consideration allowed the target audience to be communicated with in a meaningful manner, ensuring their positive involvement. The next section focused on Stage 5 of the process, data analysis and interpretation. This section covered the way the reliability and validity of the data would be tested, as well as the techniques that were followed, namely descriptive and inferential, for analysing the data. The final section covered the conclusion and reporting stage of the process. This briefly highlighted the importance of translating the findings into a format that could be easily communicated, and therefore was capable of adding value to its recipient. The next chapter will address the results of the study.

CHAPTER 7

EMPIRICAL RESULTS

7.1 INTRODUCTION

This chapter presents various results from the statistical analysis of the data. The descriptive statistics are first reviewed, followed by a discussion of the reliability and validity of the data used. The inferential statistics are then presented against the background of each of the study's hypotheses.

7.2 DESCRIPTIVE STATISTICS

Descriptive statistics are simply statistics that can be used to describe the variables used in the research.

This section provides a profile of the sample. Thereafter, the nature of the data is reviewed, using means, standard deviation and variance.

7.2.1 Profile of the sample

Chapter 6 covered the specific considerations in the selection of a representative profile from the target population for the purposes of this study. Due to the highly confidential nature of the financial services industry, many respondents asked that neither their name, nor the name of the investment product or their employer be disclosed. One of the respondents did personally disclose the name of the product about which they had chosen to answer the questionnaire. This product was a joint venture between government and the private sector which produced an educational savings fund known as Fundisa. Fundisa is a good example of the type of innovative and progressive product development that can and does take place in the South African investment sector.

The sample consisted of a total of 71 respondents, representative of 30 organisations offering investment products and services in South Africa. Of these 30 organisations, 22 (73%) were ASISA member companies, and the balance of 8 (27%) were non-ASISA member companies. Of the ASISA member companies represented, 14 (out of a possible 22) held full ASISA membership, 5 held ordinary memberships and 3 were associate members.

Respondents were not asked to provide information about their population group or primary language as part of the questionnaire; however an indication of both these variables was attained through personal interaction. Each respondent who completed the questionnaire was interviewed, either telephonically or via email. This was a privacy measure that was required to ensure that the researcher had permission to send an email to their personal address, and that spam filters could be managed appropriately. Through this interaction it was discovered that the vast majority of respondents could racially be classified as white, with the balance of respondents being African,

Coloured or Indian. English and Afrikaans were the two primary spoken languages, with a ratio split of roughly two-thirds English and one-third Afrikaans.

Specific descriptive data was collected from the respondents regarding their gender and role in the organisation. In terms of gender, the ratio between male and female respondents is reported in Table 7.1.

Table 7.1: Gender representation in sample

Respondents	f	%
Male	52	73.24
Female	19	26.76
Total	71	100.00

The majority of respondents were male, with less than a third female. This gender ratio is not necessarily representative of the investment sector in South Africa. However, this ratio is a good gender representation of persons working specifically in product development and associated roles.

In terms of roles, the respondents were divided into two categories, namely Asset Management (AM) and similar roles, and Product Development (PD) and associated roles. The classification is reported in Table 7.2.

Table 7.2: The respondent roles

Respondents	f	%
AM	45	63.38
PD	26	36.62
Total	71	100.00

Almost two-thirds of the respondents were classified as AM. This classification was extended to include investment and fund management roles. The ability of an asset manager to answer a questionnaire on product development is indicative of the cross-pollination of skills and product knowledge which is required to successfully develop an investment product in this sector. An asset manager has knowledge of how a product works as well as how it performs, which is critical for the successful development of a new product. As such, they are often involved in the development of new products. Over a third of the respondents were classified as having a PD role. This included persons responsible for the communication and education of products, legal and governance, and management-specific roles. The ratio between AM and PD specific roles is a fair representation of the investment sector. The larger organisations operating in the industry have the financial resources and the client base to warrant employees whose focus is solely on product development. However, in the majority of the medium to smaller investment organisations, there is

a large amount of role sharing, due in part to limited financial and other resources. Often asset managers and legal specialists are tasked with product development projects. This approach has led to the creation of specific project roles in investment organisations. This role is responsible for the central co-ordination of a variety of project types, which would also include New Product Development (NPD) projects.

The above statistics describe the profile of this study's sample. The majority of the sample group were Caucasian or white. The predominant language spoken was English, followed by Afrikaans. From a gender perspective, the majority (73.24%) of the sample were male. From a role perspective, more people were working in AM (63.38%) and NPD associated roles than in product development-specific roles. Based on these findings, the sample can be described as broadly representative of the South African investment sector. Furthermore, it is viewed as a good representation of the population of persons specifically working in new product development and associated roles in the South African investment sector.

7.2.1 Descriptive statistics for interval-scaled data

Numerical descriptive statistics are presented to summarise the interval-scaled data. Descriptive statistics are important as they provide the researcher with a better understanding of the nature of the data. This knowledge is useful for future inferential studies. The descriptive analysis applied to the full data set included the calculation of the mean and standard deviation.

The descriptive data measured each of the items relating to the dependent variables (9 measures of success) and the independent variable (success factors). This section will present the results of the descriptive analysis and briefly discuss both of the measures used. The mean and standard deviation of each item are presented in Table 7.3.

Table 7.3: Descriptive statistics for interval-scaled data

Measures of Success				
Q no:	Items	n	Mean	Std. Deviation
CM1	Commercial success	71	5.56	0.982
CM2	Commercial success	71	5.20	1.129
CM3	Commercial success	71	6.06	0.876
TM1	Technical success	71	6.44	1.131
TM2	Technical success	71	5.82	1.175
TM3	Technical success	71	5.69	1.103
TM4	Technical success	71	5.46	1.193
PMM1	NPD process management success	71	4.99	1.517
PMM2	NPD process management success	71	5.20	1.203
PMM3	NPD process management success	71	4.86	1.125
PMM4	NPD process management success	71	4.45	1.361
FM1	Financial success	71	5.04	1.367
FM2	Financial success	71	4.76	1.439
FM3	Financial success	71	5.06	1.351
FM4	Financial success	71	5.11	1.260
SM1	Sales success	71	4.62	1.668
SM2	Sales success	71	5.10	1.494
SM3	Sales success	71	4.96	1.398
STM1	Client satisfaction	71	5.69	1.077
STM2	Client satisfaction	71	5.55	0.997
STM3	Client satisfaction	71	5.55	1.263
STM4	Client satisfaction	71	5.72	1.071
SP1	Size of the product	71	5.01	1.563
SP2	Size of the product	71	5.10	1.110
SP3	Size of the product	71	4.83	1.434
SP4	Size of the product	71	4.80	1.390
PP1	Performance of the product	71	5.04	1.398
PP2	Performance of the product	71	4.89	1.315
PP3	Performance of the product	71	4.99	1.399
PP4	Performance of the product	71	5.80	1.154
PP5	Performance of the product	71	6.03	1.121
LP1	Longevity of the product	71	5.41	1.129
LP2	Longevity of the product	71	5.28	1.209
LP3	Longevity of the product	71	5.13	1.275
LP4	Longevity of the product	71	5.28	1.396
SL1	A successful launch	71	5.52	1.240
SL2	A successful launch	71	4.89	1.526

Measures of Success				
Q no:	Items	n	Mean	Std. Deviation
SL3	A successful launch	71	4.86	1.476
SL4	A successful launch	71	4.75	1.273
EM1	Effective NPD management	71	5.20	1.050
EM2	Effective NPD management	71	5.17	1.183
EM3	Effective NPD management	71	5.79	1.133
EM4	Effective NPD management	71	5.80	1.203
PS1	Product superiority	71	5.62	1.387
PS2	Product superiority	71	5.44	1.204
PS3	Product superiority	71	5.70	1.151
FME1	Favourable market environment	71	4.54	1.538
FME2	Favourable market environment	71	4.85	1.636
FME3	Favourable market environment	71	5.54	1.285
FME4	Favourable market environment	71	5.27	1.393
FME5	Favourable market environment	71	6.07	0.816
FME6	Favourable market environment	71	4.96	1.487
GC1	Good use of communication	71	4.23	1.085
GC2	Good use of communication	71	4.99	1.201
GC3	Good use of communication	71	5.30	1.034
GC4	Good use of communication	71	5.14	1.162
GC5	Good use of communication	71	4.93	1.223
GC6	Good use of communication	71	5.66	0.827
IT1	Effective IT system	71	5.03	1.242
IT2	Effective IT system	71	4.73	1.207
IT3	Effective IT system	71	4.55	1.251
FC1	NPD friendly organisational	71	5.62	1.126
FC2	NPD friendly organisational	71	5.42	1.167
FC3	NPD friendly organisational	71	5.73	1.133
FC4	NPD friendly organisational	71	5.52	1.34
FC5	NPD friendly organisational	71	5.25	1.500
FM1	Formal NPD process	71	4.75	1.328
FM2	Formal NPD process	71	4.96	1.336
FM3	Formal NPD process	71	5.07	1.387
L1	Legislation	71	6.35	0.943
L2	Legislation	71	6.42	1.091
L3	Legislation	71	5.79	1.286
L4	Legislation	71	6.17	1.146
DP1	Distribution of the product	71	5.07	1.437
DP2	Distribution of the product	71	5.11	1.369
DP3	Distribution of the product	71	5.07	1.417

Measures of Success				
Q no:	Items	n	Mean	Std. Deviation
MB1	The marketing budget	71	4.48	1.308
MB2	The marketing budget	71	4.42	1.359
TR1	Timing of the release	71	4.86	1.799
TR2	Timing of the release	71	5.8	1.166
TR3	Timing of the release	71	5.01	1.535
TR4	Timing of the release	71	4.24	1.563
TR5	Timing of the release	71	4.79	1.655

The mean is the average of the distribution of data. In other words it is the average response to a question by the sample group. The results show that the mean ranged from 4.23 (item GC1 good use of communication) to 6.44 (item TM1 technical success as a measure of NPD success). Table 7.3 indicates that commercial and technical success, client satisfaction, and the longevity of the product had higher means than the remaining 5 dependent variables. Furthermore, of the 12 identified success factors, effective NPD management, product superiority, an NPD-friendly organisational culture and legislation displayed a higher mean than the remaining 8 success factors (independent variables).

The standard deviation is the measure of the spread or dispersion of the responses in relation to the mean. A lower standard deviation indicates less discrepancy in relation to the mean, and therefore less spread. Satisfactory standard deviations were in particular displayed by two measures of success: client satisfaction (item STM2) and commercial success (items CM1 and CM3) with scores of 0.997; 0.982 and 0.876 respectively. Of the success factors, satisfactory or lower standard deviations were displayed by three of the factors: the good use of communication (GC6), legislation (L1), and a favourable market environment (FME5), with scores of 0.827, 0.943 and 0.816 respectively. It is noticeable that there were very few standard deviations which exceed 1.5, suggesting relatively consistent responses.

The following section will present the findings on the reliability analysis of the data.

7.3 RELIABILITY

In Chapter 6, reliability was defined as the degree to which a measure is able to generate consistent results (Cooper and Schindler, 2008). For this study, reliability was assessed by calculating the internal consistency coefficient (Cronbach's Alpha) to measure the degree to which the questionnaire items or variables were homogeneous and reflected the same underlying constructs (Cooper and Schindler, 2008). The measuring instrument used was a questionnaire which measured variables representative of NPD success, as well as the degree to which the identified factors of success were present. A Cronbach's Alpha co-efficient was calculated for all 9

success variables, and for the 12 success factors to assess their internal consistency. A value of 0.7 and above indicated that the data had a satisfactory level of reliability.

7.3.1 The dependent variables: measures of success

The measurement variables of success were identified as: commercial success, technical success, NPD process management success, financial success, sales success, client satisfaction success, the size of the product, the performance of the product and the longevity of the product. These 9 variables were operationalised in Chapter 1. The coefficients for each of the 9 variables are reported in Table 7.4.

Table 7.4: Reliability coefficients for the success measurement (dependent variables)

SUCCESS MEASUREMENT	CRONBACH'S ALPHA	NUMBER OF ITEMS
Commercial success	0.595	3
Technical success	0.599	4
NPD process management success	0.567	4
Financial success	0.818	4
Sales success	0.765	3
Client satisfaction success	0.784	4
The size of the product	0.882	4
The performance of the product	0.822	5
The longevity of the product	0.777	4

If the Cronbach's Alphas of the variables (constructs) were below 0.7, the item-to-total correlations of items were scrutinised to assess whether the Cronbach's Alpha could be increased by deleting some items. Three of the success factors or variables did not return a Cronbach's Alpha value of 0.7 and above, namely, commercial success, technical success and NPD process management success. Each of these variables will now be reviewed.

a) Commercial Success

Commercial success was the first measurement of success or construct that returned a reliability coefficient lower than 0.7. The result of the Cronbach's Alpha test is presented in Table 7.5.

Table 7.5: Reliability assessment of commercial success construct

	Scale mean if deleted	Scale variance if item deleted	Corrected item total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
CM1	11.25	2.221	0.624	0.400	0.160
CM2	11.62	2.296	0.420	0.334	0.491
CM3	10.76	3.499	0.226	0.121	0.720

The statements used to measure commercial success were:

CM1: The product enhanced the image (public perception) of the company

CM2: The product enhanced the profile (public awareness) of the company

CM3: The product meets the needs of the target market in a unique way

Table 7.4 shows that if item CM3 was removed from the scale, the construct's reliability would increase from 0.595 (Table 7.3) to 0.720. Based on this evidence item CM3 was deleted from all subsequent statistical analysis.

b) Technical success

Technical success was the second construct (measurement of success) that returned a reliability coefficient below 0.7. The result of the Cronbach's Alpha test is presented in Table 7.6.

Table 7.6: Reliability assessment of technical success construct

	Scale mean if item deleted	Scale variance if item deleted	Corrected item total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
TM1	16.97	5.825	0.444	0.228	0.465
TM2	17.59	5.159	0.560	0.533	0.361
TM3	17.72	5.577	0.525	0.484	0.402
TM4	17.94	7.797	0.047	0.018	0.754

The statements used to measure technical success were:

TM1: The product complies with all known legal requirements

TM2: The product structure contains the necessary risk cover on the part of the company

TM3: The product structure contains the necessary risk cover on the part of the client

TM4: The product is viewed as innovative in comparison to its peer group funds

Table 7.6 indicates that if item TM4 was removed from the scale, the reliability of the question or construct would increase from 0.599 (Table 7.3) to 0.754. Based on this evidence item TM4 was deleted in all subsequent statistical analysis.

c) NPD Process Management Success

NPD process management success was the third variable regarded as a measure of success that returned a reliability coefficient lower than 0.7. The result of the Cronbach's Alpha test is presented in Table 7.7.

Table 7.7: Reliability assessment of NPD process management success construct

	Scale mean if item deleted	Scale variance if item deleted	Corrected item total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
PM1	14.51	7.682	0.185	0.208	0.609
PM2	14.30	6.697	0.546	0.326	0.287
PM3	14.63	7.807	0.392	0.259	0.425
PM4	15.04	7.755	0.255	0.196	0.531

The statements used to measure NPD process management success were:

PM1: The product was completed within the set time frame

PM2: All performance objectives set out in the development phase were met

PM3: Improved procedures were introduced in the NPD management process

PM4: Where required, new I.T. platforms were successfully introduced in the development phase

The results of the reliability testing indicated that none of the questions from this section could be removed to increase the reliability coefficient to above 0.7. It was decided that the NPD process management variable as a measure of success would not be removed from the study, and the relationship between the success factors and this measurement variable would be tested despite its relatively low Cronbach's Alpha. This decision was further motivated by the recognition of 0.60 as fair reliability (Zikmund, Babin, Carr and Griffin, 2010).

The motivation for this decision was the literature review, coupled with the industry experience of those who participated in the exploratory phases of this study. This measurement of success was constructed after a process of operationalisation was undertaken based on the literature review. NPD process management was formed by grouping two of the measurement variables, namely, project management success and the introduction of new and innovative opportunities. Project management success was identified as a measurement criterion in three of the articles reviewed, namely, Griffin and Page (1993), Barclay (1992), and Suomala and Jokioinen (2003). Individual factors which influence project management success include the speed to market (Griffin and Page, 1991), delivering on the specified launch date (Griffin and Page, 1991; Barclay, 1992) and whether the project has met its cost and performance objectives in the development phase (Barclay, 1992). Introducing new and innovative opportunities was identified as a measurement criterion in four of the articles reviewed, namely, Storey and Easingwood (1996), Lievens and

Moenart (2000), Oldenboom and Abratt (2000) and Akamavi (2005). Individual factors affecting this criterion included creating platforms to introduce new products (Storey and Easingwood, 1996) and introducing new procedures in the development phase (Akamavi, 2005). The specific statements measuring NPD process management success construct and the underlying criteria (concepts) were then developed. Thus the inclusion of NPD process management success (dependent variable) as a measure of success is supported by various literature sources and was therefore not removed from further analysis.

7.3.2 The independent variables: success factors

The factors that influenced NPD success were: a successful launch, effective NPD management, product superiority, favourable market environment, the use of good communication, effective IT systems, a NPD friendly organisational culture, formal NPD process, legislation, distribution of the product, the marketing budget and timing of the release. The coefficients for each of the independent variables are reported in Table 7.8.

Table 7.8: Reliability coefficients for the success factors (independent variables)

Success Factors	Cronbach's Alpha	Number of items
A successful launch	0.812	4
Effective NPD management	0.864	4
Product superiority	0.633	3
Favourable market environment	0.539	6
Use of good communication	0.859	6
Effective IT systems	0.925	3
NPD-friendly organisational culture	0.829	5
Formal NPD process	0.680	3
Legislation	0.662	4
Distribution of the product	0.872	3
The marketing budget	0.832	2
Timing of the release of the product	0.707	5

Four of the success factors did not return a value of 0.7 or higher, namely, product superiority, favourable market environment, a formal NPD process and legislation. The item-to-total correlation of each individual question or item measuring each of these factors was inspected to assess whether the Cronbach's Alpha could be increased by deleting an item. The decision was then made whether to exclude questions that correlated poorly with other items to increase the reliability coefficient to above 0.7, or whether their inclusion was necessary in the context of the study's objectives despite its relatively low internal consistency. The results of this analysis are presented below.

a) Product superiority

Product superiority was the first factor that returned a reliability coefficient lower than 0.7. The result of the Cronbach's Alpha test is presented in Table 7.9.

Table 7.9: Reliability assessment of product superiority construct

	Scale mean if item deleted	Scale variance if item deleted	Corrected item total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
PS1	11.14	4.323	0.185	0.306	0.716
PS2	11.32	3.908	0.546	0.558	0.337
PS3	11.06	4.482	0.452	0.259	0.494

The statements used to measure product superiority success coded PS1 to PS3 were:

PS1: The product has a unique (Def: product can be differentiated on the basis of benefit to client from all other products in the marketplace) advantage or selling point

PS2: The product has a competitive cost structure

PS3: The required after-sales support services (if required) were available to clients

The results of the coefficient testing indicated that PS1 could be removed from the product superiority measure to increase the coefficient from 0.633 (Table 7.8) to 0.716 (Table 7.9). Based on this evidence, item PS1 was deleted from all subsequent statistical analysis.

b) Favourable market environment

Favourable market environment was the second success factor (independent variable) that returned a reliability coefficient lower than 0.7. The result of the Cronbach's Alpha test is presented in Table 7.10.

Table 7.10: Reliability assessment of a favourable market environment construct

	Scale mean if item deleted	Scale variance if item deleted	Corrected item total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
FME1	26.68	16.708	0.105	0.081	0.566
FME2	26.37	12.778	0.423	0.394	0.385
FME3	25.68	14.594	0.423	0.223	0.405
FME4	25.94	17.140	0.114	0.072	0.552
FME5	25.14	17.694	0.297	0.119	0.484
FME6	26.25	14.192	0.356	0.374	0.431

The statements used to measure a favourable market environment, coded FME1 to FME6 were:

FME1: Companies competing for the same target market did not respond competitively to the new product launch

FME2: In relation to other consumer investment products, the new product had a large target client group

FME3: The company had the required knowledge of the market environment into which the new product was being launched

FME4: The company's brand strength was a positive factor in the success of the product

FME5: The structure and benefits of the new product were well aligned to meet the specific needs of the target client group

FME6: The target market parameters were characterised by a relatively large capacity (high saturation levels)

The results of the coefficient testing indicated that none of the statements from this section could be removed to increase the reliability coefficient to above 0.7. However, this success factor and its 6 questions remained a part of this questionnaire based on the literature reviewed. Furthermore, previous studies have found a Cronbach alpha of 0.50 acceptable for both exploratory and basic research. The development of this factor and the supporting literature is briefly reviewed.

From the literature reviewed, the alignment of market needs and the competitive position of a company and its relevant product/services were identified as factors influencing success. For the purposes of this study they were grouped to form one construct, namely, a favourable market environment. The alignment of market needs was found to be a success factor in three of the articles reviewed, namely, Barclay, (1992), Song and Parry, (1994) and Suomala and Jokioinen, (2003). Individual factors or concepts identified as contributing to the alignment of market needs included good market knowledge and aligning strategy (Barclay, 1992) as well as an ability on the part of the organisation to understand the needs of the market (Song and Parry, (1994). Competitive position was found to be a success factor in three of the articles reviewed, namely, Song and Parry, (1994), Suomala and Jokioinen, (2003) and Cheng and Shui, (2008). Individual factors or concepts that were identified as contributing toward the competitive position of a company and its products and services included the marketing potential and proficiency, the level of competitive intensity in the company (Song and Parry, 1994) as well as the level of aggression in competitor responses (Cheng and Shui, 2008).

c) A formal NPD process

A formal NPD process was the third independent variable (success factor) that returned a reliability coefficient below 0.7. The result of the Cronbach's Alpha test is presented in Table 7.11.

Table 7.11: Reliability assessment of a formal NPD process construct

	Scale mean if item deleted	Scale variance if item deleted	Corrected item total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
FM2 1	10.03	4.542	0.654	0.445	0.368
FM2 2	9.82	5.895	0.359	0.178	0.749
FM2 3	9.70	5.040	0.489	0.360	0.592

The statements used to measure a formal NPD process, coded FM2 1 to FM2 3 were:

FM2 1: The NPD process used was based on a well-organised structure

FM2 2: The NPD process used was characterised by a short development process time

FM2 3: The NPD process used is backed by a consistent and successful track record

Table 7.11 indicates that if item FM2 2 was removed from the scale, the reliability of the question or construct would increase from 0.680 (Table 7.7) to 0.749. Based on this evidence, item FM2 2 was deleted from all subsequent statistical analysis.

d) Legislation

Legislation was the fourth and final factor that returned a reliability coefficient lower than 0.7. The result of the Cronbach's Alpha test is presented in Table 7.12.

Table 7.12: Reliability assessment of legislation construct

	Scale mean if item deleted	Scale variance if item deleted	Corrected item total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
L1	18.38	5.696	0.651	0.575	0.405
L2	18.31	5.845	0.470	0.427	0.510
L3	18.94	7.340	0.074	0.027	0.807
L4	18.56	5.192	0.576	0.446	0.421

The statements used to measure legislation as a success factor (independent variable), coded L1 to L4 were:

L1: The new product complied with the required government legislation

L2: The new product complied with all FSB specific regulations

L3: The product team was proactive in anticipating likely future regulatory changes

L4: The new product complied with new regulations when required

The results of the coefficient testing recorded a reliability coefficient of 0.662 (Table 7.7) which was just below the required 0.70. The removal of item L3 would have increased the reliability to 0.807. This question was whether the product team had made allowance for future regulatory changes. Based on the evidence from the reliability test, item L3 was deleted from all subsequent statistical analysis.

7.4 VALIDITY

Given the small size of the sample, the only validity the study could claim was face validity. To support this claim, the input from both the pilot group and a number of industry professionals was solicited. These two investigative avenues and their findings are presented below.

The first avenue assessed the personal or subjective opinion of the pilot study group on some of the statements identified as measures of success (dependent variables) and success factors (independent variables). In addition the group was asked to suggest further measures of success and success factors which they thought were relevant to the study. The respondents' suggestions concurred with the literature reviewed, and were therefore included as part of the questionnaire. This confirms the evidence of a high degree of face validity between the constructs investigated and questionnaire items used to measure them, and the perception of market practitioners.

Secondly, the model used for the study, as well as its constructs (measures of success and success factors), were viewed by a number of industry experts in an attempt to receive objective input. The feedback confirmed the validity of the measurement process against the study's objectives. Industry experts approached included: ASISA senior employees, Chief Financial and Executive Officers (CEO and CFO), product development Heads of Department (HOD) and specialists as well as a number of junior and middle-management employees working in product development-related roles. The feedback was fairly consistent, and included the following:

- The study was not viewed as an easy one due to the complexity of NPD in the investment sector. Many of the respondents did, however, comment on the usefulness of the study
- The model made sense from a practitioner's viewpoint
- Ensuring there is a combination of asset managers and product development specialists in the sample group was viewed as a necessary route to follow

- The measurements of success and success factors were viewed as relevant and accurately defined.

Based on the strength of the feedback from both the pilot and industry expert groups, the researcher considered the research instrument to possess a high degree of face validity.

The following section addresses the study's research objectives by testing the hypotheses.

7.5 EMPIRICAL FINDINGS

This section reviews the hypothesis testing which sought to determine how much of the variation in NPD success could be explained by the 12 independent variables (success factors). The analysis investigated both the significance of the individual independent variables or factors of success, and the coefficient of multiple determinations (R^2), using multiple regression analysis.

Each regression analysis test performed also considered its associated multi-collinearity statistics to ensure there was an absence of correlation among the individual independent variables. The variance inflation factor (VIF) statistics were all under 10, and the tolerance statistics were all above 0.10 (Saunders, Lewis, and Thornhill, 2009). Based on these results, it was concluded that a low correlation, if any, existed amongst the various independent variables, and that multi-collinearity did not compromise the regression results.

Regression analysis examines the relationship between a single dependent variable and multiple independent variables. The following regression analysis equation was formulated to describe the relationship between the dependent variable and the independent variables in this study.

$$\text{NPD}_i = \alpha + b_1 \text{SL}_i + b_2 \text{EM}_i + b_3 \text{PS}_i + b_4 \text{FME}_i + b_5 \text{GC}_i + b_6 \text{IT}_i + b_7 \text{FC}_i + b_8 \text{FM}_i + b_9 \text{L}_i + b_{10} \text{DP}_i + b_{11} \text{MB}_i + b_{12} \text{TR}_i$$

- ii) Dependent Variables (DV):
- iii) NPD Success - NPD
- iv) Independent variables (IV)
- v) Successful launch – SL
- vi) Effective NPD management – EM
- vii) Product superiority – PS
- viii) Favourable market environment – FME
- ix) Good use of communication – GC
- x) Information technology – IT
- xi) NPD-friendly organisational culture – FC
- xii) Formal NPD process – FM2
- xiii) Legislation – L
- xiv) Distribution of the product – DP

xv) The marketing budget – MB

xvi) Timing of the release - TR

Notably the DV (NPD success) for the purpose of this study was measured using 9 success measurements, namely:

i) Commercial success -CM

ii) Technical success – TM

iii) NPD process success – PMM

iv) Financial success – FM

v) Sales success – SM

vi) Client satisfaction success – STM

vii) The size of the product – SP

viii) The performance of the product – PP

ix) The longevity of the product - LP

The relationship between all 12 independent variables (factors of success) with the dependent variable (New Product Development success) was measured. Thereafter the relationship between all 12 independent variables (factors of success) with each of the 9 dependent variable items (measurements of success) was analysed. The results of this analysis are presented below.

7.5.1 The influence of success factors on NPD success

The primary objective of the study was to assess the relationship between the identified factors of success and NPD success. To address this objective, the primary null hypothesis of this study was:

H0¹: The identified success factors have no influence on the overall success of NPD.

The hypothesis was addressed using a multiple regression analysis. The results are reported in Table 7.13. The dependent variable in this analysis (Table 7.13) was NPD success.

Table 7.13: Regression analysis results: Influence of the success factors on NPD success

Factors of Success	Beta Coefficients	t-values	Significance
(Constant)		1.824	0.073
Successful launch	0.107	0.941	0.351
Effective NPD management	0.144	1.212	0.230
Product superiority	0.233	2.455	0.017*
Favourable market environment	0.089	0.872	0.387
Good use of communication	0.165	1.307	0.196
Effective IT systems	-0.250	-2.632	0.011*
NPD-friendly organisational culture	0.152	1.429	0.158
Formal NPD process	0.123	1.277	0.207
Legislation	0.118	1.334	0.187
Distribution of the product	-0.011	-0.096	0.924
The marketing budget	0.065	0.617	0.540
Timing of the release	0.213	2.415	0.019*

* = $p < 0.05$

$R^2 = 0.731$

The regression analysis results indicated that the identified success factors do have an influence on the total measure of success achieved in NPD. The R^2 statistic revealed that 73.1% of the variation in NPD success can be explained by the variation in the 12 identified success factors. So while it can be concluded that there are other variables that influence NPD success, the 12 factors identified for the purpose of this study account for a significant part of the variation of the overall measure of success achieved.

Of the 12 variables or success factors only 3 were statistically significant at the 5% level, namely, product superiority ($t=2.455$; $p<0.05$), effective IT systems ($t=-2.632$; $p<0.05$) and timing of release ($t=2.415$; $p<0.05$). From these results it can be concluded that product superiority, effective IT systems and timing of release influence the overall measure of NPD success achieved. Product superiority and the timing of the release demonstrate a positive relationship. Therefore an increase in the prevalence of these factors will result in an increased overall measure of NPD success. IT systems returned a negative relationship, which means that an increase in the prevalence of IT systems in NPD will result in a decrease in the overall measure of NPD success achieved. The interpretation of this finding will be covered in Chapter 8 (Findings and Recommendations). However, based on this relationship, it can be concluded that the IT requirements of a NPD project should be carefully assessed. The assessment should ensure that the IT requirements are effectively scoped and properly communicated in the early development phase of a new product.

Based on the results reported in Table 7.13, the null hypothesis for the success factors of product superiority, effective IT systems and timing of release cannot be accepted (rejected) as they significantly influence the overall measure of NPD success. We cannot reject the null hypotheses for successful launch, product superiority, favourable market environment, good use of communication, a NPD-friendly organisational culture, formal NPD process, legislation, distribution of the product and the marketing budget. The impact of these 9 success factors was not statistically significant.

The results of the secondary hypotheses tests will now be presented and discussed. The secondary hypotheses were developed to test the relationship between two constructs, namely, the success factors identified for the purposes of this study, and each of the 9 individual measures of NPD success. The 9 individual measures of NPD success are commercial success, technical success, NPD process success, financial success, sales success, client satisfaction success, the size of the product, the performance of the product and the longevity of the product.

7.5.2 The influence of success factors on commercial success

The second objective of the study addressed the relationship between the identified factors of success (the independent variables) and the first measurement of NPD success, commercial success (the dependent variable). For the purpose of this study, a new product is viewed as commercially successful if it has enhanced the image and profile of the organisation and has been able to meet the needs of the target market in a unique way. To address this objective the following hypothesis was developed.

H0²: The identified success factors have no influence on commercial success as a measure of NPD success.

The hypothesis was addressed using multiple regression analysis. The results are reported in Table 7.14.

Table 7.14: Regression analysis results: Influence of the success factors on commercial success

Factors of Success	Beta Coefficients	t-values	Significance
(Constant)		2.769	0.008
Successful launch	0.177	0.946	0.348
Effective NPD management	0.029	0.151	0.881
Product superiority	-0.051	-0.327	0.745
Favourable market environment	0.298	1.789	0.079
Good use of communication	0.191	0.926	0.358
Effective IT systems	0.033	0.216	0.830
NPD-friendly organisational culture	0.000	0.001	0.999
Formal NPD process	-0.039	-0.246	0.806
Legislation	-0.120	-0.825	0.413
Distribution of the product	-0.367	-1.990	0.051
The marketing budget	0.117	0.683	0.497
Timing of the release	0.217	1.506	0.138

$R^2 = 0.282$

The results reported in Table 7.14 reveal that the identified success factors do in fact influence commercial success. The analysis indicated that 28.2% of the variation in commercial success as a measure of NPD success can be explained by the variation in the 12 identified success factors. It can therefore be concluded that a fair number of other variables influence the commercial success of NPD.

Based on the empirical analysis, the null hypothesis cannot be rejected for all 12 success factors, namely, successful launch, effective NPD management, product superiority, favourable market environment, good use of communication, an effective IT system, a NPD- friendly organisational culture, formal NPD process, legislation, distribution of the product, the marketing budget and the timing of the release.

The next objective concerns the influence of the identified success factors on technical success as a measure of NPD success.

7.5.3 The influence of success factors on technical success

The third objective of the study addressed the relationship between the identified factors of success and the second measurement of NPD success namely, technical success. A product is considered technically successful if it complies with all known legal and risk requirements, and is viewed as innovative in comparison to peer group funds. To address this objective, the following hypothesis was developed.

H0³: The identified success factors have no influence on technical success as a measure of NPD success.

The hypothesis was addressed using a multiple regression analysis. The results are reported in Table 7.15.

Table 7.15: Regression analysis results: Influence of the success factors on technical success

Factors of Success	Beta Coefficients	t-values	Significance
(Constant)		3.618	0.001
Successful launch	0.418	2.446	0.018*
Effective NPD management	-0.159	-0.896	0.374
Product superiority	0.278	1.954	0.055
Favourable market environment	-0.320	-2.095	0.041*
Good use of communication	-0.054	-0.286	0.776
Effective IT systems	-0.106	-0.743	0.460
NPD-friendly organisational culture	0.345	2.168	0.034*
Formal NPD process	-0.158	-1.091	0.280
Legislation	0.361	2.721	0.009**
Distribution of the product	0.079	0.469	0.641
The marketing budget	0.026	0.165	0.870
Timing of the release	-0.051	-0.383	0.703

* = $p < 0.05$

** = $p < 0.01$

$R^2 = 0.398$

The regression results indicated that the identified success factors do in fact influence technical success. The analysis indicated that 39.8% of the variation in technical success as a measure of NPD success can be explained by the variation in the 12 identified success factors.

Of the 12 variables or success factors 4 were found to be statistically significant. These included successful launch ($t=2.446$; $p < 0.05$); favourable market environment ($t=-2.095$; $p < 0.05$); NPD-friendly organisational culture ($t=2.168$; $p < 0.05$) and legislation ($t=2.721$; $p < 0.01$). A favourable market environment returned a negative relationship. From a practitioner's point of view, this relationship could be due to a decrease in a new products technical requirement as the result of an increased market favourability and visa-versa. A questionnaire item for each of the variables analysed and an interpretation of the findings is covered in Chapter 8 (Findings and Recommendations). The other three significant factors returned a positive relationship, which

means that a favourable market environment, a NPD-friendly organisational culture and an adherence to the relevant legislation will result in an increase in the overall technical success.

Product superiority returned a t-value of 1.954, a score that was marginally (0.005) above the 5% cut-off. Thus, although it is not regarded as statistically significant, it approaches significance and its influence is in the expected positive direction.

Based on the empirical results, the null hypothesis is rejected in respect of successful launch, favourable market environment, a NPD-friendly organisational culture and legislation, as these were found to significantly influence technical success as a measure of NPD success. The null hypotheses for the remaining 8 factors, namely, effective NPD management, product superiority, use of good communication, information technology, formal NPD process, distribution of the product, timing of the release and the marketing budget, cannot be rejected. In other words, the influence of these 8 success factors on technical success was not statistically significant.

The next objective concerns the influence of the identified success factors on NPD process management success, as a measure of NPD success.

7.5.4 The influence of success factors on NPD process management success

The fourth objective of the study was to investigate the relationship between the identified factors of success which are the independent variables in this study and the third measure of NPD success, namely NPD process management success. For the purpose of this study, NPD process management success is defined as the extent to which the following measures were met: the product development was completed within the set time frame, the performance objectives in the development phase were met, improved procedures were introduced and where required, new IT platforms were successfully introduced in the development phase. To address this objective, the following hypothesis was developed.

H0⁴: The identified success factors have no influence on the NPD development process management as a measure of NPD success.

The hypothesis was addressed using a multiple regression analysis. The results are reported in Table 7.16.

Table 7.16: Regression analysis results: Influence of the success factors on NPD process management success

Factors of Success	Beta Coefficients	t-values	Significance
(Constant)		0.831	0.409
Successful launch	-0.042	-0.259	0.797
Effective NPD management	0.278	1.647	0.105
Product superiority	-0.013	-0.099	0.921
Favourable market environment	0.057	0.391	0.697
Good use of communication	0.370	2.068	0.043*
Effective IT systems	-0.081	-0.601	0.550
NPD-friendly organisational culture	-0.102	-0.677	0.501
Formal NPD process	0.382	2.778	0.007**
Legislation	0.081	0.646	0.521
Distribution of the product	-0.308	-1.923	0.059
The marketing budget	0.007	0.050	0.961
Timing of the release	0.164	1.304	0.197

* = $p < 0.05$

** = $p < 0.01$

$R^2 = 0.457$

The results reported in Table 7.16 show that the identified success factors do in fact influence NPD process management success. The analysis indicated that 45.7% of the variation in NPD process management success as a measure of NPD success can be explained by the variation in the 12 identified success factors.

Of the 12 success factors, 2 were found to be statistically significant in influencing NPD process management success, namely, good use of communication ($t=2.068$; $p < 0.05$) and a formal NPD process ($t=2.778$; $p < 0.01$). Both were positive relationships, implying that an increase in the use of good communication and the presence of a formal NPD process would increase the overall NPD process management success.

Thus, based on the empirical results the null hypothesis is rejected for these 2 success factors. The null hypotheses for the remaining 10 success factors cannot be rejected. These factors include effective NPD management, product superiority, information technology, distribution of the product, timing of the release and the marketing budget. This result implies that the relationship between these success factors (independent variables) and the NPD process management success (dependent variable) is not statistically significant.

The next objective concerns the influence of the identified success factors on financial success, as a measure of NPD success.

7.5.5 The influence of success factors on financial success

The fifth objective of the study was to assess the relationship between the identified factors of success (independent variables) and the fourth measurement of NPD success, namely financial success. Financial success measures used for this study included remaining within the allocated budget, possessing a low development and ongoing cost, and a break-even time period relative to peer group funds. To address this objective, the following hypothesis was developed.

H0⁵: The identified success factors have no influence on the financial success as a measure of NPD success.

The hypothesis was addressed using a multiple regression analysis. The results are reported in Table 7.17.

Table 7.17: Regression analysis results: Influence of the success factors on financial success

Factors of Success	Beta Coefficients	t-values	Significance
(Constant)		1.380	0.173
Successful launch	-0.087	-0.466	0.643
Effective NPD management	0.262	1.351	0.182
Product superiority	0.142	0.918	0.363
Favourable market environment	0.053	0.318	0.752
Good use of communication	-0.064	-0.310	0.758
Effective IT systems	-0.371	-2.392	0.020*
NPD-friendly organisational culture	0.317	1.826	0.073
Formal NPD process	0.065	0.411	0.682
Legislation	0.072	0.497	0.621
Distribution of the product	-0.155	-0.843	0.403
The marketing budget	-0.149	-0.868	0.389
Timing of the release	0.273	1.894	0.063

* = $p < 0.05$

$R^2 = 0.283$

The regression analysis results indicated that the identified success factors do in fact influence financial success. The analysis indicated that 28.3% of the variation in financial success as a measure of NPD success can be explained by the variation in the 12 identified success factors. This result implies that while the identified success factors have an influence on financial success, there are other variables that also influence the financial success of a new product.

Only 1 of the 12 independent variables was found to be statistically significant in influencing financial success, namely, the use of effective IT systems ($t=-2.392$; $p<0.05$). The relationship was reported as negative, therefore an increase in the use of an effective IT system will result in a decrease in the overall financial success of the new product. This negative relationship could be connected to the high cost of implementing an effective IT system, which in turn will decrease the profit margin of the new product, thereby decreasing the financial success. An analysis of the individual questionnaire items provides further insight into potential reasons for this negative relationship. These findings are discussed in more detail in Chapter 8.

Two other factors returned a noticeably higher t-value than the other independent variables, namely the timing of the release ($t=1.894$), and a NPD-friendly organisational culture ($t=1.826$). However, although both of the independent variable scores were approaching significance, they were above the 5% cut-off and were therefore not considered statistically significant.

Based on the results reported in Table 7.17, the null hypothesis for effective IT systems cannot be accepted, as it does influence financial success. The null hypotheses for the remaining 11 success factors cannot be rejected as their influence on financial success was not statistically significant. These success factors include effective NPD management, product superiority, a favourable market environment, the use of good communication, a NPD-friendly organisational culture, a formal NPD process, legislation, distribution of the product, the marketing budget and the timing of the release.

The next objective concerns the influence of the identified success factors on sales success, as a measure of NPD success.

7.5.6 The influence of success factors on sales success

The sixth objective of the study addressed the relationship between the identified factors of success (independent variables) and the fifth measurement of NPD success, namely sales success. For the purposes of this study, sales success was measured in accordance with the respondents' perceptions of the following criteria: the products growth rate relative to the market, the products contribution to the company sales and the volume of business generated in other areas of the organisation due to the new product being released. To address this objective the following hypothesis was developed.

H0⁶: The identified success factors have no influence on sales success as a measure of NPD success

The hypothesis was addressed using a multiple regression analysis. The results are reported in Table 7.18.

Table 7.18: Regression analysis results: Influence of the success factors on sales success

Factors of Success	Beta Coefficients	t-values	Significance
(Constant)		-1.387	0.171
Successful launch	0.232	1.775	0.081
Effective NPD management	0.130	0.959	0.341
Product superiority	0.194	1.785	0.079
Favourable market environment	0.063	0.538	0.592
Good use of communication	0.134	0.931	0.356
Effective IT systems	-0.235	-2.165	0.035*
NPD-friendly organisational culture	-0.056	-0.458	0.649
Formal NPD process	0.015	0.137	0.892
Legislation	0.004	0.038	0.970
Distribution of the product	0.156	1.209	0.231
The marketing budget	0.013	0.108	0.915
Timing of the release	0.285	2.822	0.007**

* = $p < 0.05$

** = $p < 0.01$

$R^2 = 0.649$

The regression results indicated that the identified success factors do in fact influence sales success. The analysis indicated that 64.9% of the variation in sales success as a measure of NPD success can be explained by the variation in the 12 identified success factors.

Of the 12 success factors, 2 were found to be statistically significant in influencing sales success, namely, effective IT systems ($t = -2.165$; $p < 0.05$) and the timing of the release ($t = 2.822$; $p < 0.01$). The relationship between the timing of the release and the measure of sales success was reported as positive, implying that an increase in the accuracy in the timing of the release would result in an increase in the overall sales success of the new product. A negative relationship was reported for the relationship between an effective IT system and the measure of sales success. Therefore, an increase in the use of an effective IT system would result in a decrease in the sales success as a measure of NPD success. Sales success is the second individual measure of success with which the use of an effective IT system (individual independent variables) reported a significant relationship in the negative direction. Similar to the negative relationship held between an effective IT system and financial success, sales success could be negatively influenced as a result of the incorrect scoping of the IT requirements early in the development phase. If the incorrect system is implemented, it could potentially result in the disruption of sales as opposed to the required role of administrative backbone. An analysis of the individual questionnaire items will be conducted to

gain further insight into potential reasons for this negative relationship. These findings are discussed in detail in Chapter 8.

Based on the empirical results, the null hypothesis is rejected for timing of the release as well as for effective IT systems, as these 2 success factors were found to significantly influence sales success. The null hypotheses for the remaining 10 success factors cannot be rejected. In other words, the influence of these 10 success factors was not statistically significant. These factors include a successful launch, effective NPD management, product superiority, a favourable market environment, the good use of communication, a NPD- friendly organisational culture, formal NPD process, legislation, distribution of the product, the marketing budget and the timing of the release.

The next objective addresses the influence of the identified success factors on client satisfaction, as a measure of NPD success.

7.5.7 The influence of success factors on client satisfaction

The seventh objective of the study addressed the relationship between the identified factors of success which are the independent variables of this study and the sixth measurement of NPD success, namely client satisfaction. Client satisfaction includes a product that met client expectations, provided clients with the desired level of support and resultant low level of complaints, and increased the organisation's total client base. To address this objective the following hypothesis was developed.

H0⁷: The identified success factors have no influence on client satisfaction as a measure of NPD success.

The hypothesis was addressed using a multiple regression analysis. The results are reported in Table 7.19.

Table 7.19: Regression analysis results: Influence of the success factors on client satisfaction

Factors of Success	Beta Coefficients	t-values	Significance
(Constant)		0.077	0.939
Successful launch	0.031	0.244	0.808
Effective NPD management	0.044	0.334	0.739
Product superiority	0.372	3.502	0.001**
Favourable market environment	0.18	1.578	0.120
Good use of communication	0.177	1.256	0.214
Effective IT systems	-0.115	-1.080	0.285
NPD-friendly organisational culture	0.06	0.508	0.613
Formal NPD process	0.052	0.478	0.634
Legislation	0.139	1.400	0.167
Distribution of the product	-0.004	-0.03	0.976
The marketing budget	0.144	1.225	0.225
Timing of the release	0.034	0.342	0.733

** = $p < 0.01$

$R^2 = 0.663$

The results reported in Table 7.19 reveal that the identified success factors do in fact influence client satisfaction. The analysis indicated that 66.3% of the variation in client satisfaction as a measure of NPD success can be explained by the variation in the 12 identified success factors. However, of these 12 success factors, only one was found to be statistically significant in influencing client satisfaction, namely, product superiority ($t=3.502$; $p<0.01$). The other 11 independent variables returned t-value scores that were relatively far outside of the 5% and 1% cut off. Thus, the relationship between product superiority and client satisfaction was not only statistically significant but also unique in relation to the other 11 success factors (independent variables). The relationship was in the expected positive direction; therefore an increase in the superiority of the product would result in an increase in client satisfaction.

Based on the empirical results, the null hypothesis is rejected in respect of product superiority as the relationship was reported as statistically significant in influencing client satisfaction. The null hypotheses for the remaining 11 success factors, namely, a successful launch, effective NPD management, favourable market environment, the good use of communication, effective IT systems, a NPD-friendly organisational culture, formal NPD process, legislation, distribution of the product, the marketing budget and the timing of the release cannot be rejected. The influence of these 11 factors on client satisfaction was not statistically significant.

The next objective presents the influence of the identified success factors on the size of the product, as a measure of NPD success.

7.5.8 The influence of success factors on the size of the product

The eighth objective of the study investigated the relationship between the identified factors of success (the independent variables) and the seventh measurement of NPD success, namely the size of the product (the dependent variable). The product size as a measure of success, was reviewed based on the following criteria, the targeted AUM was realised by the product at a minimal cost, which provided a maximum revenue and profit margin for the organisation.

To address this objective, the following hypothesis was developed.

H0⁸: The identified success factors have no influence on the size of the product as a measure of NPD success.

The hypothesis was addressed using a multiple regression analysis. The results are reported in Table 7.20 below.

Table 7.20: Regression analysis results: Influence of the success factors on the size of the product

Factors of Success	Beta Coefficients	t-values	Significance
(Constant)		-0.075	0.940
Successful launch	-0.038	-0.258	0.797
Effective NPD management	0.445	2.933	0.005**
Product superiority	-0.173	-1.428	0.159
Favourable market environment	0.103	0.792	0.431
Good use of communication	-0.035	-0.220	0.827
Effective IT systems	-0.284	-2.342	0.023*
NPD-friendly organisational culture	0.044	0.325	0.747
Formal NPD process	0.333	2.693	0.009**
Legislation	0.035	0.312	0.756
Distribution of the product	0.185	1.284	0.204
The marketing budget	-0.086	-0.638	0.526
Timing of the release	0.254	2.251	0.028*

* = $p < 0.05$

** = $p < 0.01$

$R^2 = 0.561$

The regression analysis results indicated that the identified success factors do in fact influence the size of the product. The analysis indicated that 56.1% of the variation in the size of the product as a measure of NPD success can be explained by the variation in the 12 identified success factors.

Of the 12 success factors or independent variables, 4 were found to be statistically significant, namely, the timing of the release ($t=2.251$; $p<0.05$), the existence of a formal NPD process ($t=2.693$; $p<0.01$), effective IT systems ($t=-2.342$; $\alpha= p<0.05$) and effective NPD management ($t=2.933$; $p<0.01$). The timing of the release, the use of a formal NPD process and the effective management of NPD returned a positive relationship. Therefore an increase in these factors would result in an increase in the size of the product. An effective IT system returned a negative relationship. Therefore an increase in the use of effective IT systems in NPD would result in a decrease in the overall size of the product. The size of the product is the third measure of success with which the use of an effective IT system has returned a statistically significant relationship in an unexpected negative direction. Similar to both financial and sales success, the size that the new product is able to realise could potentially be negatively influenced by the implementation of an IT system that was incorrectly scoped and therefore unable to meet the functional requirements of the new product. An analysis of the individual questionnaire items will be conducted and the findings will be interpreted and reported in Chapter 8.

Based on the results reported in Table 7.20, the null hypothesis for success factors, timing of the release, a formal NPD process, effective IT systems and effective NPD management cannot be accepted as these factors do influence the size of the product as a measure of success.

The null hypotheses for the remaining 8 success factors, a successful launch, product superiority, favourable market environment, use of good communication, a NPD-friendly organisational culture, legislation, distribution of the product and the marketing budget were not found to be statistically significant and therefore cannot be rejected

The next objective concerns the influence of the identified success factors on the performance of the product, as a measure of NPD success.

7.5.9 The influence of success factors on the performance of the product

The ninth objective of the study addressed the relationship between the identified factors of success (the independent variables) and the eighth measurement of NPD success, namely the performance of the product (the dependent variables). The performance of the product was measured on a number of criteria including the product outperforming the relative market benchmark and peer group funds; the product performance being realised within the required timeframe and with adherence to the risk mandate, and the actions of the fund manager being in the best interest of the client at all times. To address the objective, the following hypothesis was developed.

H0⁹: The identified success factors have no influence on the performance of the product as a measure of NPD success.

The hypothesis was addressed using a multiple regression analysis. The results have been reported in the Table 7.21 below

Table 7.21: Regression analysis results: Influence of the success factors on the performance of the product

Factors of Success	Beta Coefficients	t-values	Significance
(Constant)		-0.300	0.765
Successful launch	0.056	0.375	0.709
Effective NPD management	-0.043	-0.281	0.780
Product superiority	0.328	2.654	0.010*
Favourable market environment	-0.070	-0.526	0.601
Good use of communication	0.040	0.242	0.810
Effective IT systems	-0.116	-0.936	0.353
NPD-friendly organisational culture	0.347	2.508	0.015*
Formal NPD process	-0.014	-0.114	0.910
Legislation	0.148	1.286	0.204
Distribution of the product	0.110	0.753	0.455
The marketing budget	0.136	0.995	0.324
Timing of the release	0.105	0.914	0.365

* = $p < 0.05$

$R^2 = 0.545$

The results indicated that the identified success factors do in fact influence the performance of the product. The analysis indicated that 54.5% of the variation in the performance of the product as a measure of NPD success can be explained by the variation in the 12 identified success factors.

Of the 12 success factors, 2 were found to be statistically significant in influencing the performance of the product, namely, a NPD-friendly organisational culture ($t=2.508$; $p < 0.05$) and product superiority ($t=2.654$; $p < 0.05$). Both returned a positive relationship, indicating that an increase in the influence of both these factors would result in an increase in the performance of the product.

Based on the empirical results, the null hypothesis is rejected in respect of product superiority and a NPD- friendly organisational culture, as both of these factors were found to significantly influence the performance of the product. The null hypothesis cannot be rejected in respect of the remaining 10 success factors, as they were not found to be statistically significant. These factors include a successful launch, effective NPD management, a favourable market environment, good use of

communication, an effective IT system, formal NPD process, legislation, distribution of the product, the marketing budget and the timing of the release.

The final objective concerns the influence of the identified success factors on the longevity of the product, as a measure of NPD success.

7.5.10 The influence of success factors on the longevity of the product

The tenth objective of the study addressed the relationship between the identified factors of success which are the independent variables of this study, and the ninth measurement of NPD success, the longevity of the product. The longevity of the product was measured by reviewing the consistency of the product's performance and growth, as well as the product's scalability. To address this objective, the following hypothesis was developed.

H0¹⁰: The identified success factors have no influence on the longevity of the product as a measure of NPD success.

The hypothesis was addressed using a multiple regression analysis. The results have been reported in Table 7.22.below.

Table 7.22: Regression analysis results: Influence of the success factors on the longevity of the product

Factors of Success	Beta Coefficients	t-values	Significance
(Constant)		1.433	0.157
Successful launch	0.115	0.756	0.453
Effective NPD management	-0.188	-1.193	0.238
Product superiority	0.27	2.138	0.037*
Favourable market environment	0.254	1.877	0.066
Good use of communication	0.377	2.253	0.028*
Effective IT systems	-0.096	-0.764	0.448
NPD-friendly organisational culture	-0.206	-1.463	0.149
Formal NPD process	0.04	0.314	0.755
Legislation	-0.009	-0.074	0.942
Distribution of the product	0.001	0.006	0.995
The marketing budget	0.262	1.877	0.066
Timing of the release	-0.038	-0.326	0.745

* = $p < 0.05$

$R^2 = 0.526$

The results indicated that the identified success factors do in fact influence the longevity of the product. The analysis indicated that 52.6% of the variation in the longevity of the product as a measure of NPD success can be explained by the variation in the 12 identified success factors.

Two of the 12 success factors were found to be statistically significant in influencing the performance of the product, namely, the good use of communication ($t=2.253$; $p<0.05$) and product superiority ($t=2.138$; $p<0.05$). Both revealed a positive relationship. Therefore an increase in the influence of these factors would result in an increase in the longevity of the product.

A favourable market environment and the marketing budget both returned a t-value of 1.877, a score which was marginally above the 5% cut-off. Thus, although they were not regarded as statistically significant, they are both approaching significance with an influence in the expected positive direction.

Based on the results in Table 7.22, the null hypothesis is rejected in respect of the 2 factors which returned statistically significant scores, namely, the good use of communication and product superiority. The null hypothesis cannot be rejected for the remaining 10 success factors, namely a successful launch, effective NPD management, favourable market environment, an effective IT system, a NPD-friendly organisational culture, formal NPD process, legislation, distribution of the product, the marketing budget and the timing of the release. In other words the influence of these 10 success factors on the longevity of the product was not statistically significant.

This section reviewed the results from the multiple regression analysis of the hypotheses. The analysis attempted to explain how much of the variation in NPD success is influenced by the variation in the 12 success factors or independent variables. A summary of these results is presented in Table 7.23.

Table 7.23: Summary results: Measures of success (DV) and success factors (IV)

NPD MEASURES OF SUCCESS	FACTORS OF SUCCESS											
	Successful launch	Effective NPD management	Product superiority	Favourable market environment	Good use of communication	Effective IT systems	A NPD friendly corporate culture	Formal NPD process	Legislation	Distribution of the product	The marketing budget	Timing of the release
NPD success measures (nine grouped)			0.017			0.011						0.019
Commercial success												
Technical success	0.018			0.041			0.034		0.009			
NPD process management success					0.043			0.007				
Financial success						0.02						
Sales success						0.035						0.007
Client satisfaction			0.001									
The size of the product		0.005				0.023		0.009				0.028
The performance of the product			0.01				0.015					
The longevity of the product			0.037		0.028							

The results presented in Table 7.23 indicate that the implementation of an effective IT system and product superiority are the 2 success factors (independent variables) that returned statistically significant relationships with a greater number of dependent variables (measures of success) than any of the other independent variables.

Distribution of the product and the marketing budget were the 2 success factors (independent variables) that returned the least statistically significant relationships. These 2 variables indicated that they did not have a statistically significant influence on any of the 9 dependent variables or measures of success.

The implementation of an effective IT system returned the highest statistical significance (0.011) on NPD success measures (all 9 dependent variables grouped into one). This relationship was in the negative direction and was thus detailed in section 7.5.1. Lastly, commercial success was the only measure of success out of the study's 9 chosen dependent variables, which was not influenced by any of the independent variables. In other words, none of the 12 identified success factors or independent variables has a significant influence on commercial success as a measure of NPD success.

The results from the hypotheses testing and the associated implications will be discussed in the following chapter.

7.6 THE SUMMARY

This chapter addressed the objectives of the research by presenting the findings from the statistical analysis of the hypotheses.

The descriptive statistics of the research were presented first, covering both the profile of the sample and the descriptive statistics for the interval-scaled data. The profile of the sample was discussed in detail and the conclusion drawn that the sample group chosen for the purposes of this study was a good representation of the population.

The reliability or internal consistency of the data was then reviewed by reporting the Cronbach's Alpha co-efficient for all 9 success measures, as well as the 12 success factors. This review identified, using Cronbach's Alpha less than 0.7, all items regarded as statistically unreliable, and these were excluded for the remainder of the analysis and the adjusted Cronbach's Alpha scores presented.

The validity of the research instrument was then reviewed. Based on the feedback from both the pilot and industry expert groups, it was concluded that the questionnaire possessed a high degree of face validity.

Finally, the inferential analysis of the hypotheses was presented. The multiple regression coefficients were identified for each of the relationships held between the success factors (the independent variables) with each of the 9 success measures (the dependent variables).

The following chapter contains a review of these results and their possible implications, and offers an opinion about the results, based on the prior literature review. Limitations of the study as well as recommendations and areas for further research will also be presented.

CHAPTER 8

FINDINGS AND RECOMMENDATIONS

8.1 INTRODUCTION

The continual development of new products is generally accepted as a requirement for the continual growth of organisations in today's marketing environment. This requirement is to a large extent due to the increasing competition which can be observed in traditional product and service industries. While there is a large volume of literature pertaining to product development, not enough research has been conducted to date into the development of new products in a service industry context, especially given the increasingly important role of NPD to an organisation's on-going competitiveness (de Brentani and Cooper, 1991). This study was designed to investigate which factors influence the success of NPD in the South African finance industry. Furthermore, the empirical study was focused on the investment sector of the finance industry. The investigative study was conducted by identifying the relationship between various measures of success with 12 identified success factors. Figure 8.1 below is a summary of the confirmed significant relationships between the independent and dependent variables, highlighted in Table 7.23.

Figure 8.1: Confirmed IV and DV relationships

MEASURES OF SUCCESS - DV	FACTORS OF SUCCESS - IV			
NPD success measures (nine grouped)	PS	IT	TR	
Commercial success				
Technical success	SL	FME	FC	L
NPD process management success	GC	FM2		
Financial success	IT			
Sales success	IT			
Client satisfaction	PS			
The size of the product	EM	IT	FM2	TR
The performance of the product	PS	FC		
The longevity of the product	PS	GC		

KEY	
Successful launch	SL
Effective NPD management	EM
Product superiority	PS
Favourable market environment	FME
Good use of communication	GC
Effective IT systems	IT
A NPD friendly corporate culture	FC
Formal NPD process	FM2
Legislation	L
Distribution of the product	DP
The marketing budget	MB
Timing of the release	TR

This chapter begins by highlighting what was covered in Chapter 7. The objective of the study as well as the core constructs of the research instrument used to address the study's objective are briefly reviewed. Thereafter the empirical findings of the research are presented, addressing the primary and secondary hypotheses. The recommendations to NPD managers and general practitioners are then discussed by addressing each success factor or independent variable. Finally, the limitations of the study and recommendations for future research are discussed.

8.2 NEW PRODUCT DEVELOPMENT SUCCESS AND INFLUENCING FACTORS

It is the research objective of the study to add to the literature on factors influencing the success of NPD, in particular in the context of the South African investment sector. It is hoped that this study will contribute to the body of knowledge associated with how to better manage the high rate of product development failure in the South African financial services industry (Oldenboom and Abratt, 2000).

The investigative study made use of a questionnaire built on two core constructs, namely, the measurement of NPD success and the factors influencing the success of NPD. Nine measures of success (dependent variable) and 12 success factors (independent variable) were identified through a comprehensive literature review, as well as the pilot study. Chapter 7 presented the results of the reliability test conducted on both the dependent and independent variables of the study. If the Cronbach's Alpha of the variable (construct) was below 0.7, the item-to-total correlation of item was scrutinised to assess whether the Cronbach's Alpha could be increased by deleting some items. Three of the measures of success (dependent variables) did not return a Cronbach's Alpha value of 0.7 and above, namely, commercial success, technical success and NPD process management success. Four of the success factors did not return a coefficient value of 0.7 and above in the Cronbach's Alpha testing, namely, product superiority, favourable market environment, formal NPD process and Legislation. The individual questionnaire items in each of these variables (both dependent and independent) were closely analysed to determine their correlation with the alpha coefficient. Based on the evidence from the subsequent statistical analysis, all items were deleted from these variables which could increase the reliability coefficient to 0.7 and above.

NPD process management success (dependent variable) and a favourable market environment (independent variable) were the only two variables where none of the questions or items from these sections could be removed to increase the reliability coefficient to above 0.7. For the purpose of this study, both of these variables were included in all subsequent statistical analysis based on the literature reviewed.

Thereafter the objectives of the study were analysed by way of a multiple regression analysis between the 12 identified success factors and each of the individual measures of success. The analysis was done by addressing each of the study's hypotheses. The study's primary objective

was to investigate the factors influencing the success of NPD in the South African investment sector. The following hypothesis was formulated based on this objective:

H0¹: The identified success factors have no influence on the overall success of New Product Development (NPD).

The following secondary hypotheses were then formulated based on the secondary objectives of the study:

H0²: The identified success factors have no influence on commercial success as a measure of New Product Development (NPD) success.

H0³: The identified success factors have no influence on technical success as a measure of New Product Development (NPD) success.

H0⁴: The identified success factors have no influence on the NPD development process management as a measure of New Product Development (NPD) success.

H0⁵: The identified success factors have no influence on the financial success as a measure of New Product Development (NPD) success.

H0⁶: The identified success factors have no influence on sales success as a measure of New Product Development (NPD) success.

H0⁷: The identified success factors have no influence on client satisfaction as a measure of New Product Development (NPD) success.

H0⁸: The identified success factors have no influence on the size of the product as a measure of New Product Development (NPD) success.

H0⁹: The identified success factors have no influence on the performance of the product as a measure of New Product Development (NPD) success.

H0¹⁰: The identified success factors have no influence on the longevity of the product as a measure of New Product Development (NPD) success.

The next section will address the findings for each of these hypotheses.

8.3 EMPIRICAL FINDINGS

The empirical findings were the result of the multiple regression analysis between the studies identified factors of success and the 9 measures of success. The result of this analysis was reported in Chapter 7. The findings are discussed below in the context of each hypothesis.

8.3.1 The influence of success factors on New Product Development success

The primary objective of the study relates to the relationship between the 12 identified factors of success and NPD success. The R^2 values (from the multiple regression analysis) revealed that 73.1% of the variation in NPD success was explained by the variation in the 12 identified success factors. So while it can be concluded that there may be other variables influencing NPD success, the 12 factors identified for the purposes of this study account for a significant part of the variation in the overall measure of success achieved. This finding is relevant and useful to the South African investment sector in which the research was conducted.

Of the 12 success factors, 3 were considered to be statistically significant, namely product superiority, effective IT systems and timing of release. Furthermore, product superiority and the timing of the release depicted a positive relationship while IT systems depicted a negative relationship. The remaining 9 factors were not statistically significant, with the distribution of the product identified as the least significant success factor.

This result indicates that practitioners should be aware of the influence of all 12 identified success factors; however 3 of the factors should be more carefully considered than the others, namely a products ability to truly be classified as superior, the implementation of an effective IT system and timing of the release. In other words, if managers want to increase the overall success of an NPD project, they should consider increasing the aspects of a product that enable it to be classified as superior, as well as considering the appropriate timing of the release of the product. The use of effective IT systems returned a negative relationship with NPD success. This result can be interpreted in a variety of ways, one of which suggests that an increase in the use of an effective IT system may result in an increase in both the overall cost of the project, and the required knowledge of IT systems. It is therefore suggested that the system requirements for a new product should be carefully assessed to ensure that they meet the actual requirements of the new product and are not merely a costly exercise which can potentially hinder the overall success.

Sections 8.2.3 to 8.2.10 cover the secondary objectives of the study by addressing hypotheses 2 to 9.

8.3.2 The influence of success factors on commercial success

The second objective relates to the relationship between the identified factors of success and commercial success. For the purpose of this study, commercial success was viewed as a construct consisting of 3 core concepts, namely, the enhancement of the organisational image (public perception), enhancement of the profile (public awareness) and the attainment of a strategic competitive advantage. The R^2 values revealed that 28.2% of the variation in commercial success is explained by the variation in the 12 identified success factors. It can therefore be concluded that while the identified success factors do predict some of the variation, there are other factors that may have an influence. Thus it is recommended that further research be conducted in the South

African investment sector to investigate these variables. Of the 12 success factors, none were found to be statistically significant.

8.3.3 The influence of success factors on technical success

The third objective considered the influence of the identified factors of success on technical success. According to the multiple regression analysis, 39.8% of the variation in technical success can be explained by the variation in the 12 identified success factors. By implication, it is concluded that although some of the variation is explained by the study's identified factors of success, there are other likely variables, and further research should be conducted to investigate them.

Four of the factors were identified as statistically significant; these were a successful launch, a favourable market environment, a NPD-friendly organisational culture and legislation. A favourable market environment returned a negative relationship, while the other three returned a positive relationship. The factor with the least influence was reported as the marketing budget.

Technical success for the purpose of this study was built on two core concepts: the product's ability to adhere to the design and quality performance specification targets, and the ability to ensure that the target audience develops a positive perception of innovation. The design and performance specifications in the context of an investment product were viewed as the legal considerations and required risk cover. An increase in the success of the product launch and the implementation of required legislation, as well the characteristics of an organisation that support NPD activity, were all considered to increase the overall technical success. It is recommended that practitioners proactively address these factors in their effort to realise the required level of technical success. Inversely, the relationship identified between a favourable market environment and technical success implies that a practitioner should understand that a favourable market environment is not a positive contributing factor toward the technical success of a new product. This finding could be interpreted as the direct result of the decrease in the technical requirements of a product when it is being released into a favourable market environment or one characterised by a lower level of competition.

8.3.4 The influence of success factors on New Product Development process management success

The relationship between the identified factors of success and NPD process management success was considered in the study's fourth objective. The R^2 values revealed that 45.7% of the variation in NPD process management success can be explained by the variation in the 12 identified success factors. While there are other variables that will influence this success measure, it can be concluded that a large percentage of the variation can be explained by this studies 12 factors. NPD process management success for the purposes of this study has been defined as the achievement of management time frame requirements, performance objectives, resource implementation and the enhancement of the procedure and supporting resources where required. Two of the factors

were reported as statistically significant, namely, good use of communication and the use of a formal NPD process, both of which revealed positive relationships. The two factors which appeared not to be particularly influential were the marketing budget and product superiority.

Practitioners investigating how to tangibly improve their NPD process management success should consider both good use of communication as well as the implementation of a formal NPD process. In addition, impetus should be given to the implementation of a formal process, as this factor returned a far higher statistical significance, indicating a stronger relationship. It is therefore concluded that an increase in the use of a formal product development process, as well as good use of communication, will increase the NPD process management success.

8.3.5 The influence of success factors on financial success

The fifth objective investigated the influence of the identified factors of success on financial success. Financial success for the purposes of this study has been defined as the achievement of effective cost management and profitability. According to the multiple regression analysis, 28.3% of the variation in financial success can be explained by the variation in the 12 identified success factors. This variation indicates that a number of other factors influence this success measure and it is therefore recommended that further research be carried out in the South African investment sector to investigate these factors.

The implementation of effective IT systems returned a statistically significant relationship in the negative direction. In other words respondents seem to think that effective IT systems harm the financial success of new financial services. An interpretation of this finding may be related to the high costs of implementing IT systems and the resulting influence on increased costs and decreased profit margins. This finding indicates that practitioners should carefully consider the implications of IT requirements before the decision is made to develop a product as this factor may significantly influence the financial viability of the product.

8.3.6 The influence of success factors on sales success

The sixth objective considered the relationship between the identified factors of success and sales success. The R^2 values returned from the multiple regression analysis reported that 64.9% of the variation in sales success can be explained by the variation in the 12 identified success factors. Sales success for the purpose of this study was defined as the new business placed or sales made over a specified period of time, based on the revenue, sales growth and/or unit volume targets of the new product.

A significant relationship between both the timing of the release of new products/services and effective IT systems was identified with sales success. The relationship held between sales and the timing of the release was positive, whereas the relationship between the implementation of an effective IT system was returned as negative. Practitioners wanting to increase the likelihood of

sales success should include in their efforts a focus on the accuracy of the timing of the new product release.

Of equal importance is the finding which suggests that the implementation of an effective IT system in NPD will decrease the likelihood of achieving sales success. The IT component of a project is usually one of the core requirements which the practitioner has limited knowledge of owing to the complex nature of IT systems. An interpretation of this finding could be that the use of effective IT systems will not necessarily hinder or decrease sales success, but rather that the incorrect scoping and communication of the IT requirements for a new product will adversely influence sales success. Thus it is recommended that a practitioner effectively communicates the specific IT requirements with a specialist early in the NPD project scoping, to ensure that it does not become a hurdle to success.

8.3.7 The influence of success factors on client satisfaction

The seventh objective examined the relationship between the identified factors of success and client satisfaction. For the purpose of this study, client satisfaction has been defined as the fulfilment of the client group's expectations both in the product requirement and support services. According to the multiple regression analysis, 66.3% of the variation in client satisfaction can be explained by the variation in the 12 identified success factors.

Of the 12 success factors, only one was found to be statistically significant in predicting client satisfaction, namely, product superiority. The empirical result revealed that the relationship was positive. It should also be noted that the significance of the relationship between product superiority ($t\text{-value}=3.509$) and client satisfaction was statistically the strongest relationship returned between any of the success factors and the 9 measures of success. Therefore, it is recommended that practitioners take note of the increased client satisfaction that can be realised through superior product characteristics. Furthermore, client satisfaction has been identified as a key contributor to the enhancement of client loyalty (Story, Smith, and Saker, 2000; Akamavi, 2005; Manion and Cherion, 2009). Therefore, if a product manager would like to increase client loyalty, focusing on client satisfaction could potentially contribute toward realising that objective.

8.3.8 The influence of success factors on the size of the product

The eighth objective examined the relationship between the identified factors of success and the size of the product. For the purposes of this study, the size of the product is viewed as closely related to the realisation of the targeted AUM. The R^2 value returned from the multiple regression analysis revealed that 56.1% of the variation in the size of the product can be explained by the variation in the 12 identified success factors. The identified success factors can therefore assist practitioners in realising their target product size.

Four of the 12 success factors can be described as having a statistically significant relationship with the size of the product, namely, the timing of the products release, the use of a formal NPD

process, the implementation of an effective IT system and effective NPD management. The empirical results revealed a negative relationship between an effective IT system and the size of the product. The other 3 significant factors all revealed a positive relationship. Therefore, a practitioner should consider the timing of the product's release in terms of market conditions, the use of a formal NPD process in the development of the product and the management of the product development, in their effort to increase the size of the new product.

Given the implementation of an IT system's (success factor) negative relationship with the product size, practitioners should decrease the implementation of effective IT systems in order to increase the realisation of the targeted size of the product. Similar to the relationship between an effective IT system and financial and sales success, this finding should be interpreted for effective implementation. A possible interpretation of the relationship could be that the implementation of an IT system will not necessarily have a negative influence the size of the product, but rather that the system selected may not be effective and properly aligned in practice, and therefore is a hindrance to the realisation of a product's targeted size. This finding once again highlights the need for IT requirements to be effectively scoped and communicated in the development of new products.

8.3.9 The influence of success factors on the performance of the product

The ninth objective of this study addressed the relationship between the identified factors of success and the performance of the product. The empirical results showed that 54.5% of the variation in the performance of the product can be explained by the variation in the 12 identified success factors.

Of the 12 success factors, 2 were found to be statistically significant, namely, a NPD-friendly organisational culture and product superiority. Both depicted a positive relationship. Therefore if a practitioner wants to increase the performance of the new product they should consider increasing the characteristics attributed to a superior product, which for the purposes of this study include a unique advantage, a competitive cost structure as well as the required after sales support. Furthermore, they should consider increasing the characteristics of a NPD-friendly organisational culture, which for the purposes of this study includes a NPD team with the required expertise and positive attitude, external cooperation where required and the strategic prioritisation of NPD by senior management.

8.3.10 The influence of success factors on the longevity of a product

The ninth objective refers to the relationship between the identified factors of success and the longevity of the product. The longevity of a product for the purposes of this study was defined as a product with scalability, consistent performance and organic growth. More than half (52.6%) of the variation in the longevity of the product can be explained by the variation in the 12 identified success factors.

Two independent variables were found to be statistically significant, namely, good use of communication and product superiority. Both revealed a positive relationship with the dependent variable. Therefore if a practitioner would like to increase a product's scalability, the consistency of its performance and ability to grow organically, they should focus on increasing both the effective use of communication through the development process, as well as the characteristics attributed to a superior product. A product manager can potentially increase a product's superiority by identifying any unique product attributes which differentiate the product in the market, by decreasing the product's cost structure and by ensuring that the required product support services are in place. The next section addresses the specific recommendations to NPD practitioners based on the empirical results.

8.4 MANAGERIAL IMPLICATIONS FOR BUSINESS MANAGEMENT

Business management involves a process of accomplishing the operational and strategic objectives of managing and exchanging resources on a basis of perceived worth, to meet the overall organisational goals of profitability and growth. Business managers therefore need to make appropriate decisions in order to achieve these overarching business goals. These goals are linked to the various functions of the business, of which marketing is one.

Marketing is seen as the management process responsible for identifying, anticipating and satisfying the consumer profitably (Yeshin, 1998). Therefore, marketing as a functional area assists a business in realising its overarching goals of profitability and growth in NPD as an operational area of the marketing function assists with the management of growth and with an organisation's competitiveness.

One of the critical factors making NPD an important operational area and research topic, is the potential a successful new product has to do more good for an organisation than anything else that can happen to it (Crawford, 1994). Thus, an increase in the success of NPD projects can assist an organisation to increase their continual growth and competitiveness, while decreasing the high costs associated with failure. In this study an attempt was made to better understand which factors influence the success of NPD.

This study solicited the insights and opinions of practitioners on factors influencing the success of NPD in the South African investment sector. The strength of relationships between the identified factors and the various measures of success were investigated. The implications of the findings attempt to assist practitioners by tangibly increasing the likelihood of realising product development success.

The study revealed that the identified success factors have a different relationship with each of the 9 identified measures of success. Some of the factors had a significant influence on only 1 particular measure of success. Others had a significant influence on one or more measures of success, while others were found to have no influence on any of the measures.

The general outcome of the study for product managers and practitioners is that it highlights significant relationships and their influence on NPD success. Section 8.3 addressed the specific findings related to the identified factors of success and their influence on the various measures of success. Section 8.5 gives specific managerial recommendations based on these findings.

8.5 IMPLICATIONS FOR NEW PRODUCT DEVELOPMENT PRACTITIONERS

This section summarises the implications and recommendations in relation to hypotheses presented in section 8.3. A graphical representation of the relationships between the various success factors and measures of success is provided (refer to Appendix B). The specific implications and recommendations to NPD practitioners are based on these relationships. The recommendations have been reframed to specifically address the study's management dilemma.

NPD has been identified in previous chapters as an avenue available to organisations looking to remain competitive in the global economy. Chapter 6 quoted Thomas (1993) with the following statement which neatly summarised this importance: "Intense global competition, rapid technological change, and shifting patterns of world market opportunities compel firms to continually develop new products and services – if not for profit, at least for survival." It is therefore recommended that NPD practitioners focus on those factors that influence the overall success of NPD, through their influence on one or more of the various success measures. The following suggested methods could be implemented to enhance and better manage the influence of the significant success factors, thus increasing NPD success. These include the following:

- Ensuring that the launch criteria are fully met. Specific activities include collecting the required information prior to the launch, involving front-line employees in market research and maintaining adequate support for the launch campaign.
- Ensuring that adequate internal support is given to the NPD project. Refined interpersonal skills will assist in communicating effectively with senior management and ensuring their support and the allocation of adequate resources for the NPD project.
- Identifying and developing the characteristics of a superior product. Product superiority can be assessed in a number of ways, including identifying whether the product can add a unique benefit to the client, assessing whether it is built upon a competitive cost structure and establishing that it has the required after-sales support services.
- It must be noted that when launching a product into a favourable or less competitive market environment, a lower degree of technical sophistication may be required for the product.
- Implementing open inter-team and intra-team communication during development. Also ensure that communication with the target market is part of an overall strategy. The effective use of communication will assist with product longevity as well as with the management of the NPD process.

- The IT system requirements and associated costs should be carefully scoped in the infancy stage of an NPD project. This detail will ensure that the infrastructure design and implementation meets the requirements of the new product, and the cost of the system is financially viable. In other words, the cost of the system should not outweigh the projected turnover and thereby cut into the forecasted profit margins. It is further recommended that the IT system scoping be carried out in consultation with an IT specialist.
- An attempt must be made to cultivate organisational characteristics, culture and employees who collectively display a positive approach or attitude toward NPD. Practically, this can be facilitated by ensuring that the organisation attracts talented and qualified employees with the required skills set and positive attitude. An attempt must also be made to implement NPD as a key business focus incorporated within the overall strategy of the company.
- A well-organised structure characterised by a shorter development time may assist in managing the NPD process. When selecting a process, a manager should carefully consider the track record of the selected process. An organised structure may assist with the management of the NPD process, as well as with the realisation of the targeted size of the product.
- Current and future legislation should be carefully considered by reviewing both the industry requirements (Financial Services Board), and the legal requirements (law of the country). This should be done in consultation with a qualified lawyer.
- The timing of the release can positively impact both the sales targets and the size of the product. Practitioners should consider whether the product is establishing a first-mover advantage, servicing an existing need (as opposed to creating a new want), or coinciding the product launch with positive investor confidence and higher interest rates.

8.6 LIMITATIONS AND RECOMMENDATIONS FOR FURTHER RESEARCH

Several limitations are identified concerning this exploratory study. Firstly, the sampling method adopted for this study was non-probability (snowball) sampling and therefore did not allow the target population an equal chance of completing the questionnaire. Based on the representative population's profile, this method was viewed as the most suitable because of the difficulty encountered in identifying and contacting persons with the required skills and willingness to partake in the study. A future study could adopt a more representative method of sampling.

Secondly, given the small size of the sample, the only validity the study's measuring instrument could claim, was face validity. With an increased sample size, various other methods for testing validity could be implemented.

The context of the study was restricted to the investment sector of the South African financial services industry. Product development differs between various sectors and industries. Further studies could focus on a separate sector of the South African financial services industry, or

perhaps on a different domestic industry. Various limitations relating to specific success factors (independent variables) and measures of success (dependent variables) were identified. These limitations and the related areas for further research are presented below.

Distribution of the product was identified as the independent variable with the lowest level of statistical significance with the overall NPD success. This result is contrary to the feedback received from the pilot group, and is therefore an area for further research.

The implementation of an effective IT system returned a statistically significant relationship with three of the measures of success, including financial and sales success as well as the size of the product. All three relationships are negative. A negative relationship was also returned with the overall NPD measure of success (H_0^1 : tested the relationship between the independent variables and all 9 measures of success). These negative relationships were unexpected and contrary to some of the feedback received from members of the pilot group. Given the important role of IT in managing and administering investment funds, research could be conducted to further investigate these relationships.

Further investigation could be undertaken to investigate the relationship between the success factors and two of the measures of success, namely commercial and financial success. Only 28.2% of commercial success and 28.3% of financial success, as a measure of NPD success was explained by the variation in the 12 identified success factors. Furthermore none the 12 independent variables returned a statistically significant relationship with commercial success. Further research could be conducted to investigate which other variables or factors influence these measures, and in particular, commercial success.

Lastly, one could investigate the independent and dependant variables of the study were based on the secondary research done, as well as the pilot study. There are potentially other success factors (independent variables) and measures of success (dependent variables) that could be identified and analysed. Furthermore 9 measure of success were identified for the purposes of this study. Here again, other measures of success could be used in a future study.

8.7 CONCLUSION

The purpose of this study was to investigate factors influencing the success of NPD, in the context of the South African investment sector. It was revealed that 10 of the 12 identified factors of success had a significant influence on one or more of the measures of success. These factors of influence include a successful launch, the use of effective NPD management, the presence of superior product characteristics, a favourable market environment, good use of communication during the development process, the implementation of effective It systems, an NPD friendly organisational culture, the use of a formal NPD process, adherence to and forecasting of the legislative requirements (legislation) and the timing of the release. The distribution of the product and the marketing budget were found to have no significant influence on any of the measures of success. Furthermore, NPD practitioners should carefully consider the influence of 3 of the 10 significant success factors, namely the characteristics of a superior product, the implementation of an effective IT system and the timing of the product release. The statistically significant relationships among the 10 success factors were found to be both positive and negative.

The specific implications and recommendations to NPD practitioners were based upon the relationships presented in both Table 7.23 (Chapter 7) and Appendix B. One of the 10 significant factors, namely the implementation of effective IT systems revealed an unexpected relationship with three of the measures of success. As these were unexpected results, it was recommended that further research be conducted into the relationship between the implementation of an effective IT system and NPD success.

Finally, it was concluded that if NPD practitioners focus on increasing those factors found to significantly influence the overall success of NPD, they will be able to increase the overall success of their product development, thus decreasing their overall rate of project failure.

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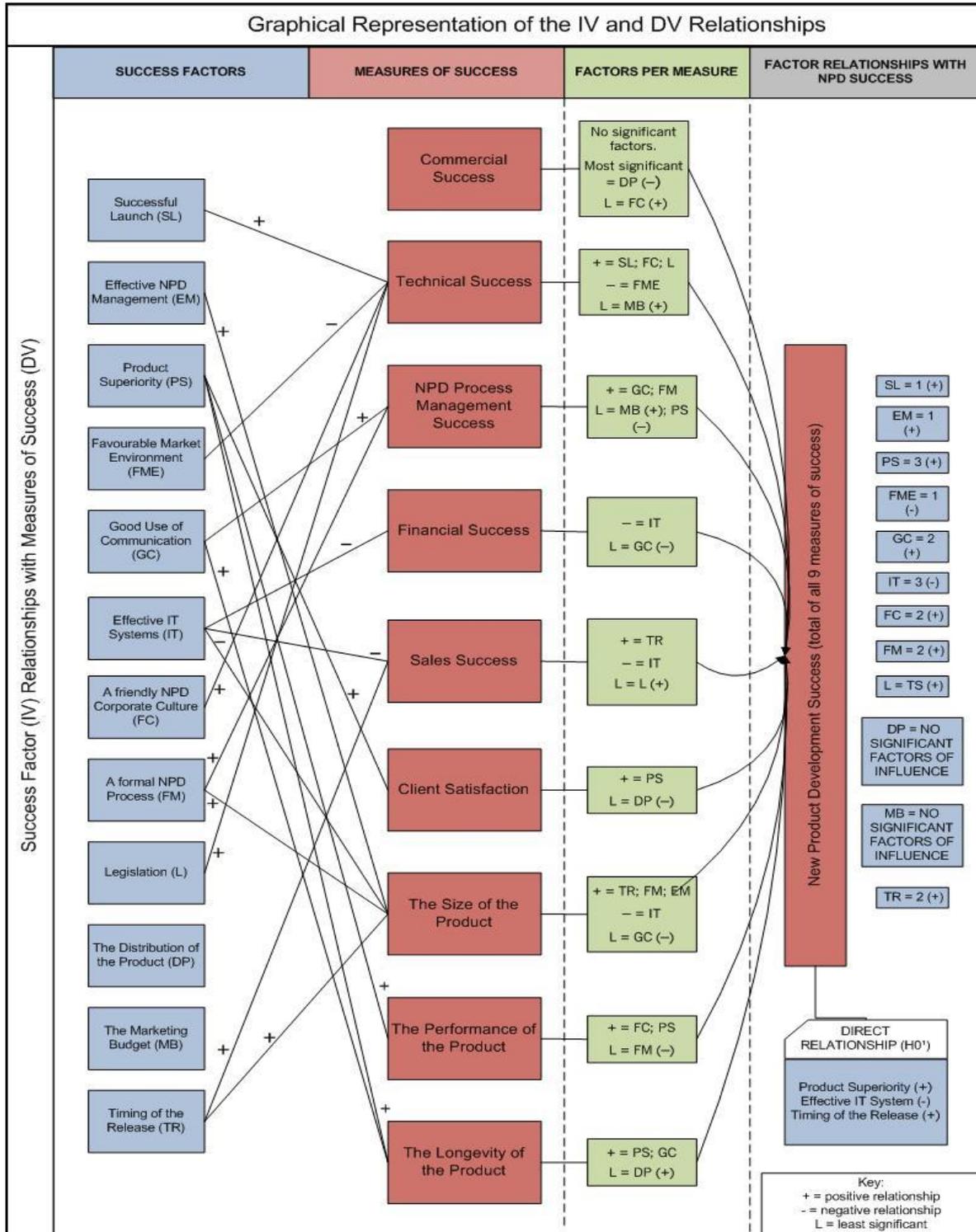
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APPENDIX A: NPD ACTIVITY WITHIN THE SOUTH AFRICAN INVESTMENT SECTOR

QUESTIONS	Q1	Q2	Q3	Q4
	On a scale of 1 to 10 (with one being minimal and 10 being a large amount) how would you rate the amount of NPD activity taking place within your company?	On a scale of 1 to 10 (with one being minimal and 10 being a large amount) how would you rate the level of innovation that characterises the NPD activity within your company?	On a scale of 1 to 10 (with one being minimal and 10 being a large amount) what is your perception on the amount of NPD taking place within the overall South African investment and savings sector?	What is your perception on the level of innovation that characterises the NPD activity taking place within the overall South African investment and savings sector? Please answer this question by making use of Ansoff's Matrix by placing your answer in one of the four quadrants, namely; 1. Market Penetration Strategy; 2. Market Development Strategy; 3. Product Development Strategy; and 4. Diversification Strategy.
RESPONDENT1	1	5	5	1
RESPONDENT2	7	5	4	3
RESPONDENT3	7	7	5	3
RESPONDENT4	7	5	7	3
RESPONDENT5	8	6	7	3
RESPONDENT6	7	7	5	2
RESPONDENT7	8	7	6	2
RESPONDENT8	7	6	4	4
RESPONDENT9	6	8	4	3
RESPONDENT10	7	8	4	1
RESPONDENT11	8	7	5	3
RESPONDENT12	7	8	6	3
RESPONDENT13	8	8	8	1
RESPONDENT14	7	7	6	1
TOTAL	95	94	76	1. Market Penetration Strategy = 4 2. Market Development Strategy = 2 3. Product Development Strategy = 7 4. Diversification Strategy = 1
AVERAGE	6.785714286	6.714285714	5.428571429	not applicable
NUMBER ABOVE ≥ 5	13	14	10	not applicable
NUMBER < 5	1	0	4	not applicable

APPENDIX B: THE RELATIONSHIPS BETWEEN THE INDEPENDENT AND DEPENDENT VARIABLES



**APPENDIX C:
THE DECLARATION OF LANGUAGE AND TECHNICAL CARE**

APPENDIX C

DECLARATION OF LANGUAGE AND TECHNICAL CARE

90 Buitekant Street
Swellendam
6740

3 October 2011

Department of Business Management
University of Stellenbosch
Private Bag X1
Matieland
Stellenbosch
7602

Dear Sir/Madam,

Declaration of language and technical care

I, Helen Pauline Allen, hereby declare that I have personally read through the treatise of Kim McCracken and have highlighted technical and language errors.

Yours sincerely,

HP Allen 3/10/2011
Signature Date

Mariette Nortjé
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Dear Sir/Madam,

Declaration of language and technical care

I, Mariette Nortjé, hereby declare that I have not read through the thesis of Kim McCracken, but that I have technically formatted and put together the elements of the document according to the requirements supplied.

Yours sincerely,



Signature

6 October 2011

Date

APPENDIX D: THE QUESTIONNAIRE



Page 1 of 2

MEASURING THE SUCCESS OF NEW PRODUCT DEVELOPMENT (NPD)

When answering this section, please could you select one product that you know was developed and taken to market. This section will look to measure the success of your chosen product. You may not have been operationally involved in the development process, but may have knowledge of the process or the product, and either of these are sufficient. Please note that at no time, will you be asked to give the name of the product (or product house). This section consists of 10 questions, which were developed through an in depth literature review, as well as input from a sample group.

All questions marked with an asterisk () are compulsory*

The product is viewed as innovative in comparison to its peer group funds

***3. NPD process management measures**

	*						
	Strongly Disagree	Disagree	Disagree Somewhat	Neutral	Agree Somewhat	Agree	Strongly Agree
	1	2	3	4	5	6	7
The product was completed within the set time frame	<input type="radio"/>						
All performance objectives set out within the development phase were met	<input type="radio"/>						
Improved procedures were introduced within the NPD management process	<input type="radio"/>						
Where required, new I.T. platforms were successfully introduced in the development phase	<input type="radio"/>						

***4. Financial measures**

	*						
	Strongly Disagree	Disagree	Disagree Somewhat	Neutral	Agree Somewhat	Agree	Strongly Agree
	1	2	3	4	5	6	7

***9. Longevity of the product relevance**

	Strongly Disagree	Disagree	Disagree Somewhat	Neutral	Agree Somewhat	Agree	Strongly Agree
	1	2	3	4	5	6	7
The product produced a relatively consistent performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The product grew organically (incrementally and consistently with time)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If organic growth was achieved, it can be said that the marketing strategy implemented, positively assisted with this growth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Product scalability: a relatively large growth capacity exists between the products breakeven point and the boundary (or ceiling) of profitability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. This question is optional, however your answer will be greatly appreciated.

The above 9 questions each represent a measure of success that we felt was appropriate to use in this questionnaire. In your opinion, which three measures of success stand out to you as being the most important when evaluating the overall success of a new product?

(NB: They DO NOT have to be selected from the 12 afore mentioned success factors)

The target market parameters were characterised by a relatively large capacity (high saturation levels)

***5. Good use of communication**

	*						
	Strongly Disagree	Disagree	Disagree Somewhat	Neutral	Agree Somewhat	Agree	Strongly Agree
	1	2	3	4	5	6	7
Open channels of communication were in place within the NPD team	<input type="radio"/>						
Open channels of communication were in place between the NPD project team and other stakeholders	<input type="radio"/>						
Appropriate communication occurred amongst NPD team members during the development process	<input type="radio"/>						
The target market was well informed of the new products key information	<input type="radio"/>						
The new product was supported by a sound communication strategy	<input type="radio"/>						
The product was made accessible to the target market	<input type="radio"/>						

***6. Effective IT systems**

*

The new product complied with all FSB specific regulations	<input type="radio"/>						
The product team was proactive in anticipating likely future regulatory changes	<input type="radio"/>						
The new product complied with new regulations when required	<input type="radio"/>						

***10. Distribution of the Product**

	Strongly Disagree	Disagree	Disagree Somewhat	Neutral	Agree Somewhat	Agree	Strongly Agree
	1	2	3	4	5	6	7
The products chosen distribution channels was supported by an effective marketing strategy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The distribution channels chosen gave the product the desired reach	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The distribution channels used increased the products competitiveness within the market	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***11. The Marketing Budget**

The condition of the market at the time of the product release had a positive influence on investor behaviour



13. This question is optional, however your answer will be greatly appreciated.

The above 12 questions each represent a factor affecting success, which we felt was appropriate to use in this questionnaire. In your opinion, which three success factors are the most important in evaluating the overall success of a new product?

(NB: They DO NOT have to be selected from the 12 afore mentioned success factors)

I.	<input type="checkbox"/>
II.	<input type="checkbox"/>
III.	<input type="checkbox"/>

Next >>