

**AN ASSESSMENT OF FACTORS  
AFFECTING DISTRIBUTION MODELS:  
AN FMCG PERSPECTIVE**

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**AN ASSESSMENT OF FACTORS AFFECTING DISTRIBUTION  
MODELS: AN FMCG PERSPECTIVE**

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Kumesh Reshalin

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December 2013

(ii)

## **DECLARATION**

I, **KUMESH SIVARAM JAY RESHALIN (Student number 196437090)**, hereby declare that this treatise for **MAGISTER IN BUSINESS ADMINISTRATION** to be awarded is my own work and that it has not previously been submitted for assessment or completion of any postgraduate qualification to another University or for another qualification.

**KUMESH SIVARAM JAY RESHALIN**

## **ABSTRACT**

The Fast Moving Consumer Goods (FMCG) industry in South Africa is now more than ever, facing a new era with strong competition and a need for innovative and sustainable distribution strategies to remain competitive in the market. Organisations are continuously searching for ways to increase their competitiveness and sustainability as markets change and develop, so do the strategies used to enter them. Organisations must therefore be able to choose the most effective approach to enter markets in order to remain competitive. Recent approaches require organisations to identify innovative distribution methods to meet consumer needs due to a considerable increase in competition, which makes it very difficult for organisations to differentiate their products solely on the basis of cost or quality.

The research problem addressed in this study comprised an assessment of factors affecting distribution models from an FMCG perspective. This necessitated a comprehensive literature review of the various definitions, trends impacting on distribution as well as investigating the status relating to distribution models. Strategies and attributes of successful distribution models were evaluated to determine an effective distribution model to assist the organisation in challenging competition. The researcher found that a significant number of authors have suggested the following key attributes for a successful distribution model, namely operational excellence, performance management, strategic partnership, technology drivers, and relationship marketing.

An empirical study was conducted after the appropriate measuring instrument was developed. The purpose of the measuring instrument was to validate the literature findings, identify the rank importance of the identified attributes and to evaluate the extent to which these factors are provided for in the organisation, based on the points above. The present study assessed innovation at Coca-Cola Fortune (Pty) Ltd., a local FMCG firm in an effort to develop a distribution model that would be successful for the company. The study comprised a sample of 40 Official Coca-Cola Distributors which form part of the distribution model of Coca-Cola Fortune (Pty) Ltd. Questionnaires were

sent to each of the 40 Official Coca-Cola Distributors and a response rate of 100% was obtained.

The major findings indicated that the respondents agreed with the literature in respect of the important attributes of a successful distribution model. Overall the majority of the respondents identified the distribution model between Coca-Cola Fortune and the Official Coca-Cola Distributors as a successful distribution model. The literature findings together with the empirical study findings resulted in the development of a strategic model to maintain a successful and competitive distribution model.

The current investigation highlighted the overall perception of Coca-Cola Fortune's distribution model and the importance of having a successful model. To sustain this distribution model the organisation must maintain the key attributes of a successful distribution model as identified in the literature to ensure competitiveness, sustainability and meeting changing consumer demands.

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## **CHAPTER ONE**

### **PROBLEM STATEMENT AND OUTLINE OF THE STUDY**

#### **1.1 INTRODUCTION**

Contemporary organisations are searching for new business practices and solutions that can improve their chances of success and profitability. With an increased and aggressive marketplace, organisations are faced with the demand to meet or exceed customer expectations to ensure sustainability. In order to be sustainable and competitive in the marketplace, organisations need to concentrate on their core abilities through streamlining core activities and outsourcing out of core operations (Ballou, Gilbert & Mukherjee, 2000).

Organisations must succeed at introducing new products/services through the process of innovation or risk failing as a business. This requires them to satisfy the changing customer needs in the least amount of time as well as delivering a reliable product. In order to make informed decisions, the firm's decision makers should have a holistic perception of all the aspects that impact on the planning, design, production and delivery of their product. They should be capable to recognise, inspect, and plan their business supply chain performance (Ballou, Gilbert & Mukherjee, 2000).

Lummus and Vokurka (1999) are of the opinion that organisations can no longer effectively compete in isolation with regard to the supply chain aspect of their business or business strategy. The identification of an effective supply chain system plays a key role in the sustainability of an organisation. A supply chain is a system of services that perform the functions of sourcing of materials, transformation of these materials into intermediate and finished products, distribution of these finished products to consumers and the return of imperfect or surplus products. By analysing an organisation's supply chain as a single, interconnected structure, companies can make decisions that will minimise costs while maximising customer satisfaction. Williams and Gunal (2003) stated that supply chain improvement has gained importance to many businesses due to rapid globalisation, intensifying competition, and attractive benefit-to-cost ratios and the trend towards long-term relationships with trusted suppliers.

What is of paramount importance is that a supply chain must be seen as adding value to the organisation in meeting strategic goals and objectives. Value is discussed from both the perspective of the consumer as the principal driver of value, and value in the context of the firm. To understand value, it is useful to consider Porter's (1996) suggestion that a company can outperform rivals only if it can establish a difference that it can preserve.

It must deliver greater value to customers or create comparable value at lower cost or do both. The arithmetic of superior profitability then follows: delivering greater value allows a company to charge higher average unit prices whilst greater efficiency results in lower average costs

The above discussion provides evidence that organisations within the fast moving goods (FMCG) industry require their business to have an effective supply chain model. A facet of this model is an optimal distribution model which will portray key success factors as a method to meet ever changing consumer needs and defeat competition within the marketplace. It also offers the basis for the exploration of the main problem of the study.

## **1.2 RESEARCH PROBLEM**

Organisations within the FMCG industry are developing competitive advantage not only based on products and product features, but also on superior delivery processes. They have come to accept the notion that superior processes to optimise customer service can create a sustainable competitive advantage. A vital requirement from organisations is that they acquire fast, reliable, customised and cost-effective logistics processes toward their customers or customer segments (Persson, Jensen, Engebretsen & Flygansvær, 2008).

Persson *et al.* (2008) stated that organisations are forced to concentrate on their core business, outsourcing many of their support activities, which include re-evaluating their own logistics processes. There are many reasons for outsourcing an operation; some of the more frequently stated are factors such as: better focus on core business, access to world-class processes, products, services or technology, better capability of adjusting to changing environment needs, risk-sharing, releasing

resources for other businesses, reducing the need for capital investments, better cash-flow, reducing operating costs, access to resources not available in own organisation, or difficulties related to managing an operation or part of the business.

Changing customer needs are forcing the logistics service providers that assist organisations to address several new strategic issues. They have to develop strategies to improve performance and profitability in their existing business and they have to develop strategies for further growth, making choices related to their products, markets and market segments, resources, and relationships and alliances.

Given the challenges in the South African FMCG industry due to increasing competition in the market, changing customer needs and the need to improve competitiveness and productivity, the opinions above lead to the following question:

How can FMCG organisations, operating in South Africa, gain competitive advantage by enhancing their distribution model's effectiveness?

The above discussion presents the basis for the exploration of the main problem of this study: *An assessment of factors affecting distribution models: an FMCG perspective.*

### **1.3 SUB-PROBLEMS OF THE RESEARCH**

In order to successfully deal with the main research problem, the following four sub-problems have been identified:

- What are the factors affecting distribution models in secondary literature?
- What do Official Coca-Cola Distributors at Coca-Cola Fortune view as essential attributes of a distribution model?
- In what order of importance do Official Coca-Cola Distributors at Coca-Cola Fortune rank the identified attributes of a distribution model?
- How can the results obtained from the resolution of sub-problems one, two and three (above) be combined into a strategic model, which can be used at Coca-Cola Fortune?



## 1.4 DELIMITATION OF THE RESEARCH

Demarcating the research was necessary for the purpose of making the topic manageable from a research point of view. The omission of certain topics does not imply that there is no need to research them.

### 1.4.1 Geographical demarcation

This research was limited to Coca-Cola Fortune Port Elizabeth situated in the Eastern Cape, South Africa. Coca-Cola Fortune is one of four licensed Coca-Cola bottlers in South Africa which has five manufacturing sites, situated in Port Elizabeth, Bloemfontein, Polokwane, Nelspruit and Port Shepstone. Its five manufacturing sites and 17 sales centres ensure efficient sales service and distribution to about 75% of South Africa's landmass (Anon, 2009).

### 1.4.2 Population of the study

The empirical study was limited to Official Coca-Cola Distributors within the Central and South regions that distribute beverages on behalf of Coca-Cola Fortune. The composition of these regions is as follows:

Sales region	Cities
North	Louis Trichard, Modimolle, Tzaneen, Polokwane, Bush Buck Ridge and Nelspruit
Central	Upington, Kuruman, Queenstown, Kimberley, Bloemfontein, Mtatha, Vryberg and Port Shepstone
South	Port Elizabeth, George and East London

The North region has been excluded from this study, as the researcher believed that there would be no difference in opinion from Official Coca-Cola Distributors within the different regions.

### 1.4.3 Scope of the research

The scope of this research is to identify the essential attributes of a successful distribution model. These essential attributes will be discussed in detail and tested to

determine whether these essential attributes exist within the Coca-Cola Fortune distribution model. This study excluded all other likely attributes of a successful distribution model as well as external perceptions.

#### **1.4.4 Basis for the distribution model**

The aim of this research is to determine what current literature reveals in respect of attributes of a successful distribution model that would enhance the reaction of the market place and consumers to increase company success and competitive advantage. The literature findings combined with supply chain strategy best practice (also perceived by respondents in the survey) was combined into an integrated model for attaining a successful distribution model for Coca-Cola Fortune.

### **1.5 REASONS FOR AND SIGNIFICANCE OF THE RESEARCH**

Persson *et al.* (2008) stated that organisations have outsourced not only traditional distribution activities, such as warehousing and transportation operations, but also managerial activities related to the flow of goods as well as certain production activities, such as kitting and sub-assembly operations, to logistics service providers. With that in mind logistics service providers have developed their capabilities both in terms of broader service offerings and in terms of providing solutions adapted to specific customers. Persson *et al.* (2008) postulated that the majority of organisations still do much of their logistics in-house. The third party logistics provider (3PL) market represents the fastest growing market for logistics service providers, which indicates that this trend of logistics outsourcing will continue.

Distribution has changed in a number of ways in business markets as well as in consumer markets during the past couple of decades. According to Narus and Andersen (1996), forward looking companies were experimenting with their channels to make them more flexible and responsive. The authors further stated that business dynamics and emerging technologies have made it possible to respond to pressures to reduce costs (efficiency) and enhance service levels (effectiveness) in innovative ways.

The on-going changes in the business environment lead to more differentiated distribution systems than traditionally was the case, to promote stronger interdependencies and ensure closer relationships between stakeholders. These shared innovative ways of distribution can potentially provide a better service at a lower cost than was originally planned by the organisation and had they been acting alone. This will ensure that organisations bring logistics service providers even closer to the centre of operations.

According to Persson *et al.* (2008), these developments in distribution arrangements have triggered an interest among managers as well as researchers for a whole range of empirical issues including the adaptation and coordination of the dynamics of distribution systems. Some of the empirical observations, identified by the research are as follows:

- The growth and change patterns in trade have a significant impact not only on the flow of goods but also on the supply-, production- and distribution systems;
- Specialisation means increased outsourcing of logistics activities and functions – thus further growth of the 3rd party logistics markets;
- Shippers require and expect process integration and more differentiated (and tailored) delivery processes; and
- Logistics service providers are repositioning themselves and we see new forms of collaboration and new types of logistics service providers.

These recent developments provide an important background to this research. The world of logistics as well as the world of distribution is changing and it is crucial to understand the salient aspects of these changes.

In light of the above discussion, the following question arises: Given the challenges and pressures in the FMCG industry, how can FMCG organisations implement an effective distribution strategy to meet the ever changing customer needs and also enhance the customer's perception about the brand to ultimately drive growth and sustainability.

## **1.6 RESEARCH DESIGN**

In this section the broad methodological approach followed in the study is described. The following procedure was adopted to solve the main and sub-problems:

- A literature review was conducted to determine the attributes of successful distribution models within the FMCG industry. The researcher compiled a questionnaire developed from the literature review above in order to determine factors that respondents perceived as attributes of successful distribution models.
- An empirical study was conducted by means of a survey amongst Official Coca-Cola Distributors within the central and south regions. The sample was representative of the entire population as outlined in section 3.3.2 of Chapter Three.
- The results of the literature reviewed and the empirical questionnaire were analysed and interpreted to formulate a strategic model that could be used by Coca-Cola Fortune to refine their distribution model to attain optimal results.

## **1.7 RESEARCH OBJECTIVES**

The primary research objective was to identify the attributes of a successful distribution model at Coca-Cola Fortune. More specifically the objectives were to:

- Explore the concept of distribution models within the FMCG industry in the literature;
- Determine from the literature, the attributes of a successful distribution model within the FMCG industry and evaluate the recommended strategies;
- Validate these attributes and determine whether they are present in Coca-Cola Fortune's distribution model through an empirical investigation; and
- Formulate a distribution strategy model for implementation at Coca-Cola Fortune.

## **1.8 STRUCTURE OF THE REMAINDER OF THE STUDY**

The structure of this research paper comprises the following chapters:

- Chapter One: Problem statement and outline of the study.
- Chapter Two: Attributes of distribution models within the FMCG industry.

- Chapter Three: Research methodology and biographical analysis of respondents.
- Chapter Four: Analysis and interpretation of results.
- Chapter Five: Summary, recommendations and conclusions.

## **1.9 CONCLUSION**

In this chapter the research problem and sub-problems were introduced and outlined how the researcher intends to solve the research problem. The chapter further described the delimitations of the study, relevant definitions of concepts, reasons for and significance of the study, as well as describing the research design and objectives. Chapter Two comprises a literature review of the attributes of distribution models within the FMCG industry as identified in secondary literature sources.

## CHAPTER TWO

### ATTRIBUTES OF DISTRIBUTION MODELS WITHIN THE FMCG INDUSTRY

#### 2.1 INTRODUCTION

In the current global market economies, the development of innovative products/services is essential for long term sustainability of organisations. Facing greater than before competition, new technologies and changing market needs, South African companies must compete with introducing new products/services through the process of innovation or face the risk of failing in business. The present development of markets, globalisation could result in a considerable increase in foreign competition, making it difficult for organisations to differentiate their products on the basis of cost or quality.

This is particularly so in the fast moving consumer goods (FMCG) industry worldwide, where constant changes in market needs require organisations to identify innovative distribution methods to satisfy consumer needs. These consumer needs include ensuring the product is available in the quantities required for their individual needs. An effective application of the marketing mix elements of product, price, promotion and place is pivotal to meeting the changing market needs. The one crucial element is distribution, which in the contemporary environment requires organisations to be innovative in their distribution methods to meet consumer needs optimally

In the FMCG industry, most producers do not sell their goods directly to the final consumer. Brand (2005), stated that organisations use a set of intermediaries performing a variety of functions. These intermediaries are commonly known as marketing, distribution or trade channels. Typically, firms use different channels in different markets. In smaller markets it is often possible to sell directly to the final consumer. In larger markets distributors may be utilised. Much reliance is placed on marketing intermediaries such as wholesalers, agents and distributors to ensure that products reach the final consumer.

The theory discussed above indicates the most common practices used by organisations in the FMCG industry, as the business process whereby sales and distribution are implemented and accomplished.

Based on the literature reviewed five of the most prominent attributes of a successful distribution model will be investigated namely, operational excellence, performance management, strategic partnership, technology drivers and relationship marketing.

In addition to the above, the FMCG and supply chain management and its significance is explored in the remainder of the chapter. This is followed by a review of the various distribution strategies as well as their linkage to the concepts relating to the importance of an effective distribution models in FMCG in respect of customer retention and competitors, challenges in managing distribution models and key success factors of distribution models in FMCG. The chapter concludes with a strategic model that the researcher has constructed based on the literature reviewed.

## **2.2 FAST-MOVING CONSUMER GOODS (FMCG) INDUSTRY**

This research within the FMCG industry will focus on the characteristics and current challenges facing the industry and their supply chains. Kumar (2010) identified the following:

### **2.2.1 Characteristics relating to a FMCG industry**

The FMCG industry includes all firms that manufacture products that are distributed by the usage of high volume retailers. These products cater for the everyday needs of consumers. The characteristics of these products are that they are non-durable, branded, packaged and consumed monthly by consumers. The main segments within an FMCG industry include but are not limited to personal care, packaged foods and beverages, household care and tobacco. A few of the established FMCG producing firms include the following:

- Nestle;
- Kraft Foods;
- Procter & Gamble;
- Colgate-Palmolive;

- Coca-Cola;
- Unilever;
- Clover; and
- Johnson & Johnson.

The Deloitte Report (2007) identified initial concerns regarding the FMCG firm's profitability growth and stated that these firms need to improve its operational efficiency by deploying initiatives to optimise its supply chain efficiency. Sheldon (2009) suggested that the FMCG industry should use collaborative planning such as sales and operations planning to create distribution-intensive systems.

However, in the 1980's, retailers started dominating the industry and their control over the downstream supply chain functions. These retailers created pressure backwards to FMCG firms to cut costs and improve services delivery and lead times. A few of the established FMCG retailers include the following: Pick n Pay, Shoprite and Checkers, Massmart and Spar.

### **2.2.2 Challenges facing the FMCG industry with regards to supply chain**

Kumar (2009) highlighted the following challenges facing FMCG supply chains:

- Supply chains own various production plants, including co-manufacturers and co-packers, which increase the complexities within the supply chain.
- Distribution is handled by specialised firms, which increase the pressure on relationships. Logistic firms and 3<sup>rd</sup> party logistics providers are typically involved.
- Wholesalers are involved in the downstream of the supply chain, which usually consolidates the goods of many competitors.
- Retailers are putting pressure on the industry to manufacture and supply at the lowest possible price and to decrease the response time. The other concern with regard to retailers is the "dealer owned brands". Retailers, in a sense, are not only customers of the FMCG firms, but also their competitors.

Based on the above challenges, the FMCG producers have evolved over the past years in a set of supply chain setups and complexities, driven by the nature of the product and nature of the supply chain structure. The following section will review the concept of supply chain management found in literature.



## **2.3 SUPPLY CHAIN MANAGEMENT**

### **2.3.1 Defining supply chain management**

Quinn (1997) defined the supply chain as all of those activities associated with moving goods from the raw-materials stage through to the end user. This includes sourcing and procurement, production scheduling, order processing, inventory management, distribution, warehousing, and customer service.

From this definition it is clear that supply chain management coordinates and integrates all of these activities into a seamless process. It links all of the partners in the chain including departments within an organisation and the external partners including suppliers and distributors who play a critical part in the overall strategy of the organisation. This will ensure that managers in organisations across the supply chain would take an interest in the efficiency and effectiveness of the chain to ensure that the end result is a successful and competitive supply chain.

According to Cooper, Lambert & Pagh (1997) supply chain management is the process of planning, implementing, and controlling the efficient, cost-effective flow and storage of raw materials, in-process inventory, finished goods and the relevant flow from point of origin to point of consumption for the purpose of conforming to customer requirements.

Lummus & Vokurka (1999) reaffirmed this definition by describing the supply chain concept as:

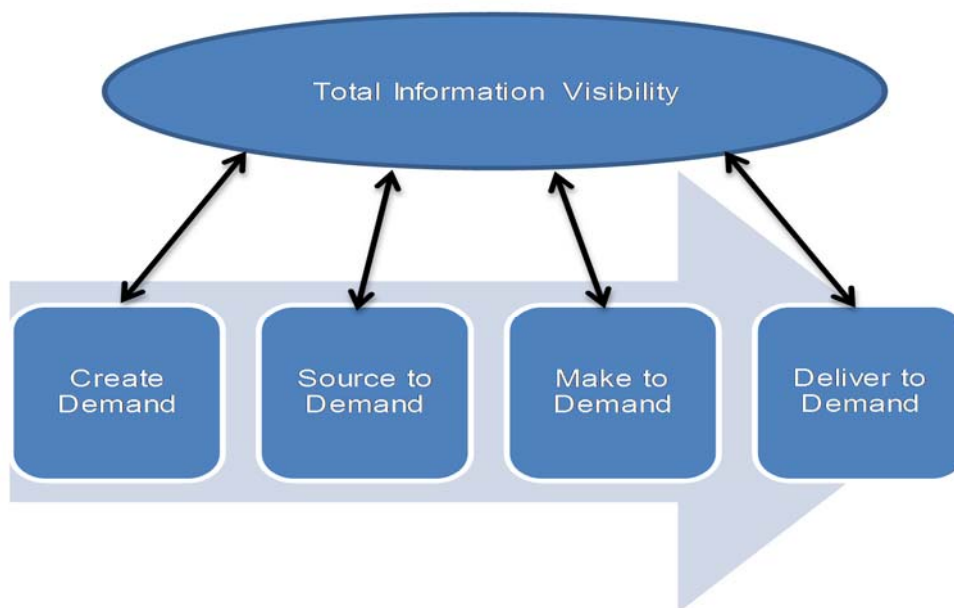
- The processes from the initial raw materials to the ultimate consumption of the finished product linking across supplier user companies; and
- The functions within and outside a company that enable the value chain to make products and provide services to the customer.

Lummus *et al.* (1999) stated that from this definition, a summary definition of the supply chain can be stated as: all the activities involved in delivering a product from raw material through to the customer including sourcing raw materials and parts, manufacturing and assembly, warehousing and inventory tracking, order entry and order management, distribution across all channels, delivery to the customer, and the information systems necessary to monitor all of these activities. Supply chain

management coordinates and integrates all of these activities into a seamless process.

It links all of the partners in the chain including departments within an organisation and the external partners including suppliers, carriers, third party companies, and information systems providers. Lummus *et al.* (1999) further stated that a key point in supply chain management is that the entire process must be viewed as one system. Any inefficiencies incurred across the supply chain (suppliers, manufacturing plants, warehouses, customers, etc.) must be assessed to determine the true capabilities of the process. Figure 2.1 describes the total integration required within the supply chain.

**Figure 2.1: Supply chain integration**



Source: Adapted from Lummus & Vokurka (1999)

Casemore (2013) indicated that supply chain management must be perceived as a critical component of a business strategy; delivering improved profitability through increased efficiencies and a strategic customer focused distribution management strategy. According to Casemore (2012) there are six elements (discussed below) of supply chain strategy, which, if employed collectively and managed closely, will deliver significant value across the organisation:

- **Leverage**

Organisations need to continuously improve service levels to its customers based on trends and market expectations. This also includes many instances whereby their focus has remained solely on growth, and not on leveraging the potential spending power of the organisation to further improve profitability.

- **Communication**

A significant component of any business is the support provided by external resources, be they service providers or distribution partners. Obtaining valuable information from these external resources to meet evolving organisational objectives requires a communication strategy. An example of this strategy is the development and implementation of an "external feedback" model to effectively ensure external parties supporting organisational operations and growth are aware of challenges, opportunities, and threats to the organisation's viability.

- **Efficiency**

Process and operating efficiency is an essential component of any high performing organisation, and the supply chain often impacts on this efficiency either directly or indirectly. For example, distribution partners' operational efficiency with regards to increased speed to market requires the support of accurate and timely distribution management. This requires building the right strategy to support organisational efficiency to ensure the attainment of objectives and improving efficiencies.

- **Innovation**

Construction of innovation in any organisation requires significant input and support from external suppliers and distribution partners, both of whom must be willing to provide insight and support and take potential risks in pursuing innovative solutions. The business world is forever changing and for an organisation to be effective and robust must be a key strategic objective.

- **Risk Management**

Supply chain management is the function of partnering with external groups, and is able to identify potential risks as well as mitigating solutions to protect the

organisation's interest and the interest of the external groups where possible. This requires the organisation to develop an effective encompassing risk management strategy supporting the external groups.

- ***Continuous Improvement***

The greatest performing organisations continuously look at ways to improve processes within their business. The majority of these improvements have an immediate impact on external groups (either directly or indirectly) and supply chain management is the catalyst to identify and manage improvement opportunities. Continuous improvement also provides significant opportunities to reduce cost, and supply chain management is often the most adept and knowledgeable party relative to reducing cost through internal and external efficiency. This will result in rapid resolution of immediate challenges, in turn creating enhanced customer satisfaction and brand loyalty.

This view is supported by Lummus and Vokurka (1999) who stated that supply chain management is an imperative process within an organisation that will accelerate benefits through successful implementation. Furthermore, the authors stated that it is important for an organisation to link its supply chain strategy to its overall corporate strategy.

One of the most crucial aspects of supply chain management is distribution. This will ensure the organisation maintains its competitiveness within the marketplace. Lummus and Vokurka (1999) stated stating that customers have multiple sources from which to choose to satisfy demand, however delivering a product within the marketplace through an effective distribution model for maximum customer accessibility at a minimum cost becomes crucial.

A distribution strategy is a critical element of an organisation's supply chain strategy and this includes the selection of the means of delivering the product to the consumer Hill (2003:578). When a distribution strategy is developed within any facet of the organisation, it needs to be aligned to the overall strategy of the organisation. Qureshi, Kumar and Kumar (2008) stated that this facet of the organisation is now being incorporated in the strategic agenda instead of being considered as an

operational issue. The distribution function can provide a tool to strategise the competitive marketplace to ensure the organisation outperforms rivals in meeting the high expectations of their stakeholders and customers.

Evidently there is no difference between developing a distribution strategy or a sales strategy. Beamish, Morrison and Rosenzweig (1997:62) supported this by confirming that once an organisation has identified a segment of the market to serve, the next step is to determine the best strategy to infiltrate this segment. This clarifies that when an organisation has developed a strategy to grow its business an effective distribution system plays a critical part to the success of this strategy.

One of the most common distribution strategies identified in literature is known as a *Route to Market* (RTM) strategy.

#### **2.4 ROUTE-TO-MARKET (RTM) STRATEGY**

The development of the RTM model begins with one core belief that the customer should be at the centre of everything the business does (Boyle 2010). This includes leading the way by designing and implementing a differentiated distribution model that will service the customer's needs. In addition to this, Boyle (2010) stated that if organisations are ahead of this curve with regard to RTM strategy, it will generate greater growth, increased customer intimacy, improved customer outlet coverage, reduce out of stocks at customer outlets and better serve the organisation's portfolio of products.

In the intensely competitive consumer goods sector organisations must have a comprehensive and conceptual platform to enable them to design an optimised RTM model. The design of the RTM models ensures that organisations sell and deliver their products and services to the convenience of their customers, which are essential for enabling profitable growth, service excellence, and consumer engagement at the point of sale (Gupta & Subramanian, 2009).

Organisations need to stay abreast of these trends and leverage them into the design of their RTM for gaining competitive advantage. However before this pursuit begins organisations need to identify the reason to trigger the review of their RTM

strategy. Anon (2010), identified when it is necessary that organisations need to review their RTM strategies, which include:

- Acquisition/Diversification into newer categories;
- Below par market reach as compared to relevant competition (numeric and/or weighted distribution)
- Higher cost of distribution versus industry benchmarks
- Entry into significantly different price categories;
- Entry into newer geographies with a different market landscape;
- Low rural penetration (especially for players targeting the mass market segment);
- Inadequate range selling;
- Low channel member viability and/or high channel member churn;
- Low sales in high growth/ high potential alternate channels; and
- New product failures due to sales and distribution gaps.

Delay in realigning the RTM by an organisation may allow competitors to gain competitive advantage leaving it to play catch-up which always is a very difficult task. A fact based approach is the only way an organisation should explore the need for reviewing it's RTM.

The more diverse an organisation's customer base and product portfolio and the more competitive their market, the more challenging it is to design effective and efficient RTM models. Furthermore, competition for retail shelf space continually intensifies.

A consistent and comprehensive platform for rethinking RTM models across the customer base is required. Such a platform must be capable of producing a clear vision of desired route-to-market outcomes, a comprehensive understanding of the roles and functions of the employees staffing the routes, as well as a systematic approach to RTM model analysis, design, implementation, and management. A well-structured conceptual platform offers several key benefits:

- It provides a process for analysing and constructing routes-to-market that properly balances effective execution with cost-to-serve;
- It ensures a comprehensive and aligned understanding of the elements contained in RTM models;
- It facilitates the sharing of best practices related to sales, customer service, and RTM model designs across the system; and
- It is a vehicle for the continuous improvement and systematic updating of RTM models and processes.

#### **2.4.1 The four pillars of an effective RTM platform**

Anon (2010) stated that an effective RTM platform must be built on four pillars, which represent the qualities of effective, efficient routes-to-market, and include design principles by which RTM models are constructed, namely market-driven, coherent, balanced and flexible:

- ***Market-driven***

The most effective and efficient RTM models are designed from the market back, ensuring that they are properly aligned with customer and consumer needs.

- ***Coherent***

Effective RTM models must be properly aligned and integrated with the company's overall customer service framework. Value offerings also cascade downward, suggesting specific RTM models, which can be designed to deliver a specific value proposition for each customer segment. The resulting coherence within the customer service framework ensures that RTM models support the achievement of corporate goals, as well as receive the support they need to operate *successfully*.

- ***Balanced***

An effective platform must enable identification and balancing of competing priorities in the design and operation of RTM models. Three sets of priorities must be considered: customer needs and preferences, revenue growth, and total cost-to-serve.

- ***Flexible***

Organisations must manage an increasingly diverse customer base with differentiated RTM models which is best suited to individual customers and customer segments. Once a design is chosen and implemented, managers also need a means of improving it or adapting existing models as conditions change.

These four pillars will through the design and operation of an effective RTM model ensure that managers consider all of the activities necessary in the execution of the sales and service value chain for each customer segment, and provides a sound foundation for constructing profitable routes-to-market. This will also ensure growing activities by establishing and expanding customer accounts; sustaining activities through servicing and maintaining customer accounts; and value-adding activities through brand building and enhancing the customer experience at the point of sale.

#### **2.4.2 An effective RTM Platform Is a competitive advantage**

When organisations adopt an optimised RTM platform, they can construct routes-to-market and redistribute their sales and service resources in ways that serve customers in a differentiated and effective manner, while controlling costs and complexity. The benefits that the consumer products company can gain are significant, including increased revenues, a better consumer experience, an increase in trade customer satisfaction, and increased effectiveness.

In order to ensure the RTM model is effective to strive for profitable growth, service excellence, and consumer engagement, at the point of sale, the organisation needs to focus on three areas of customer services (Boyle 2010). These include sales, distribution and execution and are the components of a RTM models from producer to consumer. This research will investigate the distribution component of RTM which includes the physical connection between the producer and the consumer.

The continuing upsurge of RTM models within the industry has resulted in the emergence of large organisations that have the capabilities to offer sophisticated logistics solutions on a continental or even global scale. Such logistics service providers (LSPs) strive to assume a more strategic role within the supply chain of organisations, expanding their scale and scope of operations. Important aspects of



LSP arrangements are the service offering, nature and duration of relationships, performance outcomes, extent of third party responsibility over the logistics process and position/role in the supply chain management (Selviaridis & Spring, 2007).

Some international organisations own their own distribution systems but, in the majority of cases, international organisations rely on other organisations to act as intermediaries in the distribution channel. Hough *et al.* (2003:336) listed the following important steps in establishing an effective distribution system:

- How to select foreign country intermediaries;
- How to build enduring relationships with intermediaries;
- How to deal with the varying types of wholesaling and retailing infrastructure across international markets;
- How to maximise new and innovative forms of distribution; and
- How to manage the means and logistics of physically distributing products across foreign markets.

Mourtis and Evers (1996) stated that due to intensive competition in global markets, a distribution network within supply chain performance is considered an important strategic weapon to achieve and maintain competitive strength. Key drivers to ensure a competitive strength entails taking decisions on a range of issues, including the location and size of distribution centres, the logistic activities to be performed at these centres, the capacities required to fulfil these activities, their allocation to specific product groups, and the control system to manage all activities. These activities include transport, maintenance of the inventory, and the performance of the distribution activities. Furthermore, Mourtis and Evers (1996) stated that there is a growing need for contingency plans to help logistic systems cope with disruptions.

Decisions on these issues are all closely interrelated, making it difficult to develop a sound distribution strategy. The geographic arrangement, the capacity deployment and the management and control system must be geared optimally to one another to provide a competitive supply chain. It requires a complex trade-off analysis between various cost elements, together with an evaluation of a broad range of non-

quantifiable factors. The high number of possible combinations of management-controllable parameters and control policy structures add to the managerial complexity.

The true test of the effectiveness of any distribution model is whether the strategy and the execution of the distribution model has added value to the organisation. To understand value, it is useful to consider Porter's (1996) suggestion that an organisation can outperform rivals only if it can establish a difference that it can preserve. It must deliver greater value to customers or create comparable value at lower cost or do both. The arithmetic of superior profitability then follows, e.g. delivering greater value allows an organisation to charge higher average unit prices and greater efficiency results in lower average costs.

Walters and Rainbird (2007) expanded this definition by suggesting that a broader perspective is needed than that of historical accounting measures, that looks at the importance of free cash flow, notions of enterprise value, future value and the balanced scorecard and finally examining what role the distribution aspect within an organisation have in setting their own goals. These definitions of value play a pivotal role in identifying whether the distribution model has been effective and whether it can be measured against the tools listed above.

These tools of measurement are supported by Frost and Sullivan (2005), who stated that adding value amongst the participants along the supply chain will result in building closer relationships, support cost cutting initiatives, develop the flexibility to deal with supply and demand uncertainties and ultimately have a positive impact on the firm's bottom-line.

Stank, Goldsby, Vickery and Savitskie (2003) analysed the relationship between service performance, customer satisfaction, customer loyalty and market share for the 3PL industry using a survey of customers. Using structural equations modeling, they established that relational performance is antecedent to operational and cost performance.

## 2.5 DISTRIBUTION MODELS

Hough and Neuland (2003:136) stated that a distribution model is required if products intended to satisfy consumer needs are to be available in the right place at the right time. Like in any market, many external variables can affect the effective distribution of products and services; hence it is imperative to develop a competitive distribution model to ensure it meets the distribution strategy. A distribution strategy can include the outsourcing of the distribution activity of the organisation particularly if the organisation offers a broad range of products. This has been supported by Langley (2003) who stated that the increased demand placed on service providers both in terms of volume and variety of services, lead to the development of different business models in the organisation.

These models focus on the type of activities outsourced, the reasons behind these decisions and the benefits of logistics outsourcing in general. The main reason as to why organisations have taken this route is that outsourced parties provide activities such as simple transaction based services. Some providers have developed into more matured providers of management oriented services in addition to the more traditional physical infrastructure oriented services of warehousing and transportation (Power, Sharafali & Bhakoo, 2007).

A distribution model encompasses a number of channels that move a product along the chain until it reaches the intended consumer (Shukla & Bairiganjan, 2011). Shukla and Bairiganjan, (2011) further stated that when defining a distribution model the following components are required to complete the chain. These are as follows:

- **Information:** This includes market and research knowledge relating to a particular market requiring the product.
- **Negotiations:** Selling the product to the customer at an attractive price to ensure repeat purchases.
- **Promotion:** To create a captivating proposition for the purchase of goods and services.
- **Contact:** Identification of potential customers and making them aware of the brand offering.

- **Matching:** Customising a product or service that meets the needs of the customer.

Shukla and Bairiganjan (2011) identified strategic components that will further complete this chain. These are as follows:

- **Physical distribution.** This includes the actual transportation of goods to the target market and eventually the consumer. It includes the incorporation of distribution vehicles, warehouse facilities, inventory management and aspects that will ensure the chain is strategic.
- **Financing.** This is required by the distributor to cover the costs of distribution vehicles, warehouse facilities and inventory management. The distributor will require these components to effectively deliver to the end consumer and requires the necessary financing to set the distribution model up.
- **Risk taking.** The distribution partner needs to be involved with the day-to-day running to ensure sustainability. This includes operating under difficult circumstances such as market recessions and changes in consumer preferences and price movements.

Thus far, the researcher has described the fast moving consumer goods industry in South Africa and the importance of supply chain management. Effective distribution management as a supply chain management function was identified as critical to success in this industry. The following section of the research aims to evaluate prominent distribution models described in literature.

## 2.6 FMCG DISTRIBUTION MODELS IN SOUTH AFRICA

The South African FMCG industry is dominated by six major chains: Shoprite & Checkers, Pick 'n Pay, Woolworths, SPAR, Massmart and Metro Cash and Carry (Metcash), with the last two performing both retail and wholesale functions (FAS Worldwide Report, 2007). These major retail chains have developed highly centralised procurement systems, with distribution centres located in the major metropolitan areas throughout South Africa and continue to discuss their respective supply chain strategies (Mbhele, 2013).

SPAR has improved its warehouse management systems and adherence to best operating practices by using on-time deliveries by suppliers to SPAR distribution centres. According to the Psion Teklogix Report (2009) the SPAR central distribution centres distribute consumer goods to individual retailers around South Africa, resulting in improved productivity levels and worker morale, better quality, improvements in the accuracy of distribution centre systems, reduced costs through higher volume procurement discounts and a substantial improvement in the firm's relationship with retailers.

The Shoprite Checkers Group uses the central distribution strategy to measure its success by range, availability and price, and to enhance quality, consistency and the overall shopping experience. The Industrial Logistics Systems Report (2010) confirmed that the central supply chain distribution system allows Shoprite to access significant benefits and savings through improved on-shelf availability, and the flexibility to deliver to stores when goods are required and not be dictated to by supplier delivery schedules. This means that deliveries will not be dependent on supplier reliability, which reduces the potential for stock outs and costs, and consequent lost sales.

Woolworths' stores receive their freshly produced products through a central procurement system. The Woolworths distribution centres consolidate distribution to individual retail outlets and have sufficient capacity to serve an aggressive store rollout policy, where each store receives new deliveries every day (Woolworths Report, 2007).

Pick 'n Pay recently came to the realisation that its current distribution operations are running over capacity and have become inefficient, resulting in stores being overstocked and a deterioration in customer service levels. Changes to this ensured significant benefits including the improved availability of stock (product availability), lower prices and a streamlined ordering process, with staff in the individual retail outlets concentrating on shopper engagement (Which franchise Report 2010).

Firms have begun to consolidate their distribution activities in fewer centres as transportation services became faster, more flexible and efficient due to

government's infrastructure development programme. Every FMCG retail store is striving for market share and to become a competitively superior supermarket by adopting an efficient distribution system. The reduction of operational costs and assurance of daily deliveries from the central warehouse have been epitomised by huge investments in physical and technological capacity development.

The capacitated central warehousing practice focuses on directly involving suppliers to realise high levels of product availability, service levels and stock runs to underpin the systems of cross-docking and flow-through. The Industrial Logistics Systems Report (2010:3) defined cross-docking as moving pre-picked products through a distribution centre directly from receiving to dispatch, while flow-through occurs when a product is "flow picked to zero" directly on receipt without storage. These systems deal with the receipt of finished goods from various upstream manufacturers, put them together into a package in the midstream, and send them on to a downstream retailer who is the customer.

### **2.6.1 Importance of an effective FMCG distribution model**

An effective FMCG distribution model is vitally important in respect of customer retention and for the organisation to compete successfully. Organisational strategies revolve around a core objective and that is how to gain the largest share of a particular market. However, intense competition has caused the industry to be oversupplied and increased market share does not always lead to increases in profit (Kim, Yang & Kim, 2007). Organisations are required to think of innovative ways that will ensure a consistent pattern of strategic thinking behind the creation of new markets and industries where demand is created rather than fought for and the rule of competition is irrelevant. Kim *et al.* (2007) described this as the Blue Ocean strategy which provides organisations with guidelines on how to escape from intense competition over the same market space, where there are limited customers with an increasing number of competitors and by creating a new market space where there is less competition if any.

The essentials of customer service and cost efficiency have pushed organisations to change their strategy to focus on distribution, resulting in centralisation of production and distribution, reduction of inventory and time based competition (Groothedde

Ruijgrok & Tavassy, 2005). Groothedde *et al.* (2005) stated that although, for many companies these changes in strategy have been a part of a broader response to growing market opportunities and increased levels of competition, the evolution of distribution networks during this period can be characterised by a strong rationalisation of business processes.

This on-going rationalization has led to a constant search for economies of scale and scope in the supply chain, which has been an important parallel development in line with the changes in competition and satisfying the needs of on-going customer needs. This is further supported by Sum (2001) who stated that distribution has significant potential to play a major strategic role in companies due to increased competition. The distribution function can be further exploited to allow a company to gain competitive advantage.

The development of a systematic and efficient logistics service has become one of the core support services of organisations to combat competition. Kim *et al.* (2007) supported this by stating that new organisational distribution models have been implemented to combat competition and these include distribution models with less distribution layers resulting in customer-based logistics, internet based distribution and distribution for small-batch production. The research further showed that organisations that operated their own distribution network began to outsource part or all of their distribution function to the third party logistics (3PL) companies who provided expert solutions for distribution systems, transportation, warehousing, distribution and inventory management.

The hub network was designed to ensure the distribution aspect within an organisation performs adequately. This will result in a reduction of distribution costs and economies of scale due to the amalgamation of flows. Groothedde *et al.* (2005), mentioned that this network allows for more efficient and more frequent distribution, by concentrating on large flows onto relatively few links between hubs. Although use of indirect (that is via a hub) shipments may increase the distance travelled and extra handling increases the costs, the economies of scale due to the larger volume shipments can reduce total cost.

Mourits and Evers (1996) argued that complex distribution activities, such as stocks that need replenishing, deliveries that need routing and orders that need to be coordinated, require effective communication. Due to the intensity of market competition, the performance of the distribution effectiveness is considered an important strategic weapon to achieve and maintain competitive strength.

Through the combining of activities it is possible to share costs, through sharing of information it is possible to avoid unnecessary costs and through avoiding sub-optimisation and acting as one organisation the business units that co-operate can work more efficiently (lower cost) and become more effective (enhanced customer service) at the same time.

From the literature reviewed the following models were identified namely, 3PL service providers and the hub model.

### **2.6.2 Third party logistics service providers (3PL)**

Until recently, independent third party logistics providers or distribution partners performed all or part of the organisation's finished product distribution function, which allowed manufacturers to focus on their core competencies rather than on distribution expertise. In this situation, collaboration between a manufacturer and a third party logistics provider or distribution partners is indispensable for successful production-distribution coordination (Jung, Chen & Jeong, 2005).

This aspect of Jung *et al.*'s theory (2005) conceptualises the next section of this research which defines distribution models, aspects regarding the importance of an effective distribution model, characteristics of an effective distribution model, factors negatively effecting distribution and key success factors of distribution models. As the complexity of a supply chain continuously increases and the importance of delivery between a supply chain and end customers grew, the independent third party logistics provider or distribution partner emerged to perform all or part of an organisation's product distribution function.

Gunasekaran and Ngai (2003) stated that there are five major dimensions which allow for the objective of developing management control systems, resource



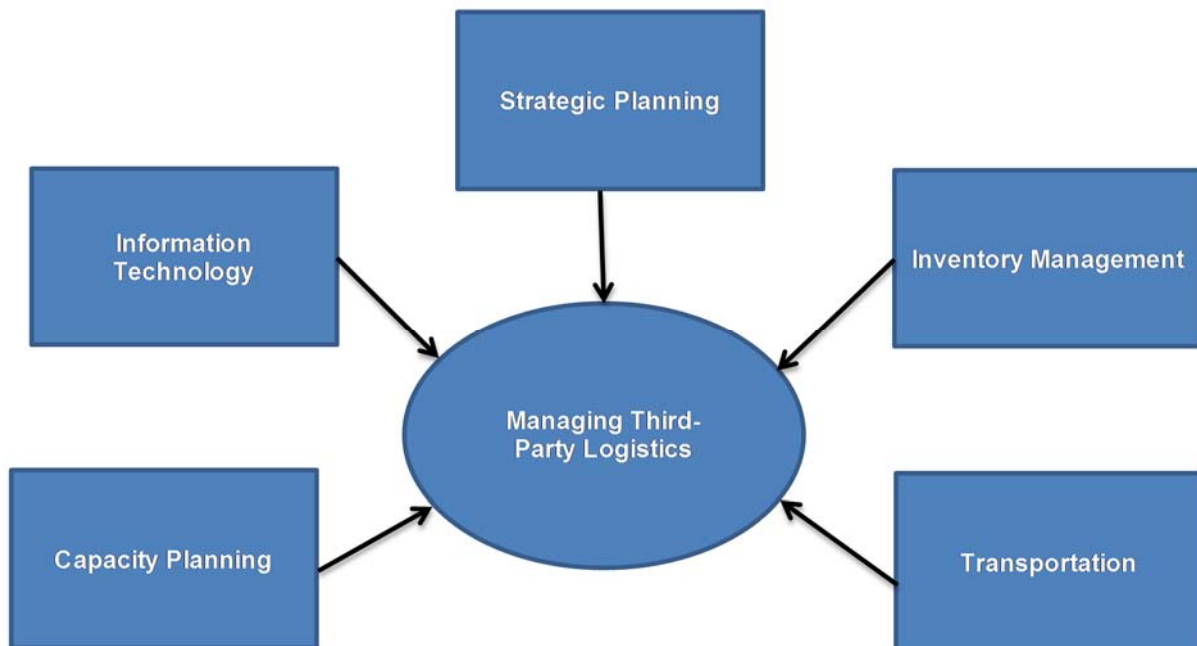
management systems and integrating distribution activities within a distribution model or a third party logistics (3PL) provider; these are: Strategic planning; Inventory management; Transportation; Capacity planning; and Information technology.

The details of this model are given in Figure 2.2 below. Managing a small 3PL company requires strategic planning, which involves the making of long-term decisions concerning 3PL operations. These decisions should include those on organisational strategy such as the nature of the distribution business (e.g. transportation, warehousing, etc.), the location of distribution centers, outsourcing, the size of the business and the budget for running the logistics business. Inventory management includes planning, coordinating and controlling of materials flow along the logistics supply chain.

The major decisions should involve the volume and timing of orders and deliveries, and the packing of items in batches (consolidation). There are several constraints influencing the level of stock and the speed of the material flow along the logistics supply chain. The level of stock and the speed of the material flow also depend upon the nature of the supply and demand. Transportation or shipping involves such matters as the modes of transportation, utilisation of available capacity, scheduling of transportation equipment and maintenance of transportation facilities - thereafter follows capacity planning.

The management of demand of a small company both long-term and short-term drives the level of capacity required. For example, long-term decisions should revolve around issues such as the number of warehouses or distribution centers and their capacity; the number of transportation vehicles and the capacity of the material handling equipment, including the number of workers. These are, of course, driven by the demand for products along the logistics supply chain. Finally, information technology or systems help to integrate the activities in all of these areas by collecting the data on the performance and utilisation of resources and, based on this, making the required changes to the logistics operations. Various types of IT can be used, including intranet. Internet and the use of IT also involves data mining and data warehousing.

**Figure 2.2: Five dimensions of managing Third Party Logistics (3PL)**



Source: Adapted from Gunasekaran and Ngai (2003)

### 2.6.3 Third Party Logistics outsourcing decision

An organisation's decision to outsource (or not) logistics activities can be determined based on a host of factors. These factors can be seen as both internal and external which could include the effectiveness of the logistics function, risk and control, cost/service trade-offs and information technology considerations (Rao & Young 1994). Rao and Young (1994) stated that the outsourcing decision can be based on a number of critical drivers which include product-related (e.g. special handling needs), process-related (e.g. cycle times), network-related (e.g. countries served). Capability related activities are drivers believed to have an indirect influence on the 3PL outsourcing decision.

3PLs are used to perform traditional logistics functions, such as inbound transport, outbound transport, warehousing and for other services, such as reverse logistics. The outsourcing of logistics to third party providers has become an increasingly important trend in contemporary enterprises companies. Logistics alliances are

becoming a way of life for many firms and to achieve competitive advantage in the marketplace (Ratten, 2004).

Further research in respect of 3PL outsourcing decisions has revealed four categories of considerations related to economic viability, market issues (demand variability and customer service), personnel/equipment availability and extent of supplier dependence (van Damme & van Amstel, 1996). Their study evaluated the costs associated with performing logistics activities in-house and investment in capital assets is traded-off against service provider fees. One important determinant of the decision is cost comparison between alternative options. The lowest cost solution should then be selected.

Aertsen (1993) maintained that high asset specificity coupled with difficulties in performance measurement should lead to in-house distribution; hence the lowest cost solution won't always be seen as the most feasible 3PL outsourcing decision. This is supported by (La Londe & Maltz, 1992) who stated that cost is not the single most important decision variable and logistics service issues are also seen as vital.

Forming relationships with 3PL providers is an efficient and effective means of achieving the required service without investing heavily in assets and new capabilities (Persson & Virum, 2001; Stank & Maltz, 1996). In this way, the organisations can concentrate on their core business. Furthermore, changes in the business environment, increased competition, pressure for cost reduction and the resulting need to restructure supply chains are often quoted as motives for the formation of alliances with LSPs (Bagchi & Virum, 1996).

#### **2.6.4 Benefits and risks associated with 3PL outsourcing decision**

A multiplicity of benefits and risks associated with 3PL outsourcing has been reported in the literature. As noted previously outsourcing distribution activities of the organisation to a 3PL enables the organisation to focus on its core competencies and exploit external logistical expertise (Sink and Langley, 1997). Further benefits associated with 3PL providers can contribute to improved customer satisfaction and provide access to international distribution networks, which allow the 3PL to leverage benchmark distribution models which can be tailored for the respective organisation

to achieve optimal results (Bask, 2001). Logistics outsourcing also provides cost-related advantages such as reduction in asset investment (distribution vehicles), labour and equipment maintenance costs (Bardi & Tracey, 1991).

Risks associated with 3PL outsourcing include the loss of control over the logistics function and loss of in-house capability and customer contact (Ellram & Cooper, 1990). Outsourcing is always perceived to be the cheaper form of services versus the organisation performing the actual function itself. Research has found that this is not always realised due to unrealistic fee structures proposed by service providers (Ackerman, 1996). The further evaluation of cost savings can be difficult due to the organisation's lack of awareness of internal logistics costs and costs to serve the market. Indeed, the outsourcing option may be chosen in order to give an indication of in-house costs and serve as an external benchmark for logistics efficiency (van Laarhoven, Berglund & Peters, 2000).

Additional risks with regard to 3PL outsourcing include service performance, disruption of inbound flows, inadequate provider expertise, inadequate employee quality, sustained time and effort spent on logistics, loss of customer feedback and inability of 3PL providers to deal with special product needs and emergency circumstances (Ellram & Cooper, 1990).

### **2.6.5 Service offerings of 3PL**

Service offerings that attract organisations to outsource include usage rates, contract renewal rates, outsourcing costs and geographical spread of services provided by the 3PL. Research has identified that the prominence of transport, warehouse and administration-related services confirm the continuing growth of logistics outsourcing (Murphy & Poist, 1998). These factors are deemed to be pivotal in the determination of a strategic 3PL outsource provider.

### **2.6.6 Procuring of 3PL outsource services**

Procuring goods or services for the organisation will go through a procurement process and it is no different when it comes to the purchasing of 3PL outsourced services. The criteria that organisations apply to procuring the services of a 3PL extend far beyond price considerations and the contracts are far more detailed when

buying advanced logistics solutions (Andersson & Norman, 2002). Sink and Langley (1997) emphasised criteria such as need identification, top management commitment, formation of across-functional buying team, development of selection criteria and service implementation. Bagchi and Virum (1998) also emphasised process, but their framework is wider in scope than the previous two authors mentioned above, dealing with post-contracting issues such as performance measurement and goal redefinition. These criteria identified by the researchers clearly illustrate that the outsourcing function of 3PL's has become a strategic objective by organisations to meet their own goals.

Several additional criteria for 3PL outsourcing are discussed in the literature; typically, these include cost, service quality and reliability, flexibility, responsiveness to requests and financial stability. Some criteria are developed with specific client needs in mind, while others are common for all circumstances (Bagchi & Virum, 1996). Whilst cost might be a major consideration for some researchers, others stated that price is of relative importance and argued that service performance and quality requirements are seen as enriched criteria (van Laarhoven & Sharman, 1994).

Qualitative factors are also taken into consideration such as supplier reputation, references from clients and response to information requests are used for the initial screening of candidate service providers (Sink & Langley, 1997). This could include experience within the organisation's industry and their key success factors. The procuring function within the organisation plays a critical role in ensuring that the 3PL recommended to assist the organisation with their distribution is seen as a strategic partner who can grow sustainability and provide a competitive edge to their product and service offering.

Bagchi and Virum (1996) considered criteria such as pricing and cost, service level, information processing and communication, capacity resource, flexibility and general information important. When evaluating 3PL service providers, the following aspects should always be assessed: cost and quality of the service, capacity, the ability to deliver, consultation with current clients, cultural tolerance, financial stability,

professionalism of management team, operation and price flexibility as well as the standard of their information system.

### **2.6.7 Management of 3PL relationships**

Management processes within any business transaction is important to ensure there are no lack of understanding by both parties concerned with regard to roles and responsibilities. Management of the 3PL relationship is seen as an effective tool in response to potential problems, contracting, and information sharing between organisation and 3PL and performance measurement systems. An important facet of the management of the 3PL relationship is the preparation of contracts which is envisaged as an important dynamic to the success of 3PL relationships (Boyson, Corsi, Dresner & Rabinovich, 1999). According to Andersson and Norman (2002) a typical 3PL contract includes the following:

- The contract term (i.e. number of years);
- Costs per activity;
- Service and activities description;
- Service levels;
- Bonus payment for excellent performance;
- Penalty clauses for service failures;
- Performance measures;
- Allocation of roles and responsibilities, risks and insurance costs; and
- Contract termination clause.

### **2.6.8 Information sharing**

Communications and information sharing between the contracting parties are crucial for effective management of 3PL relations (Stank *et al.* 1996). Communication networks are established in order to cover the strategic as well as operational information needs. In many instances, joint meetings are also held to review the provider's performance and solve any arising problems (Boyson *et al.* 1999). This will ensure the contracting parties will exchange information to ensure business processes are improved and hence seen as a strategic process to become sustainable.

### **2.6.9 Performance measurement**

Research has provided insights that the performance measurement of the 3PL should be clearly illustrated within the contract. This measurement will provide an assessment on the extent of 3PL success and identifying corrective action in case of service failures (Wilding & Juriado, 2004). The establishment and continuous monitoring of key performance indicators (KPIs) related to logistics services allow users to compare achieved with expected service levels. Measures include delivery timeliness and accuracy, order fill rates and inventory turns (Wilding & Juriado, 2004).

Additional practices for management and control of 3PL relations include carrying out customer satisfaction surveys, gaining access to LSP information systems, jointly planning and implementing performance improvement projects and include discussions regarding the organisation's logistics strategy objectives (Boyson *et al.* 1999; Wilding & Juriado, 2004). This should clearly demonstrate if the 3PL is meeting expectation set out in the performance contract when conducting business with the organisation's customers.

## **2.7 THE HUB MODEL**

Within the market place, organisations utilise a variety of distribution models and one such model is known as the hub model (Groothedde, Ruijgrok & Tavassy, 2005). This model is based on an inland distribution system which then uses inter-hub transportation resulting in economies of scale and direct trucking is used to maintain responsiveness and flexibility. The collaboration between the inland distribution systems receiving the finished product from the manufacturing facility is vital to guarantee the synchronisation of finished product movements to the market place.

The hub network allows for the flow of finished goods from manufacturing facility to the retailers in relatively small dedicated barges that follow a high frequency schedule, with fast and cost efficient transshipment on the hubs connecting the inland barges with road transport. These barges are equipped with fully automated pallet positioning and handling systems, minimising the transshipment time and costs on the hub and maximizing the annual shipments (Groothedde *et al.* 2005).

Parakalu and Udhas (2012) summarised the hub distribution model by identifying what the key fundamentals are. These fundamentals are as shown in table 2.1:

**Table 2:1: The key fundamentals of the hub distribution model**

Fundamentals	Hub Distribution Model
Meaning	<ul style="list-style-type: none"> <li>• Multi-tier operating model with a standardised governance structure</li> </ul>
Rationale	<ul style="list-style-type: none"> <li>• Replicate management practises and processes</li> <li>• Faster and easier expansion</li> <li>• High value addition to the consumer</li> </ul>
Nature of tasks	<ul style="list-style-type: none"> <li>• Specialised tasks which require high customer interaction</li> </ul>
Decentralisation	<ul style="list-style-type: none"> <li>• Results in more centralised networks</li> </ul>
Best suited when	<ul style="list-style-type: none"> <li>• The hub is a single point of contact and central interface for client</li> </ul>
Advantages	<ul style="list-style-type: none"> <li>• Direct dealing with the client</li> <li>• Daily deliveries</li> <li>• Great cost benefits</li> <li>• Access to best talent</li> </ul>
Disadvantages	<ul style="list-style-type: none"> <li>• Complex IT systems required</li> <li>• Legal and compliance issues</li> </ul>

In addition to these points the organisation may consider the following attributes as important in the selection process of the successful distribution party when partnering with the client organisation (Win, 2008):

- Experience in facilitating supply chain integration;
- Cost control, management and reduction;
- Will lead to reduced executive management time and expense;
- Understanding of the specific industry sector businesses which they are looking to provide services in;
- Ability to operate at operational, tactical and strategic levels;
- Demonstrate ability to coordinate day-to-day logistics and supply chain management execution;
- “Single” accountability;
- Ability to coordinate and foster improved relationships within the value chain;
- Demonstrate ability to manage supply and demand uncertainty;



- Capable of “driving” process change/improvement – notably in the areas of forecasting and sales and operational planning; and
- Experience in managing global supply chains.

These attributes are seen as important when partnering with a distribution party as organisations will want to regard them as an extension of the organisation. This will ensure the partnership between the distribution partner and the organisation is seen as a long-term formal or informal relationship between the distribution partner and the organisation (Bagchi & Virum, 1996). This has led to a surge in organisations to use third party logistics (3PL) as organisations appreciate the potential benefits associated with using 3PL services (Knemeyer & Murphy, 2005).

## **2.8 CHALLENGES IN MANAGING DISTRIBUTION MODELS**

The major challenge facing any model is that the desired outcome is not met. Groothedde *et al.* (2005) identified the following problems with a hub network design problem, which in its general form, includes:

- Finding the optimal locations for the hub facilities;
- Assigning non-hub origins and destinations to the hubs;
- Determining linkages between the hubs;
- Routing flows through the network; and
- How to measure the effectiveness of the model in respect of key performance indicators.

In addition to this, Gunasekaran and Ngai (2003) mentioned that there are general challenges that arise in distribution models which include delayed and inaccurate information, incomplete services, slow and inefficient operations and a high product damage rate. The possible consequences are an inability to provide inter-linked services, high operating costs, a rate of high inaccuracy, and a lack of flexibility in responding to changing demand requirements. The main focus on blue ocean organisations will ensure that the integration of distribution with other functional areas could facilitate an organisation to realize the full potential of its value-added activities, and hence, gain a significant competitive advantage.

E-distribution can be defined as the transfer of goods and services using Internet communication technologies such as electronic data interchange (EDI), e-mail and the World Wide Web (WWW). The supply chain is an integrated business model for distribution management. It covers the flow of goods from suppliers through manufacturing and distribution chains to the end consumer. Christopher (1992) argued that the real competition is not company against company, but rather supply chain against supply chain. In recent years, information systems (IS) are increasingly being regarded as resources that support various business processes. This requires organisations to integrate their E-distribution with the various business processes to ensure sustainability.

Korpela and Lehmusvaara (1999) argued that the problem of the location of a distribution centre or warehouse is a strategic-level network design problem. This means that the nature of the decision is a long-term one; hence, the decision as to where to locate a warehouse will have an impact on the profitability of a company for years. This could include excessive distribution costs versus cost to serve which will affect the going concern of the distribution partner.

Many organisations want to develop effective distribution systems however Mourits *et al.* (1996) identified shortcomings relating to support systems. To assist an effective development of distribution networks, support systems need to be designed to aid the distribution network. Shortcomings of support systems are as follows:

- They focus on a subset of activities contained in the supply chain;
- They focus only on a subset of problems related to the development of distribution networks; or
- They are difficult to apply to real cases owing to large data requirements.

Studies have found that failed partnerships between 3PLs and organisations were more likely to be attributable to “soft” factors such as cultural mismatch or basic communication problems (Wilding & Juriado, 2004). They also found that cost alone was diminishing in importance as a driver of outsourcing decisions.

Parallel to the pressures that followed organisations in respect of growth and sustainability, customer needs and expectations have been changing. Organisations are developing competitive advantage not only based on products and product features, but also based on superior delivery processes. They have come to accept the notion that superior processes toward the customer can create a sustainable competitive advantage. A consequence is that a growing number of organisations want fast, reliable, customised and cost-effective logistics processes toward their customers or customer segments (Persson & Virum, 2001).

Persson *et al.* (2001) stated that many organisations are forced to concentrate on their core business, outsourcing many of their support activities and evaluating their own logistics processes. There are many reasons for outsourcing an operation. Some of the more frequently given are factors such as: better focus on core business, access to world-class processes, products, services or technology, better capability of adjusting to changing environmental needs, risk-sharing, releasing resources for other businesses, reducing the need for capital investments, better cash-flow, reducing operating costs, access to resources not available in own organisation, or difficulties related to managing on operation or parts of the business. The important fact in this context is that this development has opened up for new opportunities in the third party logistics market.

Persson *et al.* (2001) argued that positioning yourself in these markets is therefore a major strategic challenge to many of the logistics operators. Changing customer needs are forcing the logistics service providers to address several new strategic issues. They have to develop strategies to improve performance and profitability in their existing business, and they have to develop strategies for further growth and make choices related to their products, markets and market segments, resources, and relationships and alliances.

## **2.9 KEY SUCCESS FACTORS OF FMCG DISTRIBUTION MODELS**

Kim *et al.* (2007) stated that key success factors of distribution models include having the expertise in solutions of distribution systems, transportation, warehousing, distribution and inventory management. In conjunction with these points mentioned it is vital for an organisation to ensure that it has the knowledge regarding market

analysis capability, accurate customer requirement analysis, the capability of its distribution model and the constructing capability of its distribution information systems, logistics strategy research manager, the team manager of the information strategy team, and several line workers.

Factors critical to the success of distribution relationships have been identified by a number of studies. These factors include the capability of the distribution partner's assessment of competing options and/or providers, appropriate contractual conditions and effective auditing of the on-going relationship were found to be significant (Boyson *et al.* 1999). These factors ranked the attributes of effectiveness and trust to be of fundamental importance (Power, Sharafali & Bhakoo, 2007).

Table 2.2 presents a summary of the key success factors relating to distribution models found in literature.

**Table 2.2: Key success factors of FMCG distribution models**

Author	Success factor
Kim, Yang & Kim (2007)	<p>Key business processes within key areas of the distribution model:</p> <ul style="list-style-type: none"> <li>• Receiving inspection</li> <li>• Stocking</li> <li>• In storage handling</li> <li>• Selection</li> <li>• Picking</li> <li>• Shipping inspection</li> <li>• Shipping</li> <li>• Incorporation of technology within a distribution model creates a competitive advantage and hence successful.</li> <li>• Highly motivated team members and a progressive culture within the information technology and distribution strategic teams is the driving force.</li> </ul>
Aldin & Stahre (2003)	<p>Three components are essential for a successful strategic 3PL operation. These include:</p> <ul style="list-style-type: none"> <li>• Logistics structure</li> <li>• Logistics processes and related activities</li> <li>• Information and reporting systems</li> </ul>

Chiu (1995)	<p>Critical success factors in effective logistics management. These include:</p> <ul style="list-style-type: none"> <li>• An effective IT system,</li> <li>• Good planning of the distribution system,</li> <li>• A well-designed distribution organisation,</li> <li>• The astute selection and relationship with trading partners,</li> <li>• Good distribution investment analysis,</li> <li>• The elimination of barriers to distribution management,</li> <li>• The commitment of top management, and</li> <li>• And continuous improvement in logistics</li> </ul>
Gunasegaram & Ngai (2003)	<ul style="list-style-type: none"> <li>• A long-term relationship with and the loyalty of the distribution partner.</li> <li>• The localisation of services combined with the delivery of goods:</li> <li>• Organisations should locate their services such that they can deliver the goods on time at minimum cost.</li> <li>• Strategic alliances right from the inception of the company,</li> <li>• Customer relationship management (CRM) focusing on clients to make sure that there is no communication gap.</li> <li>• Organisations should have an excellent feedback system on the timely delivery of goods and on whether any articles have been damaged: <ul style="list-style-type: none"> <li>- Value-added services (such as how to use the goods delivered) help to improve levels of customer satisfaction.</li> <li>- Excellent reverse logistics services to instill confidence in customers in the goods.</li> <li>- Organisations need to adopt a new costing method, such as activity-based costing (ABC), for their distribution operations that might open up further opportunities for improvement by eliminating non-value-added activities.</li> </ul> </li> </ul>
Mourits & Evers (1996)	<p>Development of a tool that focuses more on general network flow model that encompasses issues like multi-echelon structures and the location and allocation of capacity to the distribution facet. These include:</p>

	<ul style="list-style-type: none"> <li>• The number, location and size of distribution centres to open;</li> <li>• Which customer zones they should be assigned to serve and the flow of goods throughout the system</li> <li>• Procedures for ordering and issuing goods,</li> <li>• Forecasting demand,</li> <li>• Routing vehicles,</li> <li>• Managing inventory,</li> <li>• Parameters like safety stock levels, and</li> <li>• Transport lead time can be specified.</li> </ul>
Win (2008)	<p>Identified the following success performance measures, when assessing a distribution party. This assessment is a combination of both financial and non-financial indicators. These are as follows:</p> <ul style="list-style-type: none"> <li>• Design the organisations route-to-market models,</li> <li>• Structure retail pricing,</li> <li>• Lost sales,</li> <li>• Days out of stock,</li> <li>• Service level by inventory classification,</li> <li>• Inventory aging,</li> <li>• Customer service perception,</li> <li>• Customer complaints,</li> <li>• Cost of supply chain operation,</li> <li>• Amount and cost of expediting,</li> <li>• Financial analysis, and</li> <li>• Effectiveness of demand forecast management.</li> </ul>
Barnes (2001); Wilson (1995); Morgan & Hunt (1994)	<p>Identified the following elements associated with a successful relationship that can vary from situation to situation:</p> <ul style="list-style-type: none"> <li>• Attachment,</li> <li>• Communication,</li> <li>• Dependence,</li> <li>• Investment,</li> <li>• Opportunistic behaviour,</li> </ul>

	<ul style="list-style-type: none"> <li>• Reciprocity,</li> <li>• Reputation,</li> <li>• Satisfactory prior outcomes, and</li> <li>• Trust</li> </ul>
Rao (1999)	WWW has emerged as a powerful new channel for distribution, eliminating many intermediaries and radically restructuring the value chain in several industries.
Ligon, Schill & O'Donnel (1992)	<p>The Web platform has several advantages, which will allow a company to overcome some traditional distribution problems. These include:</p> <ul style="list-style-type: none"> <li>• Real-time information on inventories,</li> <li>• Single data entry to minimise human errors as inputting of the data is handled by customers themselves and there is no need to re-enter the information, and</li> <li>• A real-time online ordering function and multi-level password control so that different functions can have different access levels, controlled by the respective authorized staff.</li> </ul>
Keeber & Durtsche (2009)	<p>Performance measurement in logistics had three significant findings in common. These are:</p> <ul style="list-style-type: none"> <li>• Most firms do not comprehensively measure logistics performance,</li> <li>• Even the best performing firms fail to realise their productivity and service potential available from logistics performance measurement, and</li> <li>• Logistics competency will increasingly be viewed as a competitive differentiator and a key strategic resource for the firm.</li> </ul>

Based on the findings shown in Table 2.2 above, there are varying anecdotal success factors of a distribution model found in the literature. For the purpose of this study adapted and based on the findings in literature, the key success factors of a distribution model can be reduced to:

- Operational excellence (Kim, Yang & Kim, 2007; Aldin & Stahre, 2003);
- Performance management (Win, 2008; Keeber & Durtsche, 2009);

- Strategic partnerships (Mourits & Evers, 1996; Chiu1995; Gunasegaram & Ngai, 2003);
- Technology drivers (Kim, Yang & Kim, 2007; Chiu, 1995; Rao, 1999; Ligon, Schill & O'Donnel, 1992; and
- Relationship marketing (Barnes, 2001; Wilson, 1995; Morgan & Hunt, 1994; Kim, Yang & Kim, 2007).

### 2.9.1 Operational excellence

For distribution models to be successful, distribution business processes need to be aligned to ensure the successful outcome of the distribution model. Kim *et al.* (2007), identified seven distribution business processes that are essential to ensure the distribution model is successful in day-to-day operational processes. These processes include the following:

- **Receiving inspection.** Materials are inspected before they get unloaded, and each bar code is scanned in order to be matched with the information in their warehouse management system (WMS).
- **Stocking.** Unloaded materials are placed into storage space designated by WMS and packing principles relating to stock rotation needs to be adhered to.
- **In storage handling.** Materials information, such as volume, weight, and storage requirements, is handled, and each time transfer occurs the scanned bar code information is transferred to WMS. These include having the required motorised equipment within the warehouse.
- **Selection.** Bar codes of ordered materials are received from WMS and matched by scanning each material.
- **Picking.** Selected materials are staged for shipping in demarcated areas. This includes having the required motorised equipment within the warehouse.
- **Shipping inspection.** Materials are inspected before they get loaded, and each bar code is scanned to be matched with information in WMS.
- **Shipping.** Loaded equipment departs to the next destination when all requirements are met and packed uniformly in distribution vehicles.

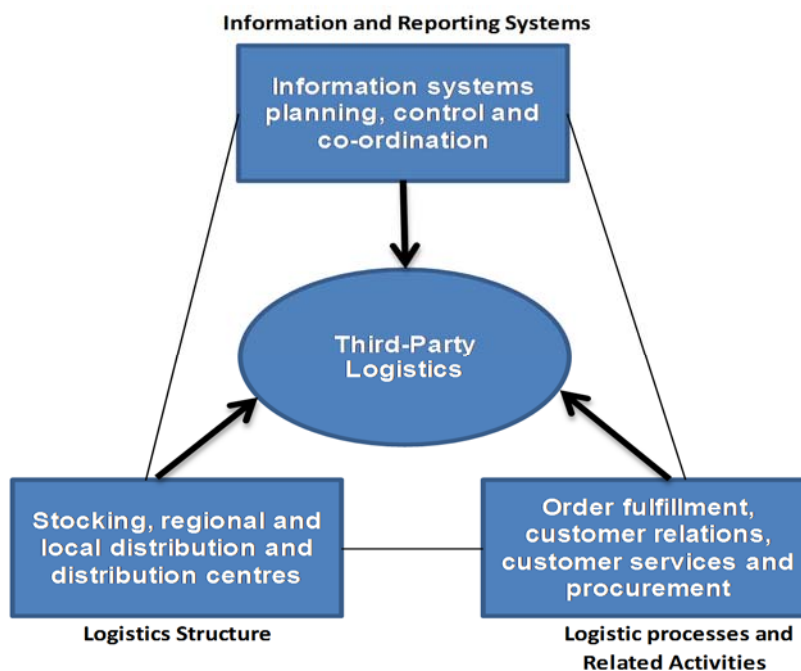


Aldin and Stahre (2003) presented a conceptual model (see Figure 2.3) for logistics management, with a special focus on 3PL. This model consists of three major components:

- logistics structure;
- logistics processes and related activities; and
- information and reporting systems.

All three components are essential for a successful 3PL operation. Figure 2.3 clearly illustrates the three major components to ensure this distribution model is successful. Logistics structure includes the participants in the logistics processes, inventory storage points, multi-echelon distribution centres and warehouses. Logistics processes and related activities comprise order fill processes, customer relationship management, and customer service, and procurement and demand management. Finally, information and reporting systems are essential for any management system, as they drive the decisions based on the data collected. These include the designing and planning of information systems, control and coordination, and cross-organisational coordination. IT such as the intranet, extranet, Internet, WWW and EDI facilitate the integration of activities in the logistics supply chain (Angeles, 2000).

**Figure 2.3: Conceptual framework for logistics management**



Source: Adapted from Aldin & Stahre (2003)

### **2.9.2 Performance management**

Given a specific distribution network structure, various goods-flow control procedures can be tested and evaluated. The selected procedures can then be subjected to fine tuning to minimize costs while maintaining specified demands, e.g. minimising safety stock while preserving the required level of customer service. The second purpose of this stage is to inspect a specific network design at the level of daily activities. This is needed to gain insight into the operational consequences of adopting a specific network and evaluating its performance.

Win (2008), reaffirmed this by identifying the following performance measures when assessing a distribution party. This assessment is a combination of both financial and non-financial indicators. These are as follows:

- Design the organisations route-to-market model;
- Structure retail pricing;
- Lost sales;
- Days out of stock;
- Service level by inventory classification;
- Inventory aging;
- Customer service perception;
- Customer complaints;
- Cost of supply chain operation;
- Amount and cost of expediting
- Financial analysis; and
- Effectiveness of demand forecast management.

Win (2008), identified these financial and non-financial indicators as pivotal in ensuring they are measured to identify if the distribution party is considered to be successful.

Keeber and Durtsche (2009) reinforced performance management of distribution models by stating that in today's competitive market place what distinguishes winners from losers is the ability to differentiate themselves through their service and product offerings. For many firms, the service differentiation is accomplished by how

well the logistics process is managed. To achieve excellence in logistics, successful firms ensure that the key logistics processes are aligned with the firm's business strategy and measured against predetermined performance objectives.

Additionally, the top firms are jointly defining the specifics of each measure with their trading partners (customers / suppliers / 3PLs) to create a common understating of expectations. While some firms are developing their measurement capability internally, a number are turning to 3PLs to support their needs. As focused service providers, 3PLs are ideally positioned to bring the systems, process design and managerial expertise to aid in establishing and implementing a comprehensive logistics measurement effort. The 3PL is also often in the position to act as a catalyst for meaningful dialogue between trading partners to establish a level of service performance that truly adds value.

Regardless of the approach a firm takes in establishing logistics measurements, the real value exists when the information is acted upon to align the effectiveness and efficiency of the logistics process performance to a level that is valued by customers. Keeber *et al.* (2009) stated that on the subject of performance measurement, logistics has three significant elements in common:

- Most firms do not comprehensively measure logistics performance;
- Even the best performing firms fail to realize their productivity and service potential available from logistics performance measurement; and
- Logistics competency will increasingly be viewed as a competitive differentiator and a key strategic resource for the firm.

There are three major reasons why firms measure their logistics performance. They are to (1) reduce their operating costs, (2) drive their revenue growth, and (3) enhance their shareholder value. Measuring operating costs helps to identify whether to, and where to make operational changes to control expenses and to discover areas for improved asset management. To attract and retain valuable customers, the price/value of products offered can be enhanced through cost reductions and service improvements in logistics activities. The returns on stockholder investments and the market value of the firm are impacted on by the

performance of the firm's logistics. These seem to be obvious reasons why companies should want to be competent in performance measurement.

### **2.9.3 Strategic alliance**

Many successful distribution models have been subjected to real-world design problems. Mourits *et al.* (1996) stated that these real-world problems can be eliminated to a certain degree by developing a tool that focuses more on a general network flow model that encompasses issues like multi-echelon structures and the location and allocation of capacity to the distribution facet. In optimising network structures it also takes into account time related aspects, such as throughput time and customer demand lead time, as well as various ways of assigning system costs.

The support systems mentioned above focus on location-allocation problems in networks consisting of the following pertinent levels of participants: warehouses and customers. Mourits *et al.* (1996) states that the primary objective of this type of optimization model is to determine:

- The number, location and size of distribution centres to open;
- Which customer zones they should be assigned to serve; and
- The flow of goods throughout the system.

In addition to the above the support system for distribution models is a systematic approach to production planning. Mourits *et al.* (1996) confirmed that this support system is intended to tackle the subset of strategic problems concerned with the allocation of distributed production capacity. The model does not include fixed cost associated with establishing a distribution model at a specific location. The system can contain a complete network structure, including: procedures for ordering and issuing goods, forecasting demand, routing vehicles, managing inventory, parameters like safety stock level and transport lead time can be specified.

The relationship between these tuning parameters and the customer service performance of the distribution system can be analysed after performing several runs. Moreover, all the operational procedures, as well as the settings of their tuning parameters, influence the overall performance of the system.

A support system should comprise the following capabilities: costs involved in the development of a dedicated support system, availability of data required for experimentation, available knowledge of relations between business activities, availability of a dedicated support system, and corporate culture. Mourits *et al.* (1996) described the elements of a system that will provide adequate support for a manager in the process of planning and deciding on distribution issues. The system should:

- Provide an insight into the performance of the distribution facet across the entire organisation. It is obvious that the planner requires this information since the purpose of distribution planning usually is to improve the logistic performance.
- Describe the relations between various business aspects in the organisation. For example, the impact of customer services and sales functions will involve changes in the entire distribution network, including the nature of the flow of goods, the demand at intermediate warehouses, order processing systems, financial flows and transport schedules.
- Offer cost information for each organisation function. The evaluation of different options on the basis of total corporate costs, and the analysis of trade-offs between business functions requires this information.
- Provide the opportunity to evaluate changes in the structure of the organisation. If the structure or geographical distribution of the firm is to change, then the support system should offer the cost and performance information needed to evaluate the proposed modifications.
- Finally, the tool should be easy to use, quickly applicable to actual cases, understandable to the decision maker, easy to adapt to changing requirements, and apply to a wide range of distribution problems.

In addition to the elements described above Mourits *et al.* (1996) identified four fundamental distribution design stages to develop an effective and successful distribution model. These are the arrangement stage, the deployment stage, the flow stage and the operational stage.

**(i) The arrangement stage**

The goal of this stage is to determine the most cost-effective location and allocation of facilities such that all geographically distributed customers are served satisfactorily. The distribution designer can account for economies of scale that play a role here, by placing estimated lower and upper limits on throughput. With the flow model or deployment model the designer can conduct pre-analysis to establish more accurate cost estimates.

All considerations that stem from the business environment of logistics management must be handled by strategic management in conjunction with results from model experiments. These decisions require input from many more angles than just financial ones. It is not realistic to try to extend a support model based mainly on costs, in order to incorporate these issues. By conducting experiments with several scenarios the designer will gain insight into the relationships between these business considerations and the costs involved in a specific network arrangement. This includes cost versus benefits analysis.

This stage also offers various opportunities to account for the effect of a specific concept of logistics control on the optimal distribution network layout. Moreover, it also enables the designer to incorporate customer order delivery lead time requirements into the overall system.

**(ii) The deployment stage**

At this stage the aim is to determine an optimal distribution pattern based on a given geographical arrangement of warehouses. This involves determining the best places at which goods should be stored, assembled and distributed. Establishing a distribution concept requires many complex trade-offs. When inventory is centralised, the increase in transport cost may exceed the resulting economies of scale.

This increase, however, can be reduced by employing regional distribution centres that enable cost-efficient transport of goods over long distances to customer regions. When regional depots hold inventory, their stock levels can be lower if they are replenished from a stockholding warehouse instead of a central transit centre.

Various customer demands, trade-offs and operational restrictions influence the decision on these issues:

- Replenishment of stock usually requires a lower rate of deliveries than the fulfilment of customer orders. The latter leads to lower vehicle utilisation rates and higher cost of personnel.
- In order to provide the same level of delivery reliability the level of safety stock at local depots needs to be relatively higher than at a central warehouse. This is due to scale effects in hedging against variable customer demand.
- The stock level also depends on the time required to replenish inventory and the period of time between two replenishment orders.
- Delivery lead time to customers is also an important factor in the development of a logistics concept for product distribution.
- Among other things, the number of trips to a warehouse depends on its range of functions, the required despatch frequency and the capacity of the means of transport.
- In some cases several customers may be serviced by a single trip from a warehouse.

The deployment model captures the essence of these considerations and tries to find a minimal cost logistics concept that provides the necessary level of customer service.

### **(iii) The flow stage**

At this stage the following question should be answered: “Does this distribution arrangement allow us to attain the level of customer service we want against the total costs we are willing to pay?”

The primary purpose of this stage is to determine the settings of the logistic tuning parameters, in order to gain insight into the capacity requirements. The parameters include the safety stock level for each product at each location, the frequency of all

transports, and the size of the product batches that are transported, replenished or assembled. Other points of concern are whether the distribution system provides sufficient flexibility to handle unusual demand specifications, contingencies, changing markets and on-going changing business missions.

In order to support such analysis the model structure should be able to evaluate various logistic relationships. These exist, for instance, between the required level of customer order completeness and the level of safety stock, between the batch size of the depot inventory replenishment and the inventory level at the central warehouse, or between the economic order quantity and economic transport quantity.

At this stage the support model is accurate enough to provide the information on which dependable conclusions can be drawn with respect to the network structure. Variations in this structure, on the other hand, can still be analysed within practical time limits. The support model for this stage has not been completed, but this should be done in the near future.

#### **(iv) The operational stage**

At this stage the distribution designer should be able to investigate such issues as:

- Choice of a customer order despatch procedure;
- The way shipments are assembled and despatched;
- By what rules final assembly operations are scheduled;
- Replenishment procedures for inventories;
- Routing for vehicles;
- Policy for supplier selection, and
- Procedures for communicating demand variations to suppliers.

Based on a study undertaken by Gunasegaram and Ngai (2003), the following are the lessons that have been cultivated on Tolam Logistics which provides distribution solutions for companies such as Toshiba and Sanyo Electronics:



- A long-term relationship with and the loyalty of the distribution partner. A good relationship with the partner is very important. This requires networking with people along the value chain, to establish communication between them to facilitate collaboration.
- The localisation of services combined with the delivery of goods: Organisations should locate their services such that they can deliver the goods on time at minimum cost.
- Strategic alliances right from the inception of the company, to enable the company to take off with the required capital and other support resources including business for the facility; this highlights the role of a partnership between clients and the company in developing the organisation.
- Customer relationship management (CRM) focusing on clients to make sure that there is no communication gap so that goods are made available as required and delivered on time. There are several ways by which communication between the logistics company and clients can be established. These include strategic alliances, frequent meetings between suppliers and customers, and shared information systems.
- Organisations should have an excellent feedback system concerning the timely delivery of goods and on whether any articles have been damaged. A high quality of logistics services is essential for the long-term survival and prosperity of an organisation. To ensure this requires the use of suitable performance measures and metrics to measure the quality of services and customer satisfaction along the logistics value chain.
- Value-added services (such as how to use the goods delivered) help to improve levels of customer satisfaction with the goods and services and, hence, represent an increased business opportunity. Customer satisfaction cannot be improved simply by delivering the goods on time, but by additional services to ensure the products are fully functional and that the intended services are delivered to customers.

- Excellent reverse logistics services to instill confidence in customers in the goods. Most companies provide poor after-sales service and product returns for replacement or for services. Since companies sell products on the Internet, an excellent reverse logistics service system is required so that customers can develop confidence in the overall service process.
- Organisations need to adopt a new costing method, such as activity-based costing (ABC) for their distribution operations that might open up further opportunities for improvement by eliminating non-value-added activities. This includes managing the financial status of the distribution operations and its long term viability.

#### 2.9.4 Technology enhancements

In creating a successful distribution models the need to use technology within these models are seen as critical. Kim *et al.* (2007) stated that the incorporation of technology within a distribution model creates a competitive advantage and is seen to be aligned with the characteristics of a Blue Ocean strategy. Kim *et al.* (2007) defined a Blue Ocean strategy as a strategy which can avoid severe competition by creating an uncontested market place by the means of innovation and technology. Kim *et al.* (2007) summarises the results of using technology within a distribution model are as follows:

- **Eliminate.** Elimination of certain elements that have been taken for granted in the industry, such as the occurrence of errors caused by manual handling of warehousing activities, errors in recognising bar codes resulting from repetitive work and work delays involving deliveries to or collections from warehouses.
- **Raise.** The use of technology has ensured that the issue concerning inefficient work activities have been effective and has resulted in sharply cutting both time and costs. This includes the automation and optimisation of work handling and scheduling.
- **Reduce.** This includes benchmarking the distribution models to ensure standards are met with regard to higher than industry standards compared to rival companies, and they include increases in automated handling rates of distribution

activities. This includes handling of stock in warehouses within a short time, and information on stock taken in or out of warehouses delivered to the operation system in real time, thus enhancing efficiency in the entire distribution business and improving the information service.

- **Create.** The use of technology has created new customer satisfaction and loyalty by achieving accurate prediction and information on shipments due to the location information of carriers on a real-time basis. This has optimised delivery schedules and dispatches. It includes the appropriate technology training and equipment to be used as part of a successful distribution model.

In addition to this, Chiu (1995) highlighted the importance of integrating IT with distribution management concepts. The author identified the critical success factors in effective logistics management. These include: good planning of the distribution system, a well-designed distribution organisation, the astute selection and relationship with trading partners, good distribution investment analysis, the elimination of barriers to distribution management, the commitment of top management, and continuous improvement in logistics.

Rao (1999) stated that the World Wide Web has emerged as a powerful new channel for distribution, eliminating many intermediaries and radically restructuring the value chain in several industries. This has positively impacted on channels of distribution in three major industries: retailing; banking, brokerage and financial services; and distribution.

The Web platform has several advantages, which will allow a company to overcome some traditional distribution problems. These include: real-time information on inventories, single data entry to minimise human errors as inputting of the data is handled by customers themselves and there is no need to re-enter the information, a real-time online ordering function, and multi-level password control so that different functions can have different access levels, controlled by the respective authorized people. Ligon, Schill & O'Donnel (1992) discussed the role of EDI in distribution services.

### **2.9.5 Relationship marketing**

Relationship marketing is a relatively new concept in the sense that it did not become prominent in the literature until the 1980s and 1990s (Rao & Perry, 2002). Morgan and Hunts (1994) defined relationship marketing as marketing activities directed at establishing, developing, and maintaining successful relational exchanges. The goal of relationship marketing (Gronroos, 1990) is to establish, maintain, enhance relationships with customers and other partners at a profit, so that the objective of the parties involved are met. This is achieved by mutual exchange and fulfilling of promises. This facet is seen as critical in ensuring that a long term sustainable relationship is established between the distribution party and the organisation (Knemeyer & Murphy, 2005).

Morgan *et al.* 1994 identified that the following elements associated with a successful relationship can vary from situation to situation, the literature consistently recognises the following as important: attachment, communication, dependence, investment, opportunistic behaviour, reciprocity, reputation, satisfactory prior outcomes, and trust. Each of these elements is more fully discussed in the following paragraphs.

- **Attachment**

Attachment describes genuine feelings toward the other company or that organisation's employees, and the genuine feelings between the buying and selling parties can help to hold a relationship together. Fundamentally this is a sense of feeling part of the organisation.

- **Communication**

Communication, as in any relationship is a key success factor. This can be defined broadly as the formal as well as informal basis of sharing information that is meaningful and relevant for decision making.

- **Dependence**

Dependence refers to a relationship which provides benefits for both parties and results outcomes that are seen as greater than those that can be achieved from other business arrangements.

- **Investments**

Investments can be believed as resources that are specialised to a particular arrangement which is not easily substituted and would have minimal value in other arrangements. These resources can include logistical knowledge whereby the organisation will share these services.

- **Opportunistic behaviour**

Opportunistic behaviour includes broken or unfulfilled promises as well as disconnects between the organisation's expectations and provider deliverables. This includes the inability to meet service level commitments and represents the greatest opportunity for improving 3PL relationships.

- **Reciprocity**

Reciprocity relates to sharing, cost sharing and revenue sharing are among the more popular examples of reciprocity in 3PL arrangements. This includes a mutual exchange between parties which is another relationship element. In addition this factor can be defined by what the two parties provide each other, the resources that they distribute, and the exchange that takes place.

- **Reputation**

Reputation can be viewed by the organisation's measurement of the 3PL's performance and behaviour in past and present arrangements.

- **Satisfactory prior outcomes**

Satisfaction with previous outcomes deals with 3PL arrangements, satisfactory previous experiences often pave the way for longer-term arrangements. This includes the factual perception the organisation has on the 3PL in respect of the quality of the 3PLs past performances.

- **Trust**

Trust continues to be the foundation of many successful 3PL arrangements and includes the reliance on, and confidence in, another party shown towards the organisation. Kim *et al.* (2007) stated that a success factor for cultivating the organisational learning culture and managerial advancement, in addition to new technological innovations to achieve a competitive advantage against leading competitors is shown by how the organisation supports this strategy.

Highly motivated team members and a progressive culture amongst the information technology and distribution strategic teams are the driving forces of successful individual and organisational growth. Kim *et al.* (2007) stated that even if teams have no experience in this field of information technology and distribution, highly motivated employees are required to ensure the process continues. In addition to this competencies development capability, top management's willingness to accept new technological innovations, and the system development capabilities of our human resources are seen as key success factors.

## **CHAPTER THREE**

### **RESEARCH DESIGN AND METHODOLOGY**

#### **3.1 INTRODUCTION**

The primary purpose of this research paper is to identify and examine success factors of distribution models. A questionnaire, based on the theoretical findings will be constructed as the instrument to collect information. Data thus collected will be analysed and the results interpreted to determine the current business practises in respect of distribution models as applied in the FMCG industry. This chapter focuses on planning the questionnaire, the questionnaire design and the administration (distribution) of the questionnaire.

Secondly, this chapter will describe the research paradigm used in this study and provide an outline of the research methodology, the research instruments and the structure thereof. The survey results are presented towards the end of this chapter, followed by concluding remarks.

#### **3.2 RESEARCH METHODOLOGY**

Leedy and Ormrod (2005:2) defined research as a systematic process of collecting, analysing and interpreting information in order to increase our understanding of the phenomenon in which the researcher is interested.

According to Collis and Hussey (2009:3), research means different things to different people. From the different definitions offered, there appears to be a general agreement that:

- Research is a process of enquiry and investigation;
- It is systematic and methodical; and
- Research increases knowledge.

##### **3.2.1 The research process**

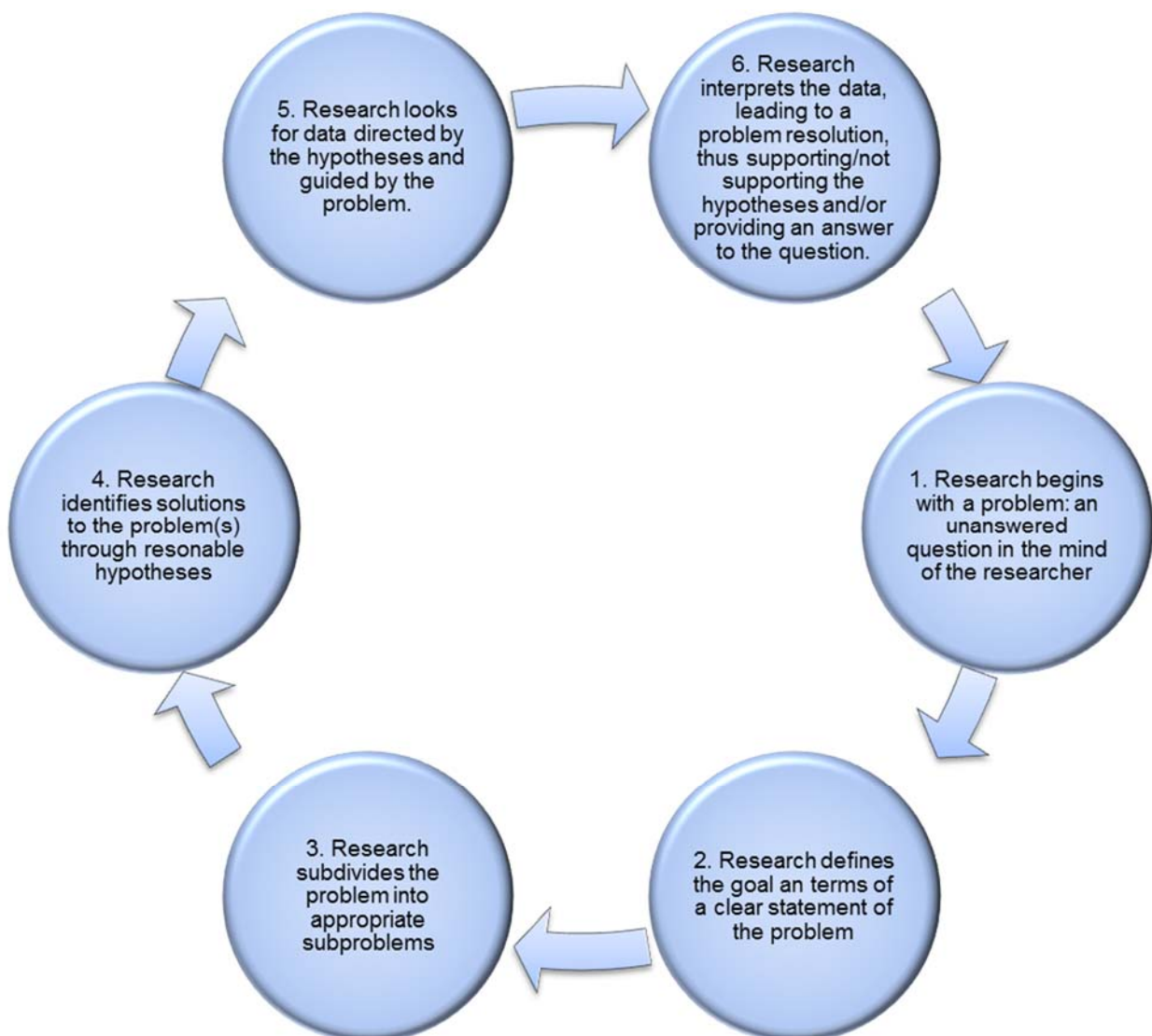
According to Collis and Hussey (2009:3), research is undertaken to:

- Review and synthesise existing knowledge;
- Investigate an existing problem;

- Explore and analyse the nature of the environment and existing problem;
- To construct or create a new view or body of knowledge; or
- Any combination of the aforesaid items.

Research by nature is cyclical; it is a logical process and follows a series of developmental steps. Figure 3.1 below summarises the research steps as defined by Leedy and Ormrod (2010:7).

**Figure 3.1: The research cyclical process**



Source: Adapted from Leedy and Ormrod (2010)



### 3.2.2 Types of research

The various types of research are defined as follows:

- **Exploratory research.** Exploratory research is undertaken to gain a broad understanding of a situation, phenomenon, community or person (Bless & Higson-Smith, 2000:41). According to Babbie (2001:92) exploratory studies are typically done to satisfy the researcher's curiosity and desire for a better understanding, to test the feasibility of undertaking a more extensive study and to develop the methods to be employed in any subsequent study.
- **Descriptive research.** According to De Vos (2002:109) descriptive research represents a picture of the specific details of a situation, social setting or relationship, and focuses on "how" and "why" questions. Descriptive research is aimed at conducting an investigation in order to observe, describe and at times to classify information (Polit & Hungler, 1995:19).
- **Analytical research** - goes further than descriptive research. The researcher goes beyond merely describing the characteristics, to analysing and explaining why or how it is happening. Thus it aims to understand the phenomena by discovering and measuring causal relations among them (Collis & Hussey, 2009:5).

### 3.2.3 Research Paradigms

According to Collis and Hussey (2009), a research paradigm is a theoretical framework that guides how scientific research should be conducted. Growth in the need for research in social sciences has resulted in the emergence of varying research paradigms, mainly positivism and anti-positivism. To this end, a research paradigm can be either positivistic or phenomenological.

While these terms are not automatically interchangeable, positivism is associated with the quantitative, objective, scientific and traditionalist approaches. The phenomenological approach on the other hand is associated with the qualitative, subjective and humanist aspects of interpretivism (Collis & Hussey, 2009).

Collis and Hussey (2009) stated that the quantitative or positivistic paradigm recognises only positive facts and observable events – those things which can be

seen, measured and counted as facts. On the other hand, the qualitative or phenomenological paradigm is concerned with the nature of a problem. It will produce results of a descriptive nature and is used to describe or illustrate the nature of variables and what they mean.

According to Collis & Hussey (2009), the quantitative paradigm can be used to test relationships between variables and also explore the nature of problems. In this paradigm, the researcher knows clearly in advance what he/she is looking for and all aspects of the study are carefully designed before data is collected.

The researcher uses tools such as questionnaires or equipment to collect numerical data and data is in the form of numbers and statistics. Data is more efficient in comparison to qualitative data. The research design is the plan, structure and strategy of the investigation conceived to obtain answers from respondents to research questions and to control variance (Singh, 2007:63).

In the qualitative paradigm, the researcher may only know roughly in advance what he/ she is looking for and the design emerges as the study unfolds. The researcher is the data gathering instrument and data is in the form of words, pictures or objects. Qualitative data is therefore richer and more time consuming (Gerber, 2012).

The main differences between the two research paradigms are illustrated in the following table (Table 3.1).

**Table 3.1: Differences between the quantitative and qualitative research paradigms**

Qualitative research	Quantitative research
The aim is a complete, detailed design.	The aim is to classify features, count them and construct statistical models in an attempt to explain what is observed.
Researcher may only know roughly in advance what he/she is looking for.	Researcher knows in advance what he/she is looking for.
The design emerges as the study unfolds.	All aspects of the study are carefully designed for data collection.

Data is in the form of words and illustrations.	Data is in the form of numeracy and statistics.
Research is subjective and based on in-depth interviews and observations	Research is objective and based on measurement from surveys

Source: <http://wilderdom.com/research/QualitativeVersusQuatitativeResearch.html>

It is against the background of the theoretical information presented in the previous paragraphs that this section on the research methodology of the study is presented. Methodology according to Leedy and Ormrod (2005:12) is the general approach the researcher takes in carrying out the research project; to some extent, this approach dictates the particular tools the researcher selects.

### **3.2.4 The research problem**

The challenges within the FMCG industry worldwide, where constant changes in the needs of the market require organisations to identify innovative distribution methods to meet consumer needs. The present development of globalisation of markets, , could result in a considerable increase in foreign competition, making it difficult for organisations to differentiate their products on the basis of cost or quality and this will result in the following question:

***How can FMCG companies gain competitive advantage by enhancing their distribution model to meet ever changing customer needs?***

Various authors are of the opinion that a successful distribution model within the FMCG industry plays a pivotal role in meeting ever changing consumer needs as well as a strategic tool to enhance the organisation's long term sustainability. However, to become and remain a sustainable organisation presents a major challenge to organisations in contemporary markets due to globalisaion and the considerable increase in foreign competition.

The research problem formed the basis for the exploration of the main focus of this study: ***An assessment of factors affecting distribution models: an FMCG perspective.***

### **3.2.5 Application of methodology**

There were two main aspects that needed to be accomplished in this study. One was to determine from literature the success factors of a FMCG distribution model that meet or satisfy the ever changing consumer needs. From the literature reviewed five prominent success factors were identified namely, operational excellence, performance management, strategic partnerships, technology drivers and relationship marketing.

These success factors form part of key attributes that FMCG industry distribution models would typically have to ensure that the organisation meets the changing market demands in their striving for business success. The second aspect of the study was to evaluate whether the literature findings are congruent with the perceptions of distributors in a FMCG company, in this instance Coca-Cola Fortune.

The scope of the study best fits with the quantitative (positivistic) paradigm given that the researcher knew clearly in advance what he/she was looking for and all aspects of the study were clearly designed before data was collected. Furthermore, the positivistic paradigm is best suited because it can test the responses to the questionnaire statistically. Both primary research (surveys) and secondary research (internal and external published and un-published media) sources have been utilised.

### **3.2.6 The literature review**

According to Collis and Hussey (2009:91), a literature review is a critical assessment of the existing body of knowledge on a topic, which guides the research and validates that the relevant literature has been identified and analysed. A literature search is a systematic process with a view to identifying the existing body of knowledge on a particular topic, specifically secondary data (data that already exists).

In this study the literature search was conducted using research databases available on the Nelson Mandela Metropolitan University's (NMMU) off-campus and on-campus website, such as EBSCOHost, Emerald and the NMMU's library database.

Other sources included the World Wide Web, and various published and unpublished sources.

Leedy and Ormrod (2005) stated that research can be classified as basic or applied research. The purpose of basic research, or otherwise known as pure research, is to assess concepts, models and systems to contribute to the general body of knowledge. Whilst applied research aims or attempts to solve existing and real-life problems.

In terms of these definitions this study can be categorised as basic research. The study systematically evaluates the current body of knowledge pertaining to the concept of assessing factors affecting distribution models, to understand the history and revolution of the topic and its recent status.

In addition, it serves to evaluate the significance of assessing factors affecting distribution models; highlights challenges affecting distribution models; identify the various factors of a successful distribution model as well as recommend strategies to attain such a status. Thereafter, the findings of the literature review were evaluated in an empirical study to enable the researcher to provide insight, draw inferences and conclusions for organisations coveting a success distribution model status.

### **3.2.7 The questionnaire**

A survey is a positivistic method whereby a sample of subjects is drawn from a population and studied to make inferences about the population. The research is both exploratory and descriptive in nature. The data for this study was gathered by using a self-administered questionnaire. According to Collis and Hussey (2009:191), a questionnaire is a list of carefully structured questions, chosen after considerable testing, with a view to eliciting reliable responses from a chosen sample. The aim is to determine what a selected group of participants do, think or feel.

A questionnaire is generally used as a method for gathering data and forms part of the positivistic research methodologies (Collis & Hussey, 2009:192).

### **3.2.8 Design of the questionnaire**

When conducting a study the main aim is to attempt to solve the main problem of the study and the questionnaire was carefully constructed based on the findings of the literature reviewed. To achieve this objective, the researcher aimed to assess distributor owners/managers perceptions based on these findings in the empirical study. The questionnaire was designed with simplicity in mind. However, care was taken to ensure a balance between simplicity in design as well as focus on solving the research problem, i.e. the assessment of factors affecting distribution models.

A cover letter (see appendix B) was attached to each questionnaire. The purpose of the letter was to inform distributor owners/managers of the purpose of the study and to kindly request their assistance and to motivate them to complete the questionnaire. The cover letter assured the respondents that the information would be treated as confidential.

The questionnaire (see appendix C) was divided into three sections:

- Section A: Demographic profiling,
- Section B: Rank importance of the key success factors of distribution models, and
- Section C: Comprises five sub-sections detailing the attributes of a successful distribution model as listed below:
  - Operational excellence
  - Performance management
  - Strategic partnership
  - Technology drivers
  - Relationship marketing

### **3.2.9 Design of questions**

Collis and Hussey (2009:193) mentioned that questions should be presented in a logical order and it is beneficial to move from general to specific topics. This is known as funnelling.

The researcher should also give precise instructions (for example whether to tick one or more boxes, or whether a number or word should be circled to indicate responses). The clarity of the instructions and the ordering and presentation of the questions can do much to encourage and help respondents. These factors can also make the subsequent analysis of the data easier. The researcher designed the questions keeping the aforementioned in mind.

Closed-ended questions are questions where the respondent's answers are selected from a number of predetermined alternatives (Collis & Hussey, 2009:200). Since the objective was to find factual data that will be easy to analyse, the questionnaire was constructed using only closed-ended questions. Closed questions are very convenient and are easy to analyse, since the range of potential answers is limited and can be coded in advance (Collis & Hussey 2009:200).

In this research each section in the questionnaire was represented by a set of different types of questions. Section A used a set of closed questions, in section B participants were asked to rank a list of items in order of importance, section C used a Likert rating scale, which according to Collis and Hussey (2009:202), is one of the more frequently used types of scales.

The following scale range was applied to the Likert scale used in Section C.

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

Each section contained detailed instructions on how the section was to be completed by the participants. Participants were instructed to place an "x" in the box that indicated their choice of answer relating to the specific question or statement, except for section B where participants were asked to rank a list of attributes in order of importance.

All questions were posed in a positive context. The benefit of this was to discourage leading statements, i.e. leading the respondent into a negative context. The researcher aimed to invalidate the negative context, therefore if the answer is "Disagree", then it is actually so.

### **3.2.10 Testing the questionnaire**

According to Blumberg, Cooper and Schindler (2008:74), a pilot test is conducted to detect weakness in design and instrumentation, and to provide proxy data for selection of a probability sample. It should, therefore, draw subjects from the target population and simulate the procedures and protocols that have been designed for data collection. A pilot study is therefore an essential element of testing the questionnaire prior to distribution. According to Collis and Hussey (2009), the researcher can have colleagues or friends read through the questionnaire and play the role of respondents, even if they know little about the subject.

Prior to distribution, the questionnaire was tested on five respondents in a pilot study, to identify possible problems or weaknesses such as uncertainty with interpretation of the survey questions in the different sections of the questionnaire. Feedback from the test group indicated that the questions in the questionnaire were clear and self-explanatory.

### **3.2.11 Distribution of questionnaires**

The questionnaires were distributed electronically by the researcher to each respondent in the selected sample. Respondents were requested to electronically fill out the questionnaire and once completed to return it to the researcher electronically.

Brink (2005) explained that the ease of access to electronic mail systems makes it possible for both large and smaller organisations to use computer questioning with both internal and external respondent groups. Many techniques of traditional mail surveys can be easily adapted to computer distributed questionnaires (follow-ups to non-respondents are more easily executed and less expensive). Brink (2005) further explained that it is not unusual to find registration and full-scale surveying being performed on World Wide Web sites. A brief surveying of the Internet reveals that organisations use their sites to evaluate customer service processing, build sales



lead lists, evaluate planned promotions and product change, determine supplier/customer needs, discover interests in job openings, evaluate employee attitudes, and more.

Thanks to e-mail, access to people and companies has become far more efficient and less expensive, and has made it easier for the researcher to complete the survey. The e-mail survey method was chosen for this study, for the following reasons:

- The fact that respondents were located in various locations in South Africa;
- The respondents have access to Internet and e-mail facilities; and
- The availability of respondents' e-mail addresses.

The convenience to respondents was enhanced, as questions could be answered on their computers via the e-mail facility, allowing them to mail the questionnaire immediately and avoiding reliance on traditional mail systems and/or faxing.

The questionnaire was supported by a covering letter (see appendix A) addressed to the respondents. The covering letter stated the purpose of the research and also assured the respondents that all information obtained will be treated as confidential.

### **3.3 RESEARCH POPULATION AND SAMPLING**

#### **3.3.1 Population**

A population according to Collis and Hussey (2009:209) is a body of people or collection of items under consideration for statistical purposes. For this research, the population comprised all the Official Coca-Cola Distributors within the Central and South region of Coca-Cola Fortune. For the purpose of this research a sample, which is a subset of the population, was drawn.

#### **3.3.2 Sample**

In a positivist study, a sample is chosen to provide an unbiased subset that represents the population (Collis & Hussey, 2009:210). According to Struwig and Stead (2001:109), collecting information from a sample is more practical and accurate than collecting information from the entire population. If a population is

relatively small, the researcher can select the whole population otherwise a random sample of the population should be selected.

A random sample is one where every member of the population has a chance of being chosen. Therefore, the sample is an unbiased subset of the population, which allows the results obtained from the sample to be taken to be true for the whole population; in other words, the results taken from the sample are generalisable to the population (Collis & Hussey, 2009:211).

Collis and Hussey (2009:210) provided the following steps in selecting a random sample, which was adopted by the researcher:

- (a) *Define the target population:* In this study this includes all the Official Coca-Cola Distributors within the Central and South regions of Coca-Cola Fortune.
- (b) *Obtain or construct a sampling frame in order to determine how many items there are in the population:* A sample frame for this study was in the form of a list of all the Official Coca-Cola Distributors within the Central and South region of Coca-Cola Fortune. This list was obtained from the Sales and Marketing Department.
- (c) *Determine the minimum sample size:* The total population amounted to 42 Official Coca-Cola Distributors within the Central and South regions. According to Collis and Hussey (2009), it is common to accept a degree of uncertainty in the conclusions drawn, therefore selecting a sufficiently large random sample to allow the results to be generalised to the population may not be vital. The researcher selected a sample that represents approximately 95% of the total population. This amounted to a sample of 40 distributors.
- (d) *Choose a sampling method:* The researcher chose to adopt a random sampling method to ensure every member of the population had a chance of being selected. A number was allocated to every member of the population and a sample was selected based on the numbers given in a random table.

### **3.4 VALIDITY AND RELIABILITY**

Leedy and Ormrod (2005), stated that validity and reliability are important factors to be considered during the data collection process.

Reliability is concerned with the findings of the research. The findings can be said to be reliable if the researcher or someone else repeats the research and obtains the same results (Collis & Hussey, 2009:204).

Validity on the other hand, is concerned with the extent to which the research findings accurately represent what is happening in the situation, in other words whether the data collected represent a true picture of what is being studied (Collis & Hussey, 2009:204).

In this study the measuring instrument is the questionnaire, which was designed to fulfil the research objectives and answer the research questions posed in the problem statement. A draft questionnaire was tested in a pilot study among respondents that represent the target population and subsequent sample. The questionnaire was also reviewed by a senior lecturer at the Nelson Mandela Metropolitan University (NMMU). Feedback obtained was incorporated and adjusted accordingly.

### **3.5 STATISTICAL ANALYSIS**

Each questionnaire received was printed, numbered and collated. The raw data was tallied using a Microsoft, excel spread-sheet. The use of statistical techniques on the excel spread-sheet assisted in adding up and deriving statistical data for analyses and decision-making purposes.

### **3.6 CONCLUSION**

In this chapter, an overview of research theory, the research process and the various types of research and research paradigms were discussed. Coupled with this the rationale for selecting the quantitative research paradigm in this study was described and justified. Furthermore, the researcher explained the literature review undertaken in Chapter Two, as well as the questionnaire design and the structuring of the questions based on the findings of the literature study.

In addition, the testing of the questionnaire as well as sampling technique and the reliability and validity of the measuring instrument was explained. A random sampling method was selected for this research to provide every member with an equal chance of being selected for the survey. Finally, the research instrument demonstrated face validity which was verified by means of a pilot survey executed with the help of five individuals who were representative of the target population. The questionnaire was also reviewed by a senior lecturer at the Nelson Mandela Metropolitan University. To this end, this exercise also enhanced the reliability of the research instrument.

The questionnaire was drawn up using information emanating from the literature review presented in Chapter Two of the study, and submitted to 40 respondents who distribute products on behalf of Coca-Cola Fortune. The response rate was 100% (40 responses).

The data obtained from the surveys will be analysed and interpreted in the following chapter.

## **CHAPTER FOUR**

### **ANALYSIS, INTERPRETATION AND DISCUSSION OF THE RESEARCH RESULTS**

#### **4.1 INTRODUCTION**

In Chapter Three of this study the research methodology employed was discussed. The results of the empirical study will be analysed and interpreted in this chapter. The responses received from the respondents that participated in this study were summarised in tabular form for each section of the questionnaire. The results of each section will be analysed and interpreted by the researcher.

The chapter commences by analysing Section A of the questionnaire which provides biographical information regarding the respondents. The chapter then continues to analyse Section B of the questionnaire where respondents were required to rank the five attributes of a successful distribution model that were identified during the literature review conducted by the researcher. This section will be analysed by adding, for each attribute, the ranking obtained from each respondent and then the average ranking for each individual attribute is calculated by dividing the results with the total number of respondents. The average ranking of each factor is calculated and presented in a table with the attribute having the lowest calculated average ranking, representing the attribute that respondents feel is the most important attribute of a successful distribution model.

In section C the respondents had to indicate the extent to which they agreed with each of the twenty five statements in the section ranging on a 5 point Likert scale from “Strongly Disagree” to “Strongly Agree”. According to Collis and Hussey (2009:202) data collected by means of a Likert Scale is ordinal data. Bar Figures should be used for display purposes when analysing ordinal data, In the light of this, the interpretation and discussion of results are supported by horizontal bar Figures and tables.

## 4.2 ANALYSIS OF THE BIOGRAPHICAL INFORMATION

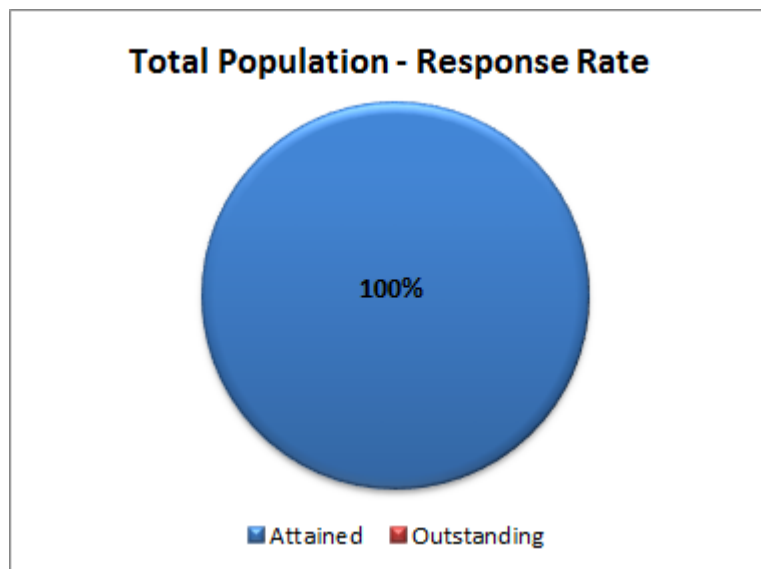
### 4.2.1 Total population – response rate

Of the 40 questionnaires distributed, 40 responses were received, representing a response rate of 100%. These results are presented in Table 4.1 and in Figure 4.1 below.

**Table 4.1: Total population - response rate**

	<b>Frequency</b>	<b>Percentage</b>
Attained	40	100%
Outstanding	0	0%
<b>TOTAL</b>	<b>40</b>	<b>100%</b>

**Figure 4.1: Total population - response rate**

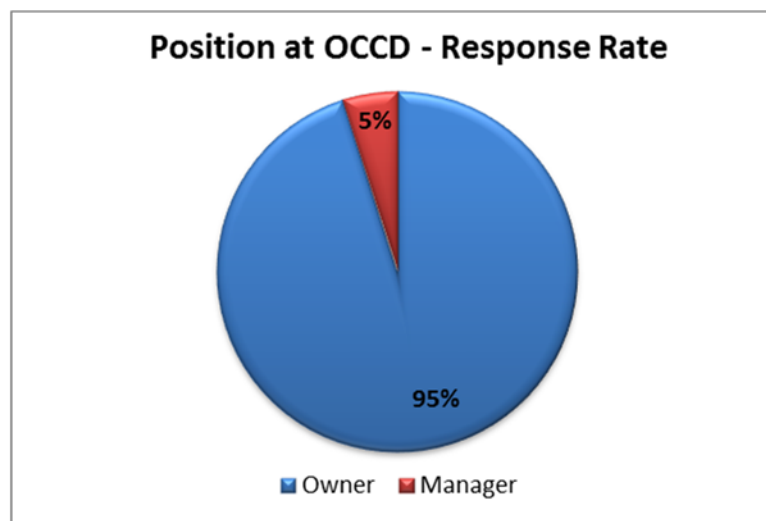


Kanuk & Berenson, 1975 stated that follow ups and reminders, have been widely used with great success. This form of obtaining a higher response rate has been regarded as the most potent technique yet discovered for increasing the response rate. This effectiveness includes the following three aspects and includes (1) a letter, (2) a follow up form of communication, and (3) the combined effects of both a preliminary and a follow up letter. They found these methods very effective in attaining high response rates. The research has adopted this method and found it effective in obtaining a 100% response rate.

#### 4.2.2 Position at Official Coca-Cola Distributors – response rate

The response rate by position at the Official Coca-Cola Distributor can be divided between the following groups: 38 of the respondents which constitute 95% of the responses are the owners of the Official Coca-Cola Distributor and two (2) of the respondents (5%) are the managers of the Official Coca-Cola Distributor. These results are presented in Figure 4.2 below.

**Figure 4.2: Position at Official Coca-Cola Distributors – response rate**

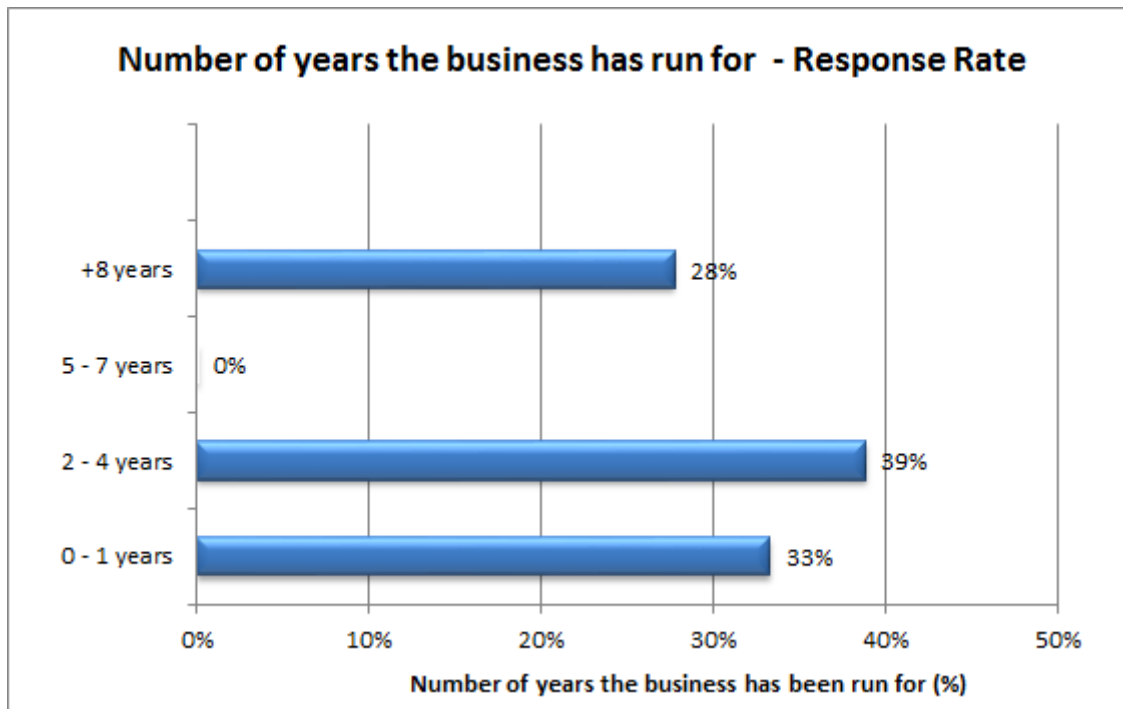


#### 4.2.3 Number of years the business has run for – response rate

Of the responses received, 13 Official Coca-Cola Distributors (33%) have been running their businesses between 0-1 year, 16 (39%) between 2-4 years, 0 (0%) between 5-7 years and 11 (28%) for more than 8 years.

Although responses by the number of years the business has run for are relatively evenly spread across various bands except for the between 5-7 years band, the majority of respondents fall in both the 0-1 year and 2-4 years category respectively. These results are shown in Figure 4.3 below.

**Figure 4.3: Number of years the business has run for – response rate**



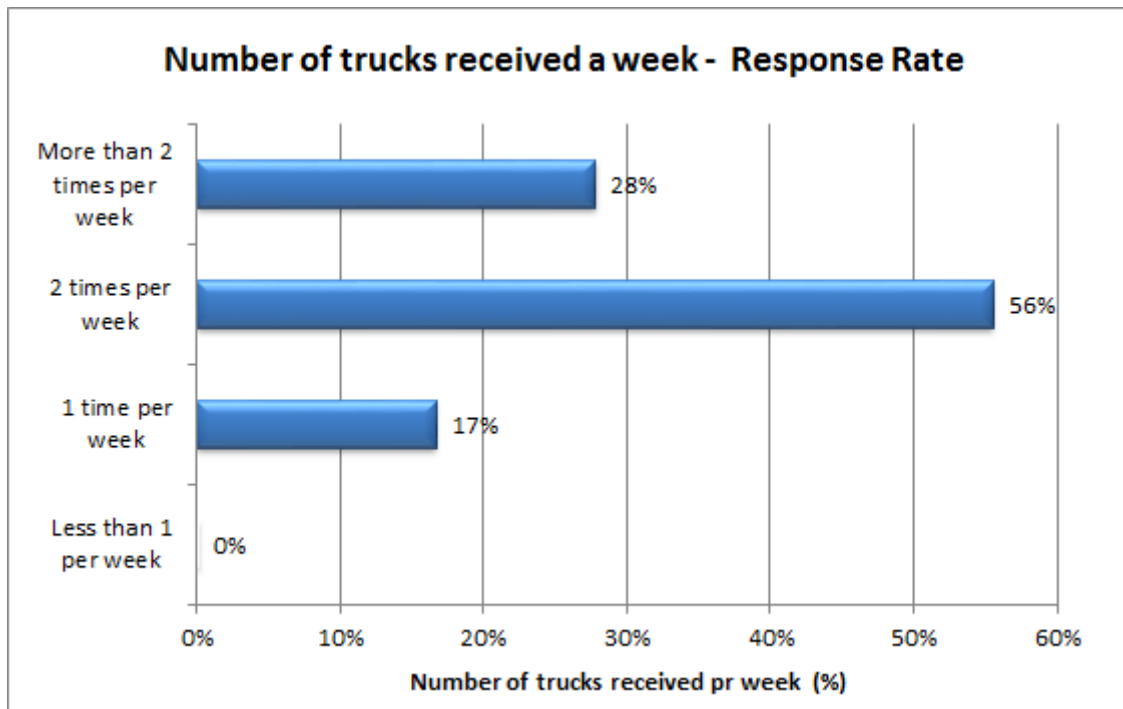
#### **4.2.4 Number of trucks received per week – response rate**

Of the responses received, there is no Official Coca-Cola Distributors who receives less than 1 truck per week, 7 distributors (17%) receive 1 truck per week, 22 distributors (56%) receive 2 trucks per week and 11 (28%) receive more than 2 trucks per week.

The responses by the number of trucks received per week are relatively wide spread across the various bands. The majority of respondents fall in the band receiving 2 trucks per week whilst no respondents fall in the band receiving less than 1 truck per week. These results are represented in Figure 4.4 below.



**Figure 4.4: Number of trucks received per week – response rate**



#### **4.3 THE RANKED IMPORTANCE OF THE ATTRIBUTES OF A SUCCESSFUL DISTRIBUTION MODEL**

The respondents had to rank the key success factors for successful distribution models by ranking them in terms of importance. The most important attribute was ranked as number 1 and the least as 5. Table 4.2 below indicates the results of the order in which the respondents ranked the five attributes of a successful distribution model.

**Table 4.2: Ranked order of the attributes of a successful distribution model**

Attributes of a success distribution model	No of responses	Total responses based on ranking scores	Average Rank	Rank
Operational Excellence	40	106	2.65	3
Performance Management	40	78	1.95	1
Strategic Alliance	40	150	3.75	4
Technology Enhancements	40	184	4.60	5
Relationship Marketing	40	82	2.05	2

Based on the table 4.2 the ranking order identified by the respondents as attributes of a successful distribution model are as follows:

- 1 *Performance management* – the primary reason relating to performance management is to ensure (1) the reduction of their operating costs, (2) drive their revenue growth, and (3) enhance their business value.
- 2 *Relationship marketing* – this is known as marketing activities directed at establishing, developing, and maintaining successful relational exchanges.
- 3 *Operational excellence* - business processes that are essential to ensure the distribution model is operationally successful in its day-to-day processes.
- 4 *Strategic alliance* - to enable the company to take off with the required capital and other support resources including business for the facility and provide adequate support systems.
- 5 *Technology enhancements* - creating an uncontested market place through the means of innovation and technology.

This section of the questionnaire aimed at ascertaining the order of importance in which respondents ranked the identified attributes of a successful distribution model. In order to be considered a successful distribution model among the Official Coca-Cola Distributors, Coca-Cola Fortune should not only focus on the attributes that need attention but also place more emphasis on those that are deemed most important to Official Coca-Cola Distributors. This however does not imply that some attributes are not important and Coca-Cola Fortune should not take note of it. In this study, performance management has been identified by Official Coca-Cola Distributors as the most important attribute of a successful distribution model, followed by relationship marketing, operational excellence, strategic alliance and finally technology enhancements.

The most important attribute of a successful distribution model identified by the respondents being performance management (1.95) is supported by Win (2008), who stated that performance measures relating to financial and non-financial indicators are seen as pivotal in identifying whether or not to consider the distribution party successful.

Relationship marketing (2.05) scored as the second most important attribute which shows that it is an important attribute for successful distribution models. Gronroos (1990) advocated this attribute by stating that relationship marketing is seen as critical in ensuring that a long term sustainable relationship is established between the distribution party and the organisation. The analysis reveals that performance management and relationship marketing are the two most important attributes as illustrated in table 4.2 above.

Table 4.2 also shows that the respondents considered technology enhancements as the least important attribute of a successful distribution model.

#### **4.4 ANALYSIS AND INTERPRETATION OF SECTION C – ATTRIBUTES OF A SUCCESSFUL DISTRIBUTION MODEL**

##### **4.4.1 Operational excellence**

The overall average as presented in table 4.3 below is favourable, i.e. agree is at 43% and strongly agree is at 52% compared to disagree which is at 5%. It is noted that none of the respondents chose neutral and due to the majority of respondents choosing agree or strongly agree, means that the respondents identify this attribute as a critical aspect for a successful distribution model.

The majority of respondents agreed with all the questions posed in this section:

- Question 1: 53% of the respondents agreed that their business has an *adequate receiving function* and 47% strongly agreed to this question.
- Question 2: 32% of the respondents agreed that *stocking principles* are adhered to within their businesses and 63% strongly agreed to this question.
- Question 3: 37% of the respondents agreed that *in storage handling* are adhered to in their businesses and 58% strongly agreed to this question.
- Question 4: 53% of the respondents agreed that prior to shipments *products are packed uniformly* and 42% strongly agreed to this question.
- Question 5: 42% of the respondents agreed that they *can determine the satisfaction* of their customer services and 47% strongly agreed to this question.

**Table 4.3: Operational excellence**

Operational excellence		Valid N	Strongly disagree %	Disagree %	Neutral %	Agree %	Strongly agree %	X-Bar	Std Dev
1	My business has an adequate receiving function	40	0%	0%	0%	53%	47%	4.47	0.51
2	Stocking principles are adhered to which includes storage by product by brand and size and rotation of stock	40	0%	5%	0%	32%	63%	4.53	0.77
3	In storage handling ensuring safe guarding of stock are adhered to	40	0%	5%	0%	37%	58%	4.47	0.77
4	Prior to shipment, products are packed uniformly within distribution vehicles	40	0%	5%	0%	53%	42%	4.32	0.75
5	I can determine the satisfaction of my customer services	40	0%	11%	0%	42%	47%	4.26	0.93
<b>SUB TOTAL AVERAGES</b>			<b>0%</b>	<b>5%</b>	<b>0%</b>	<b>43%</b>	<b>52%</b>		

The only question where 11% of the respondents disagreed was question five. However the majority of the respondents agreed and strongly agreed with the other questions.

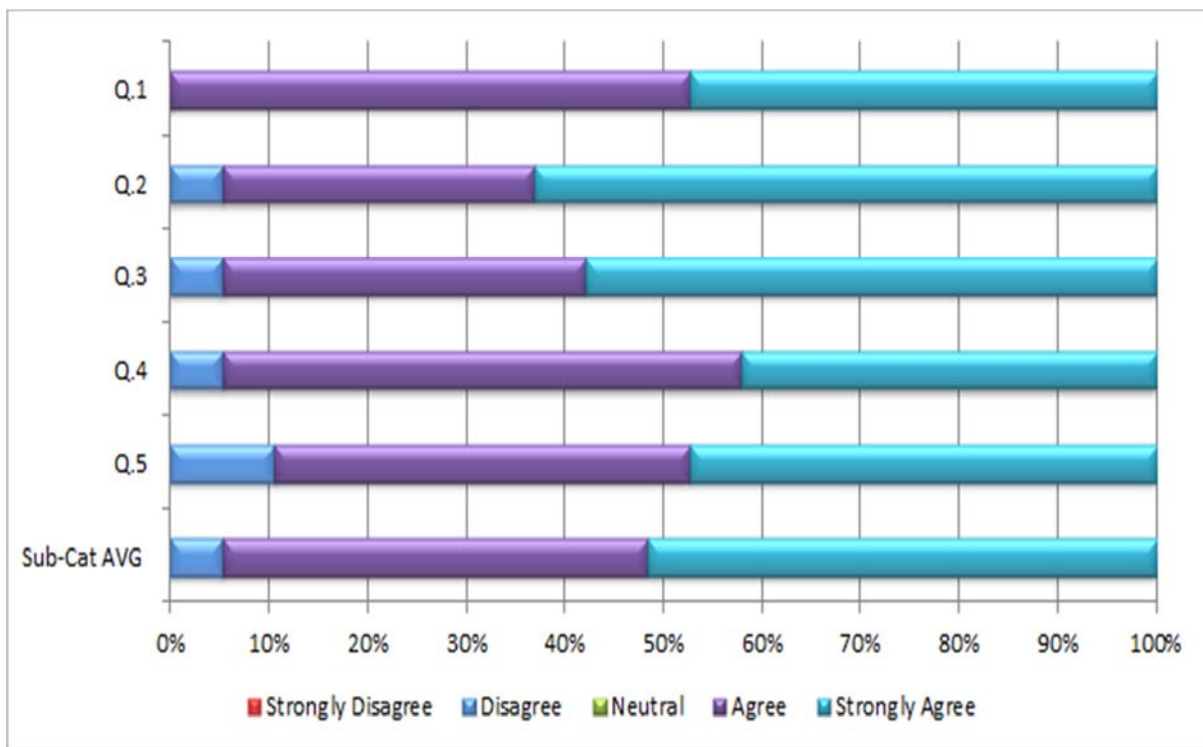
The results above suggest that the respondents have identified the operational excellence attribute as a key success factor for distribution models. These results are aligned to Kim *et al.* (2007), who stated that to ensure distribution models are successful when it comes to operational day-to-day processes, distribution processes need to be of essence. These business processes include receiving, in storage handling, picking and shipping inspection where majority of respondents agreed and strongly agreed.

These results are also consistent to Aldin and Stahre (2003), who confirmed that a conceptual model relating to distribution models are essential for a successful 3PL operation. One of the aspects within this model is the customer relationship management, and customer service attribute whom the majority of respondents agreed and strongly agreed to.

The findings above suggest that the Official Coca-Cola Distributors have a high regard for operational excellence as a key attribute for a successful distribution model. Coca-Cola Fortune needs to ensure that their basic business processes are adhered to by the Official Coca-Cola Distributors on a daily basis. It is of vital importance that the standard relating to these business processes are maintained to ensure a successful distribution model.

Figure 4.5 below illustrates the results obtained from the analysis of the survey responses in respect of operational excellence, section C of the questionnaire.

**Figure 4.5: Operational excellence**



#### 4.4.2 Performance management

**Table 4.4: Performance management**

Performance Management		Valid N	Strongly disagree %	Disagree %	Neutral %	Agree %	Strongly agree %	X-Bar	Std Dev
1	I have systems in place that allow for effective performance management	40	0%	0%	5%	53%	42%	4.37	0.60
2	I know exactly what my sales growth target is	40	0%	5%	16%	47%	32%	4.05	0.85
3	I have regular meetings with CCF regarding my performance to establish a level of service performance that truly adds value	40	5%	0%	5%	68%	21%	4.00	0.88
4	I am meeting the requirements of my customers with regards to timely delivery and effective service	40	0%	0%	16%	42%	42%	4.26	0.73
5	The cost structure of my business is optimal	40	5%	0%	16%	58%	21%	3.89	0.94
<b>SUB TOTAL AVERAGES</b>			<b>2%</b>	<b>1%</b>	<b>12%</b>	<b>54%</b>	<b>32%</b>		

The overall average as presented in table 4.4 above is favourable, i.e. agree is at 54% and strongly agree is at 32% compared to disagree which is at 1% and strongly disagree which is at 2%. It is noted that 12% of the respondents chose neutral and due to the majority of respondents choosing agree or strongly agree, means that the respondents identify this attribute as a critical aspect for a successful distribution model.

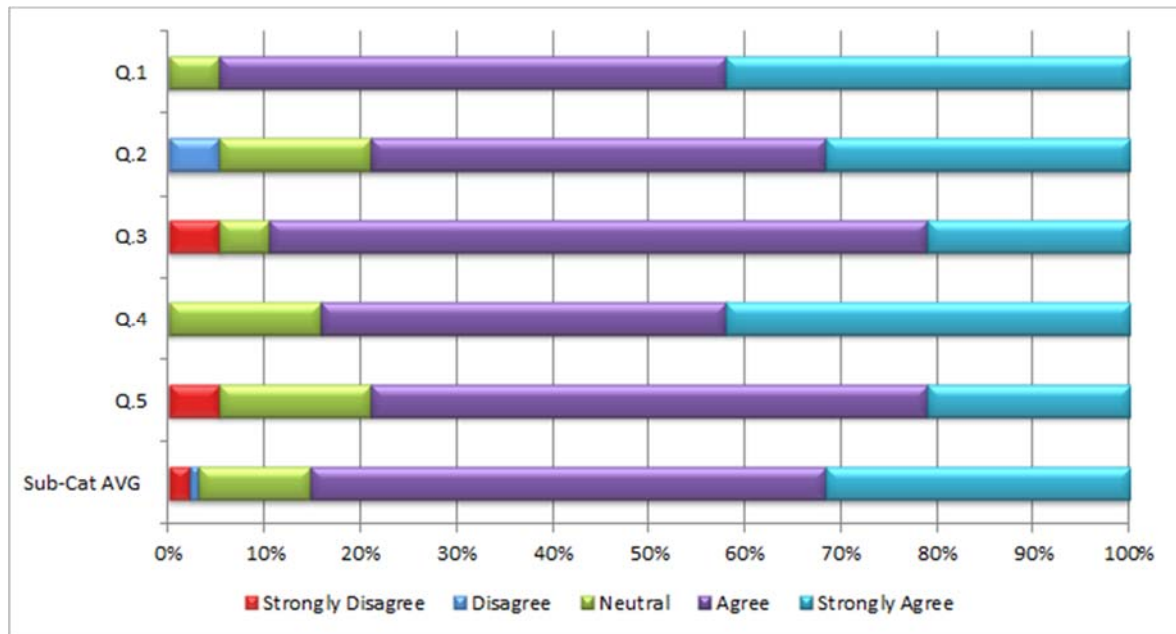
The majority of respondents agreed with all the questions posed in this section:

- Question 1: 53% of respondents agreed that systems are in place for effective performance management and 42% strongly agreed to this question.
- Question 2: 47% of respondents agreed that they know what their sales growth target is and 32% strongly agreed to this question.
- Question 3: 68% of respondents agreed that regular meetings are held by Coca-Cola Fortune and 21% strongly agreed to this question.

- Question 4: 42% of respondents agreed that they are meeting with their customers to discuss service delivery and 42% strongly agreed to this question.
- Question 5: 58% of respondents agreed that their business has an optimal cost structure and 21% strongly agreed to this question.

Questions two, four and five resulted in 16% of the respondents selecting neutral. However the majority of the respondents agreed and strongly agreed with the other questions.

The results above suggest that the respondents have identified the performance management attribute as a key success factor for distribution models. These results are in line with Win's findings (2008) that identified financial and non-financial indicators as pivotal in ensuring these indicators are measured to identify if the distribution party is considered to be successful. The favourable response by the respondents is further reinforced by Keeber *et al.* (2009) who stated that the subject of performance measurement in logistics organisations had three significant findings in common, namely: that most firms do not comprehensively measure logistics performance; even the best performing firms fail to realize their productivity and service potential available from logistics performance measurement; and logistics competency will increasingly be viewed as a competitive differentiator and a key strategic resource for the firm. Figure 4.6 below illustrates the results obtained from the analysis of the survey responses in respect of performance management, section C of the questionnaire.

**Figure 4.6: Performance management**

#### 4.4.3 Strategic alliance

**Table 4.5: Strategic alliance**

Strategic Alliance		Valid N	Strongly disagree %	Disagree %	Neutral %	Agree %	Strongly agree %	X-Bar	Std Dev
1	I am proud to be an Official Coca-Cola Distributor	40	0%	0%	0%	37%	63%	4.63	0.50
2	I receive the necessary strategic support from CCF to enable my business to take off	40	5%	0%	16%	53%	26%	3.95	0.97
3	CCF has provided me with value added services	40	5%	0%	21%	47%	26%	3.89	0.99
4	I feel that I have a have a long term relationship with CCF	40	0%	0%	5%	47%	47%	4.42	0.61
5	I can easily communicate with CCF	40	0%	0%	5%	37%	58%	4.53	0.61
<b>SUB TOTAL AVERAGES</b>			<b>2%</b>	<b>0%</b>	<b>9%</b>	<b>44%</b>	<b>44%</b>		

The overall average as presented in table 4.5 above is favourable, i.e. agree is at 44% and strongly agree is at 44% compared to strongly disagree which is at 2%. It is noted that 9% of the respondents chose neutral and due to the majority of respondents choosing agree or strongly agree, it is accepted that the respondents identify this attribute as a critical aspect for a successful distribution model.



The majority of respondents agreed with all the questions posed in this section:

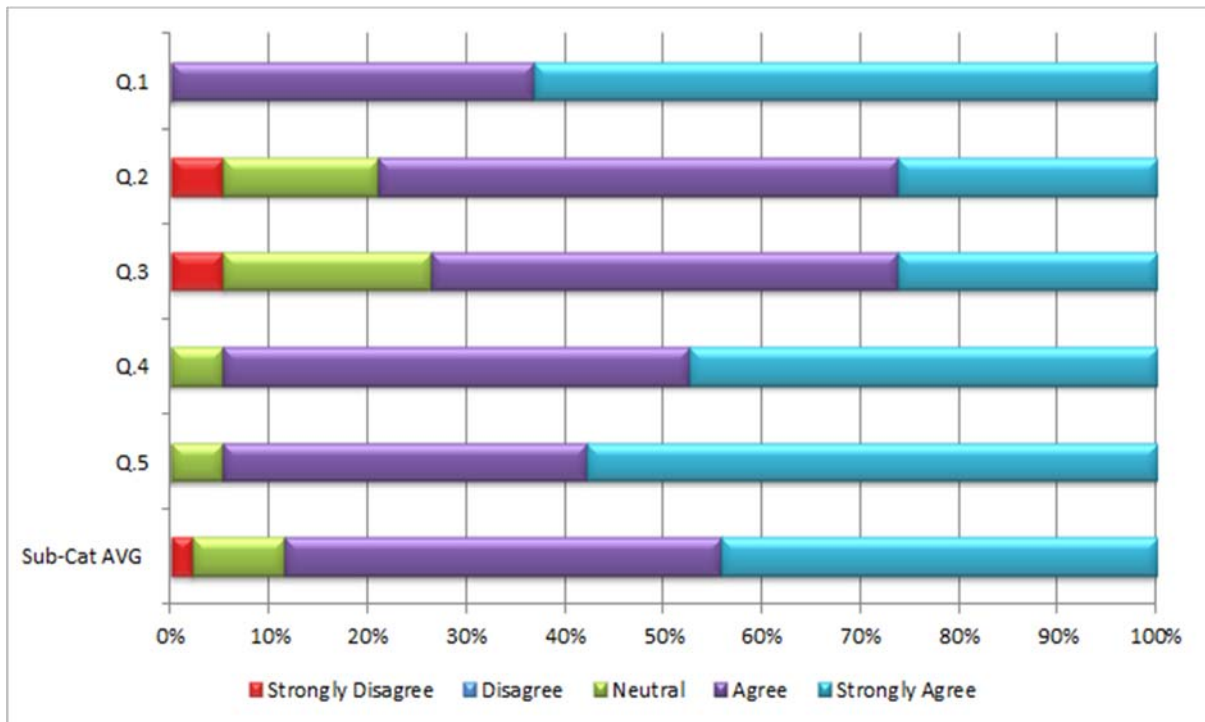
- Question 1: 37% of respondents agreed that they are proud to be an Official Coca-Cola Distributor which clearly shows the importance of a strategic alliance. 63% strongly agreed to this question.
- Question 2: 53% of respondents agreed that Coca-Cola Fortune provided them with the necessary support to start their business and 26% strongly agreed to this question.
- Question 3: 47% of respondents agreed that Coca-Cola Fortune provided them with value added systems to support their business. 26% strongly agreed to this question.
- Question 4: 47% of respondents strongly agreed that they have a sense of a long term partnership with Coca-Cola Fortune and 47% agreed to this question.
- Question 5: 58% of respondents strongly agreed that they can easily communicate with Coca-Cola Fortune 37% agreed to this question.

Question two indicates that 16% of the respondents selected neutral when identifying if they felt that Coca-Cola Fortune provided them with the necessary support to start their business.

Question three shows that 21% of respondents selected neutral when identifying if they felt that Coca-Cola Fortune provided them with value added services within their businesses.

The results above suggest that the respondents have identified the strategic alliance attribute as a key success factor for distribution models. These results are aligned to Mourits *et al.*'s findings (1996) that identify strategic concerns as fundamentals to ensure an effective and successful distribution model. These fundamentals include support structures and systems, ease of communication with the distribution partner and long term sustainable relationship between the organisation and the distribution party.

Figure 4.7 below illustrates the results obtained from the analysis of the survey responses in respect of strategic alliance, section C of the questionnaire.

**Figure 4.7: Strategic alliance**

(Source: Results obtained from analysis of survey responses - Section C)

#### 4.4.4 Technology enhancements

The overall average of the responses as presented in table 4.6 below can be considered as favourable, i.e. agree is at 34% and strongly agree is at 11% compared to disagree at 13% and strongly disagree which is at 4%. It should be noted that a considerable number (33%) of respondents selected the neutral option. With the majority of the respondents choosing agree or strongly agree means that the respondents identify this attribute as a critical aspect for a successful distribution model.

**Table 4.6: Technology enhancements**

Technology Enhancements		Valid N	Strongly disagree %	Disagree %	Neutral %	Agree %	Strongly agree %	X-Bar	Std Dev
1	I have the necessary technology and IT systems to run my business effectively	40	5%	16%	32%	21%	26%	3.47	1.22
2	CCF supports me with regards to technology equipment and training	40	16%	26%	42%	16%	0%	2.58	0.96
3	Technology has assisted the performance of my business	40	0%	11%	37%	53%	0%	3.42	0.69
4	With the aid of technology real time information assisted the accuracy of inventory levels and financial data	40	0%	11%	37%	42%	11%	3.53	0.84
5	Further technology enhancements can assist my business	40	0%	0%	16%	37%	47%	4.32	0.75
<b>SUB TOTAL AVERAGES</b>			<b>4%</b>	<b>13%</b>	<b>33%</b>	<b>34%</b>	<b>17%</b>		

The majority of respondents agreed with the following questions posed in this section:

- Question 1: 21% of the respondents agreed that they have the necessary IT systems in place to run their business and 26% strongly agreed to this question.
- Question 3: 53% of the respondents agreed that technology will assist the performance of their business.
- Question 4: 42% of the respondents agreed that with technology enhancements this will assist the accuracy of inventory and financial data and 11% strongly agreed to this question.
- Question 5: 37% of the respondents agreed that further technology enhancements can assist their business and 47% strongly agreed to this question.

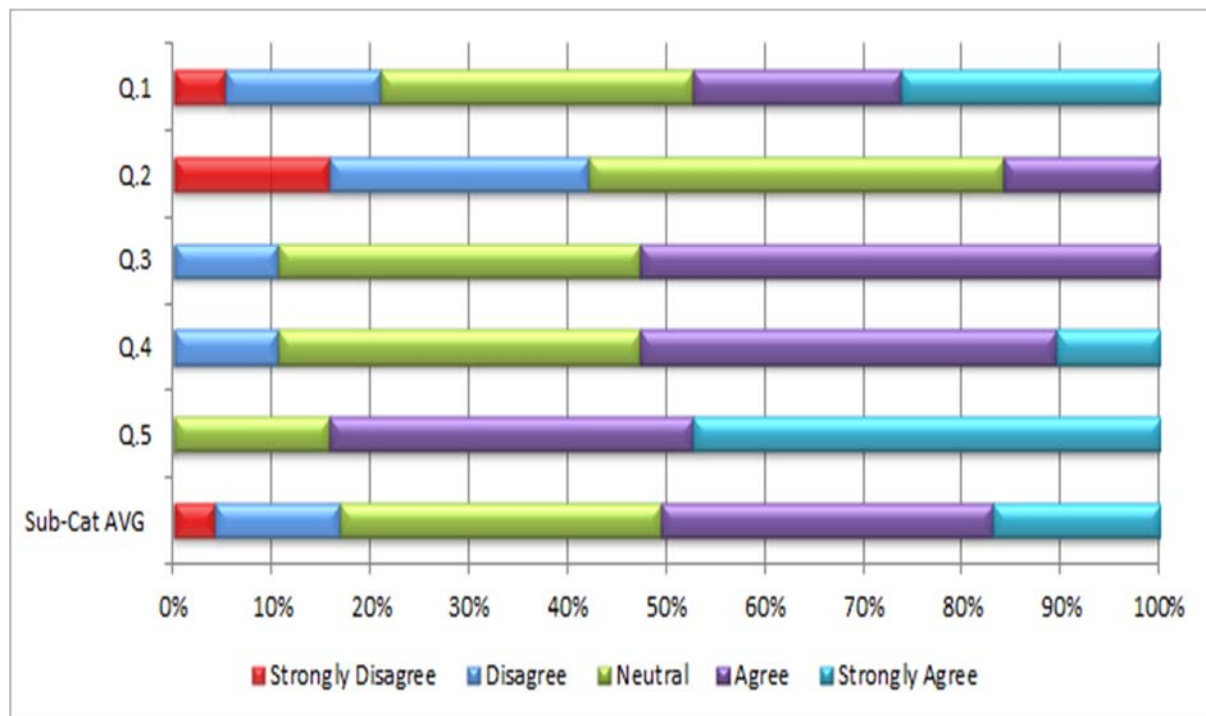
The only question where the majority of respondents disagreed was question two. 16% disagreed and a further 26% strongly disagreed that Coca-Cola Fortune assists the respondents with regard to technology equipment and training. A further 42% of respondents selected the neutral option.

The results above suggest that the respondents have identified the technology enhancements attribute as a key success factor for distribution models. These results are aligned to Kim *et al.* (2007) who stated that incorporation of technology within a distribution model creates a competitive advantage. In addition to this, Chiu (1995) highlighted the importance of integrating IT with distribution management concepts and identified this as a critical success factor in effective logistics management.

However, question two is not in agreement to Kim *et al.* (2007) who identified how successful distribution models can operate with the aid of effective technology. One of these facets is to create the appropriate technology training and equipment to be used as a part of a successful distribution model which is not aligned to the current survey responses.

Figure 4.8 below illustrates the results obtained from the analysis of the survey responses in respect of technology enhancements, section C of the questionnaire.

**Figure 4.8: Technology enhancements**



#### 4.4.5 Relationship marketing

**Table 4.7: Relationship marketing**

	Relationship Marketing	Valid N	Strongly disagree %	Disagree %	Neutral %	Agree %	Strongly agree %	X-Bar	Std Dev
1	There is a long term sustainable relationship established with CCF	40	0%	0%	11%	63%	26%	4.16	0.60
2	My business is an extension of CCF rather than that of a customer	40	0%	0%	21%	42%	37%	4.16	0.76
3	There are sufficient channels to communicate effectively with CCF	40	0%	0%	32%	37%	32%	4.00	0.82
4	My business and CCF easily share information related to costs and/or revenue	40	0%	11%	11%	47%	32%	4.00	0.94
5	I trust that CCF will partner with me in growing my business	40	0%	0%	0%	53%	47%	4.47	0.51
	<b>SUB TOTAL AVERAGES</b>		<b>0%</b>	<b>2%</b>	<b>15%</b>	<b>48%</b>	<b>35%</b>		

The overall average as presented in table 4.7 above favourable, i.e. agree is at 48% and strongly agree is at 35% compared to disagree at 2%. It should be noted that 15% of the selected the neutral option. With the majority of the respondents choosing agree or strongly agree means that the respondents identify this attribute as a critical aspect for a successful distribution model.

The majority of respondents agreed with all the questions posed in this section:

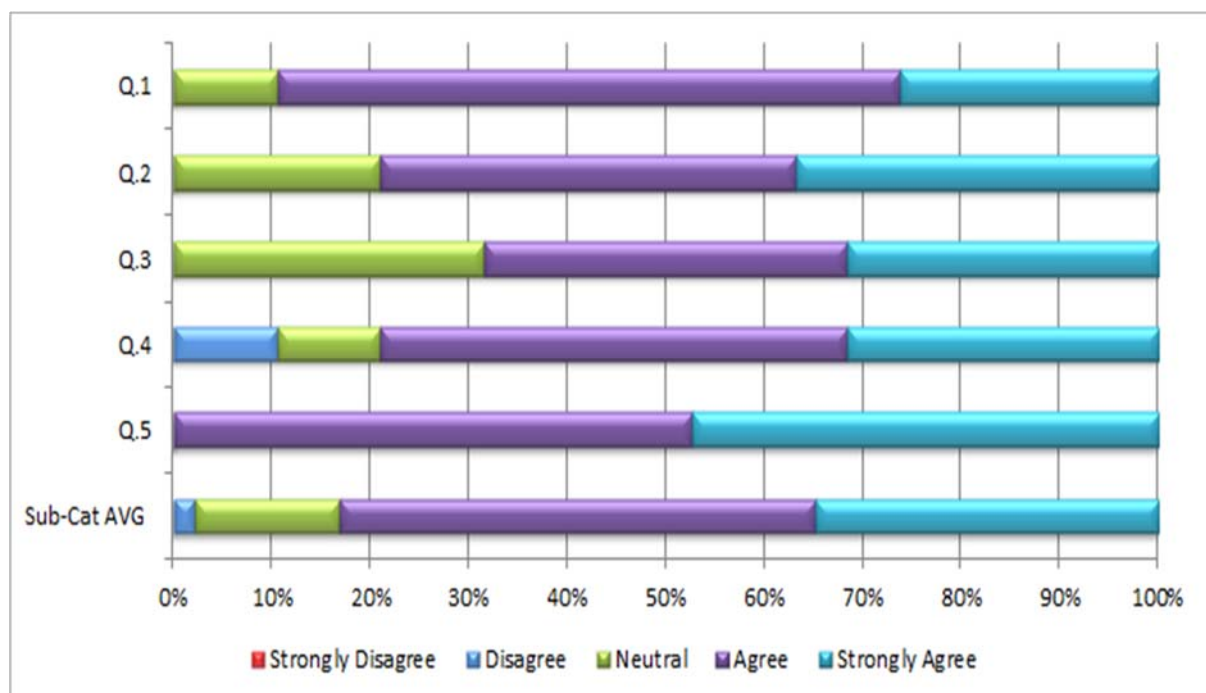
- Question 1: 63% of respondents agreed that there is a long term sustainable relationship with Coca-Cola Fortune and 26% strongly agreed to this question.
- Question 2: 42% of respondents agreed that they feel that their business is an extension of Coca-Cola Fortune: 37% strongly agreed to this question.
- Question 3: 37% of respondents agreed that there are sufficient channels of communication with Coca-Cola Fortune and 32% strongly agreed to this question.

- Question 4: 47% of respondents agreed that there is information sharing between their business and Coca-Cola Fortune; 32% strongly agreed to this question.
- Question 5: 53% of respondents agreed that they can trust Coca-Cola Fortune to grow their business and 47% strongly agreed to this question.

The results above suggest that the respondents have identified the relationship marketing attribute as a key success factor for distribution models. These results are aligned to Morgan and Hunt's (1994), definition of relationship marketing. They defined it as marketing activities directed at establishing, developing, and maintaining successful relational exchanges. The goal of relationship marketing (Gronroos, 1990), is to establish, maintain, enhance relationships with customers and other partners at a profit, so that the objective of the parties involved are met. This is achieved by mutual exchange and fulfilment of promises. This aspect is seen as critical in ensuring a long term sustainable relationship is established between the distribution party and the organisation.

Figure 4.9 below illustrates the results obtained from the analysis of the survey responses in respect of relationship marketing, section C of the questionnaire.

**Figure 4.9: Relationship marketing**



#### 4.4.6 Summary of category and question responses

The sub-category and question response results are tabled in table 4.8 below. Table 4.8 shows the ranking of the various attributes by the respondents from one to five, one being the most important.

The category averages by attribute, are presented. Furthermore, a summary of the question results by the majority of the respondents are included. For ease of reference to the questions, the full questionnaire is presented in Appendix C of the study.

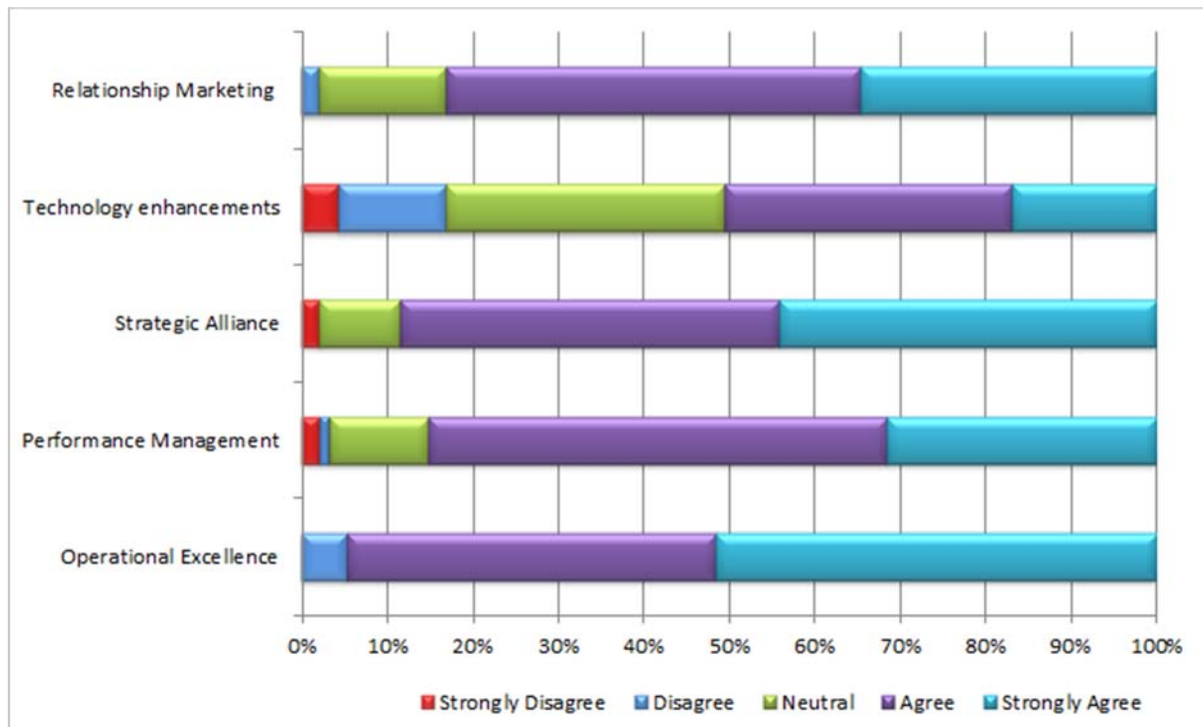
The summary of results in table 4.8 indicates that the majority of respondents regard the distribution model between Coca-Cola Fortune and Official Coca-Cola Distributors as a successful distribution model and four of the five identified attributes are influencing this perception. These four attributes were all rated by the respondents as the four most important attributes of a successful distribution model.

**Table 4.8: Summary of category and question responses**

		Category Averages				
Attributes	Rank	Strongly disagree %	Disagree %	Neutral %	Agree %	Strongly agree %
Operational excellence	3	0%	5%	0%	43%	52%
Performance Management	1	2%	1%	12%	54%	32%
Strategic Alliance	4	2%	0%	9%	44%	44%
Technology Enhancements	5	4%	13%	33%	34%	17%
Relationship Marketing	2	0%	2%	15%	48%	35%

Figure 4.10 below illustrates the results obtained from the analysis of the survey responses to all of the attributes averages, section C of the questionnaire.\

**Figure 4.10: Summary results of survey responses to attributes**



#### 4.5 CONCLUSION

In Chapter Four aside from the demographic data, the researcher has analysed each section of the survey and provided interpretations of the research findings. In section 4.3 the rank importance of the identified attributes of a successful distribution model was established. In section 4.4 the perceptions of a sample group of Official Coca-Cola Distributors were established by measuring the extent to which the respondents agreed or disagreed with the statements relating to each attribute. A summary of the overall averages for each attribute was presented.

The results revealed that the majority of the sample group regard the distribution model between Coca-Cola Fortune and Official Coca-Cola Distributors as a successful distribution model. This is despite the many respondents who selected the “neutral” option for many of the questions posed in Section C of the questionnaire.

Overall, the study has revealed that this perception relates to the attributes that are adequately provided for by Coca-Cola Fortune, namely operational excellence, performance management, strategic alliance and relationship marketing. Conversely



the respondents rated technology enhancements as the least important attributes of this distribution model.

Chapter Five will focus on recommendations and concluding remarks, based on the abovementioned findings. Limitations of the research and opportunities for further research will also be highlighted.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 INTRODUCTION**

Sub-problem one of the study, namely “What are the factors affecting distribution models in secondary literature?” was dealt with by means of an in-depth literature study that was presented in Chapter Two. These attributes were identified and investigated from the literature findings and validated by means of the empirical findings contained in Chapter Four.

The empirical study was conducted in order to satisfy the main problem of the study, namely “An assessment of factors affecting distribution models: an FMCG perspective,” as well as sub-problem two, namely “What does Official Coca-Cola Distributors at Coca-Cola Fortune view as attributes of a distribution model?” and sub-problem three, “In what order of importance do Official Coca-Cola Distributors at Coca-Cola Fortune rank the identified attributes of a distribution model?”. Sub-problem four of the study, namely, “How can the results obtained from the resolution of sub-problems one, two and three (above) be combined into a strategic model, which can be used at Coca-Cola Fortune?” will be presented in this chapter. These conclusions and recommendations are based on the findings of the empirical study conducted in Chapter Four. Furthermore, the limitations experienced during the research study will be discussed as well as the recommendations for improvements and future research presented.

#### **5.2 THE EMPIRICAL STUDY**

An empirical study was conducted in Chapter Four. The researcher designed a questionnaire that consisted of three sections. Section A was aimed at establishing the demographical data of the respondents; Section B was aimed at establishing the ranking importance of the attributes of a successful distribution model identified during the literature study and Section C was aimed at measuring the extent to which these attributes were present within the distribution model between Coca-Cola Fortune and Official Coca-Cola Distributors.

Forty Official Coca-Cola Distributors were selected to participate in the empirical study which consisted of Official Coca-Cola Distributors within the south and central regions of Coca-Cola Fortune. In total there were forty participants and all 40 participants (100% success rate) completed the questionnaire without errors. Of the forty respondents analysed, two were the managers of the Official Coca-Cola Distributors and thirty eight were the owners of the Official Coca-Cola Distributors.

### 5.3 SURVEY FINDINGS

Section A of the survey aimed to profile the demographics of the respondents who participated in the study. From the data attained and analysed in Chapter Four, the characteristics of the respondents generally are:

- (a) They have been running their businesses for a period between 2 – 4 years, and
- (b) They have been receiving two trucks per week from Coca-Cola Fortune.

In section B of the survey, respondents ranked the attributes of a successful distribution model in order of their importance:

- 1 **Performance management** – the primary ranking relating to performance management is to ensure (1) the reduction of their operating costs, (2) drive their revenue growth, and (3) enhance their business value.
- 2 **Relationship marketing** – this is known as marketing activities directed at establishing, developing, and maintaining successful relational exchanges.
- 3 **Operational excellence** - business processes that are of essence to ensure the distribution model is operationally successful in its day-to-day processes.
- 4 **Strategic alliance** - to enable the company to take off with the required capital and other support resources including business for the facility and provide adequate support systems.
- 5 **Technology enhancements** - creating an uncontested market place through the means of innovation and technology.

Each of the five attributes above and listed in section C of the survey questionnaire, were represented by statements and respondents had to indicate whether they agreed or disagreed with the claims each statement made regarding the attribute it represented. This was in order to determine the extent to which these attributes are present in the distribution model.

The total as well as average responses to each statement were calculated. The combined total average response for each attribute was also calculated. The results of the empirical study, indicating the total combined average response for each attribute was summarised in Table 4.8.

The survey findings revealed that the majority of respondents regard the distribution model as a successful distribution model. This perception is influenced by the following attributes where the majority of respondents agreed (i.e. identified by the total average by category):

- Performance Management
- Relationship Marketing
- Operational Excellence
- Strategic Alliance

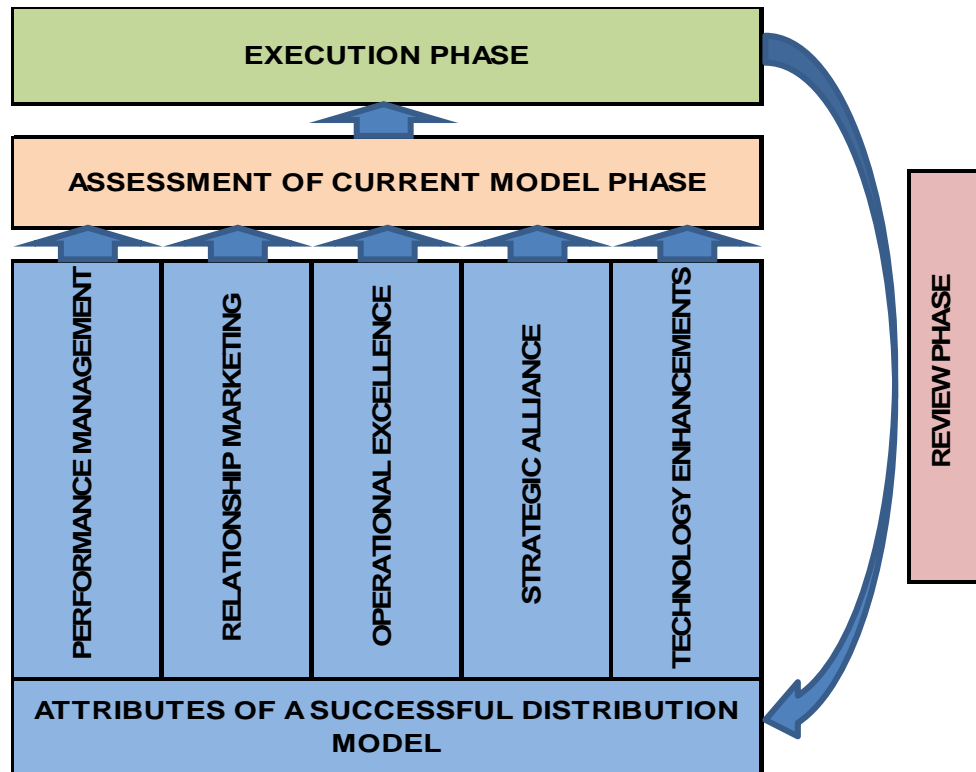
Furthermore, this is further validated by the fact that these attributes above were identified by respondents as the top four attributes of a successful distribution in section B of the survey.

#### **5.4 RECOMMENDATIONS**

A strategic model can be designed for positioning the distribution model between Coca-Cola Fortune and its Official Coca-Cola Distributors as a successful distribution model.

The strategic model for positioning the distribution model between Coca-Cola Fortune and its Official Coca-Cola Distributors as a successful distribution model (Figure 5.1 below) is the culmination of the research and research findings from Chapters One through to Chapters Four of the study.

**Figure 5.1: A strategic model for positioning the distribution model between Coca-Cola Fortune and its Official Coca-Cola Distributors as a successful distribution model.**



Source: Researcher's own construct.

Sub-problem four in Chapter One required that a strategic model be developed that combines all the attributes (performance management relationship marketing, operational excellence, strategic alliance and technology enhancements) of a strategic model to achieve a successful distribution model to implement at Coca-Cola Fortune.

Details of the model are discussed below:

- The base of the model identifies the five essential attributes of a successful distribution model identified in the literature review and validated in the empirical study conducted. These attributes together form part of the key attributes to ensure the distribution model between Coca-Cola Fortune and Official Coca-Cola Distributors are assessed and maintained. The value proposition should answer the question, 'what makes this model a successful one?'

- These five essential attributes of a successful distribution model identified in the literature review are then assessed within the existing distribution model between Coca-Cola Fortune and Official Coca-Cola Distributors. This is known as the “Assessment of Current Model Phase.”
- This assessment will clearly identify shortcomings and success factors within this distribution model compared to the literature review which clearly identifies the five essential attributes of a successful distribution model.
- The evaluation phase matches the shortcomings identified in the Assessment of Current Model Phase to the literature review. Recommendations regarding the shortcomings identified needs to be communicated to the relevant parties within the distribution model. This will require the relevant parties to implement action plans to ensure each of the shortcomings are implemented and matches the essential attributes of a successful distribution model. It is of vital importance that these suggested implementations from literature are maintained to ensure a sustainable and successful distribution model.
- The evaluation phase also identifies success factors that are currently present within the distribution model between Coca-Cola Fortune and Official Coca-Cola Distributors. The importance of maintaining these attributes are key to ensure a sustainable and successful distribution model.
- The review phase of the model relates to the assessment of this distribution model between Coca-Cola Fortune and Official Coca-Cola Distributors by assessing the perceptions of the Official Coca-Cola Distributors; various forms of measurement can be used to gauge perceptions. It is advisable however, that a checklist (see appendix A) should be conducted annually and where possible the same respondents should be used to avoid bias or inaccurate information. The results of the checklist should be used to make amendments and improvements to the strategies and action plans relating to each of the five attributes. It is important to continuously measure the Official Coca-Cola Distributors perceptions in order to proactively anticipate areas of concern which could have an adverse effect on the relationship, productivity, performance and effectiveness of the distribution model needed for long term organisational success.

#### **5.4.1 Areas that require attention**

The main problem of this study was to investigate and identify the attributes of a successful distribution model.

Findings from Section C of the survey, which was aimed at measuring the extent to which the identified attributes of a successful distribution model are present in the relationship between Coca-Cola Fortune and Official Coca-Cola Distributors, highlighted the attribute that is inadequately provided for and therefore are of concern.

This attribute influences the perception of the distribution model between Coca-Cola Fortune and Official Coca-Cola Distributors as a successful distribution model. Recommendations that follow are aimed at specifically improving these areas of concern.

#### **5.4.2 Recommendation One – Technology enhancements**

According to Ligon *et al.* (1992) technology has several advantages, which will allow organisations to overcome some traditional distribution problems. These include: real-time information on inventories, single data entry to minimise human errors as inputting of the data is handled by customers themselves and there is no need to re-enter the information, a real-time online ordering function and user access control. These are recommended to assist the distribution party to use the aid of technology to assist their business to operate effectively and successfully.

This is further supported by Kim *et al.* (2007), who stated that in creating a successful distribution model the need to use technology within these models is seen as critical. This will require the distribution model to incorporate technology which will create a competitive advantage and thus be aligned with the characteristics of a Blue Ocean strategy.

This clearly demonstrates that literature identifies technology as a key attribute in a successful distribution model. In this study, the majority of respondents did not regard the attribute relating to technology enhancements as an attribute of a successful distribution model. This perception is directly impacted by the perception

that technology enhancements are to a lesser extent not present within the distribution model between Coca-Cola Fortune and Official Coca-Cola Distributors. This proposition is further supported by the fact that the vast majority of respondents ranked technology enhancements as the least important attribute of a successful distribution model.

The findings indicate that this attribute is negatively influenced by the fact that the majority of Official Coca-Cola Distributors do not perceive:

- That technology enhancement can effectively run their business on a day-to-day basis. Technology can support a business to run efficiently and effectively. It can assist businesses to identify shortcoming and improvements to these shortcomings can be immediately implemented to prevent further inefficiencies in their business.
- That Coca-Cola Fortune supports them with the relevant technology equipment and training. This is pivotal that Coca-Cola Fortune supports the Official Coca-Cola Distributors in respect of their technology requirements. This aspect will also ensure that the strategic alliance attribute is seen as an attribute for a successful distribution model.
- That technology will assist the performance of their business. Businesses need to wring every ounce of productivity out of their operations and technology tools help business owners get tasks done more quickly. The key is to keep employees focused when using technology and to use it appropriately with the goal of saving time. It is vital to support the business with the right hardware and updated software to keep them operating optimally.

The research study indicated that a technology enhancement is a key attribute of a successful distribution model. Coca-Cola Fortune will need to focus on the areas of concern, stated above, to improve the Official Coca-Cola Distributors perceptions of the importance of technology within their businesses to ensure a successful distribution model between Coca-Cola Fortune and Official Coca-Cola Distributors is maintained.



## **5.5 PROBLEM AREAS ENCOUNTERED**

There were no particular problems encountered during the research. However, a few limitations worth mentioning are:

- While a good response rate was achieved, the number of respondents who selected the “Neutral” option in Section C of the questionnaire made the analysis and interpretation of the data collected cumbersome.
- The data collection and capturing process proved to be time consuming as questionnaires were distributed and collected manually. This however was anticipated by the researcher and allowed for easy follow up and hence a satisfactory response rate.

## **5.6 RECOMMENDATIONS FOR FURTHER RESEARCH**

The limitations encountered during the research process stipulated above resulted in opportunities for further research. These opportunities are as follows:

- A qualitative study in order to delve deeper into the specific issues related to the technology enhancement attributes that were identified as areas of concern for the organisation. This will allow for a better understanding of how this issue manifests within the distribution model between Coca-Cola Fortune and Official Coca-Cola Distributors as well as aid in the development of strategies to overcome these. These findings will also result in the development of a winning value proposition and ensure the alignment of action plans with the key issues influencing perceptions around a successful distribution model.
- To extend the study to a wider group of Official Coca-Cola Distributors i.e. Official Coca-Cola Distributors based at all regions within the Coca-Cola Fortune Company. This will allow for a companywide strategy to be developed.
- Extend the study externally to gauge the perception of potential Official Coca-Cola Distributors and their perception of a successful distribution model. A recommendation is to conduct this research at various universities. These

results can be used to compile an effective distribution model strategy to position Coca-Cola Fortune as a successful distribution model partner. This will ensure that Coca-Cola Fortune's status and reputation is always the first choice when wanting to partner within a distribution model.

- A fast moving consumer goods industry study can be conducted to compare the results among FMCG organisations since they compete for the same market. Industry benchmarks can be derived from these findings.

## **5.7 CONCLUSION**

The FMCG industry is now more than ever before, facing a new era of strong competition and as a means to survive; organisations are continuously searching for ways to increase their competitiveness and sustainability. Organisations must succeed at introducing new products/services through the process of innovation, or risk failing as a business. This includes organisations meeting ever changing customer needs in the least amount of time. Various authors in literature have recommended that in order to react to these challenges, organisations need to develop a successful distribution model to meet these changing consumer needs. This includes an optimal distribution model which portrays key success factors as a model to meet consumer demands and defeat competition within the marketplace. This strategy will ensure that Coca-Cola Fortune outperforms its competitors and enhance its profitability.

The main purpose of this study was the identification of, and investigation into the attributes of a successful distribution model. Prominent distribution model attributes as found in the literature were identified and validated through the findings of the empirical study conducted. Furthermore, the results indicated that if Coca-Cola Fortune wants to create a successful distribution model, specific focus will need to be placed on those attributes that are negatively perceived by their distribution partners.

It is also recommended that Coca-Cola Fortune should better leverage the attributes that are positively perceived. The literature findings and empirical findings together resulted in the proposition of a strategic model that can be used by Coca-Cola

Fortune to change perceptions of their distribution partners. In addition, areas of concern were highlighted and recommendations put forth by the researcher for improvements.

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## APPENDIX A

# Coca-Cola Fortune Checklist of Official Coca-Cola Distributors

<b>Official Coca-Cola Distributors Name</b>	
<b>Date of assessment</b>	
<b>Region</b>	

<b>Attributes</b>	<b>Sum of questions answered agree within the relevant attribute</b>
<b>Operational excellence</b>	
<b>Performance Management</b>	
<b>Strategic Alliance</b>	
<b>Technology enhancements</b>	
<b>Relationship Marketing</b>	
<b>Total Score</b>	

**Scores should be discussed with the distributor and action plans implemented to ensure optimal results are achieved on follow up assessment**

<b>Name of assessor</b>	<b>Name of Official Coca-Cola Distributor owner/manager</b>
<b>Signature of assessor</b>	<b>Signature of Official Coca-Cola Distributor owner/manager</b>

Please indicate with a ✓ if you agree or disagree with each of the statements below:

<b>Operational excellence</b>	<b>Agree</b>	<b>Disagree</b>
Does the operation have an adequate receiving function?		
The warehouse adheres to stocking principles which include storage by product, by brand and size, and includes rotation of stock.		
When stock is handled within the warehouse its handling ensures safe guarding of stock.		
Prior to shipment, products are packed uniformly within distribution vehicles and agree to a picking slip.		
Is the distributor's customer delivery service meeting Coca-Cola Fortune's requirements? This can be performed by doing the following: <ul style="list-style-type: none"> <li>• Visiting outlets who the distributor delivers too;</li> <li>• Question these outlets based on the relevant distributor's delivery services.</li> </ul>		
<b>General Comments on Operational Excellence.</b>		
<b>How many questions were answered agreed?</b>		
<b>Performance Management</b>	<b>Agree</b>	<b>Disagree</b>
Can the distributor's performance be tracked on a daily, weekly and monthly basis?		
Can the distributor's sales target be easily determined?		

<p>Has there been regular meetings with Coca-Cola Fortune employees? <i>This can be verified by having discussions with the Account Manager for the respective distributor by inspecting action plans and business review discussions.</i></p>		
<p>Has the business review been performed with the distributor and this includes a Profit and Loss analysis which tracks sales and costs performance?</p>		
<p>A comparison cost structure performance needs to be undertaken with the distributor by comparing their respective costs with a similar distributor to ensure comparisons can be concluded. Has this been done?</p>		
<p><b>General Comments on Performance Management</b></p>		
<p><b>How many questions were answered agreed?</b></p>		
<p><b>Strategic Alliance</b></p>	<p><b>Agree</b></p>	<p><b>Disagree</b></p>
<p>Does the distributor feel proud to be an Official Coca-Cola Distributor?</p>		
<p>Does the distributor feel that they have the necessary strategic support from Coca-Cola Fortune to enable their business to take off?</p>		
<p>Has Coca-Cola Fortune worked with the distributor to provide value added services? For example:</p> <ul style="list-style-type: none"> <li>• assistance with regard to the design and layout of the warehouse;</li> <li>• routing of delivery vehicles and</li> <li>• financial analysis</li> </ul>		

Does the distributor feel that they have a long term relationship with Coca-Cola Fortune CCF?		
Does the distributor feel that they can easily communicate to CCF?		
<b>General Comments on Strategic Alliance</b>		
<b>How many questions were answered agreed?</b>		
<b>Technology enhancements</b>	<b>Agree</b>	<b>Disagree</b>
Does the distributor have the necessary technology and IT systems to run their business?		
Has CCF supported the distributor with regard to any technology equipment or training?		
Has technology assisted the performance of the distributor's business?		
Has technology assisted the accuracy of inventory levels and financial data?		
Does the distributor feel that further technology enhancements can improve their business performance?		
<b>General Comments on Technology Enhancements</b>		
<b>How many questions were answered agreed :</b>		

Relationship Marketing	Agree	Disagree
Does the distributor feel that there is a long term sustainable relationship established between them and Coca-Cola Fortune?		
Does the distributor feel that they are an extension of Coca-Cola Fortune rather than a customer?		
Does the distributor feel that there are clear communication lines between them and Coca-Cola Fortune?		
Does the distributor feel that they can reciprocate information sharing, cost sharing and revenue sharing?		
Does the distributor feel that they can trust CCF?		
<b>General Comments on Relationship Marketing</b>		
<b>How many questions were answered agreed?</b>		

## **APPENDIX B**

### **Dear Official Coca Cola Distributor**

In partial fulfilment of the requirements for the Master's Degree in Business Administration (MBA), at the Nelson Mandela Metropolitan University (NMMU), I am required to complete a research dissertation on a topic of my choice. The topic I have chosen is an assessment of factors affecting distribution models – an FMCG perspective.

To achieve this, the study requires that valuable data is obtained from a randomly selected group of distributors by means of a questionnaire. I would therefore greatly appreciate it if you could assist me, by taking a couple of minutes of your time, to complete the attached questionnaire.

I assure you that I will treat all information provided in these questionnaires as strictly confidential.

Your assistance is truly appreciated.

Thank you kindly.

Kumesh Reshalin  
(Researcher)

Professor Koot Pieterse  
(Supervisor)

## APPENDIX C

### QUESTIONNAIRE

#### SECTION A: GENERAL INFORMATION

1. OCCD's name: \_\_\_\_\_
2. Position at OCCD, tick appropriate box.

Owner	
Manager	

3. How long have you been running your business? Tick appropriate box

Years of trading	0-1	2-4	5-7	+8
Response				

4. How many times a week do you receive stock from Coca-Cola Fortune (CCF)?  
Tick appropriate box.

Frequency	Less than 1 time per week	1 time per week	2 times per week	More than 2 times per week
Response				

#### SECTION B: KEY SUCCESS FACTORS

The researcher has identified the following key success factors for successful distribution management within the FMCG industry. Rank these factors in order of importance to you i.e. the factor that in your opinion is most important will be ranked as number 1 and the least as 5.

Key Success Factors	Rank Order
Operational excellence	
Performance management	
Strategic partnership	
Technology drivers	
Relationship marketing	



**SECTION C:**

Please indicate with an X the extent to which you agree or disagree with each of the statements below:

	<b>Operational excellence</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly agree</b>
1	My business has an adequate receiving function					
2	Stocking principles are adhered to which include storage by product, by brand and size, and rotation of stock					
3	In storage handling ensuring safe guarding of stock is adhered to					
4	Prior to shipment, products are packed uniformly within distribution vehicles					
5	I can determine the satisfaction of my customer services					
	<b>Performance Management</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly agree</b>
1	I have systems in place that allow for effective performance management					
2	I know exactly what my sales growth target is					
3	I have regular meetings with CCF regarding my performance to establish a level of service performance that truly adds value					
4	I am meeting the requirements of my customers with regard to timely delivery and effective service					

5	The cost structure of my business is optimal					
	<b>Strategic Alliance</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly agree</b>
1	I am proud to be an Official Coca-Cola Distributor					
2	I receive the necessary strategic support from CCF to enable my business to take off					
3	CCF has provided me with value added services					
4	I feel that I have a have a long term relationship with CCF					
5	I can easily communicate with CCF					
	<b>Technology enhancements</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly agree</b>
1	I have the necessary technology and IT systems to run my business effectively					
2	CCF supports me with regards to technology equipment and training					
3	Technology has assisted the performance of my business					
4	With the aid of technology real time information assisted the accuracy of inventory levels and financial data					
5	Further technology enhancements can assist my business					
	<b>Relationship Marketing</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly agree</b>
1	There is a long term sustainable relationship established with CCF					

2	My business is an extension of CCF rather than a customer					
3	There are sufficient channels to communicate effectively with CCF					
4	My business and CCF easily share information related to costs and/or revenue					
5	I trust CCF					

**Thank you for taking the time to complete this questionnaire**