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The effect of mass retail buying practises on competitiveness in the retail value chain.

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Abstract

Historically, South African manufacturers and suppliers to the mass retail environment have been compelled to manage significant business risks as a result of the generic buying strategies employed by the mass retailing format. More recently, best practice initiatives such as SCOR's collaborative planning, forecasting and replenishment have risen to the fore of supply chain management as ways to mitigate the undesired effects of theses generic buying practices for all participants in the value chain.

Traditional thinking centred on optimising only the merchandise activities and function, through cost based performance measures, have caused a number of undesired effects and invalid assumptions. These factors in turn have impacted the competitiveness and sustainability of manufacturers and suppliers as well as the supply chain ecosystem as a whole. Systemic theory suggests that in order to identify these conflicting and invalid assumptions one must approach the problem through sufficiency based thinking processes that communicate the core conflict and map out possible solutions for managers. Data for this study was collected based on the widely accepted best practice framework of supply chain management for the mass retail environment. With this in mind, this research aims to provide an academic foundation for deeper collaboration between mass retailers and their vendors, as well as an understanding of the practical implications of decisions for managers and executives, on both the mass retail, and manufacturing and supply sides of the value chain.

While statistical variation is a reality in the retailing environment, the mass retailing format and its supply chain partners are particularly susceptible to the negative effects of 'bullwhip' due to the large scale of promotional activities undertaken. Much of this problem can be mitigated through collaboration on a meaningful bases that allows not only for responsiveness for supply chain partners but greater profitability for all participant in the value chain. It is argued that an improvement in throughput will have a positive impact on the competitiveness and sustainability of the local supply and manufacturing organisations in South Africa

Keywords: Systemic thinking, CPFR, competitiveness, supply chain management, mass retail.

Declaration

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

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Craig Andrew Bowen

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I dedicate this thesis to my late Grandmother, Sybil Audrey Bowen. Your wisdom and unconditional love saw me through the most difficult times of this degree. I miss you.

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Chapter 1

1. Introduction

1.1 Background

Competitiveness of a nation's manufacturing sector is a significant contributing factor to its long-term economic prosperity and growth. A competitive manufacturing sector creates a sustainable economic environment that absorbs labour and attracts domestic and foreign investment from which benefits cascade for many other sectors including financial services, infrastructure development, customer service, logistics and information systems. A strong manufacturing sector also boosts a country's intellectual capital and innovativeness, drives research and development, pushes technological boundaries and propels demand for highly skilled workers. The systemic nature of supply chains and the underlying drivers of behaviour point to the complexity of competitiveness and the many components that can interact in determining the relative position of nations. The purpose of this investigation into the underlying drivers of competitiveness, from a mass retailers perspective, is to offer an insider's view of how generic strategies, market situations and the lack of systemic thinking ultimately effects all participants in the value chain.

There is growing interest among companies in managing their supply chains. Major forces driving this development are increasing competitive pressure and the belief that working in co-operation with other members of the supply chains can create competitive advantage. However, coordinating activities in a supply chain is difficult. The difficulties lie in the complexity induced by the large number of interrelated and interdependent activities in the supply chain. On top of this, the different nodes (organisations) within the supply chain are often independently owned. Each node attempts to optimise itself without necessarily considering the performance of the supply chain(s) of which it is a part. For example certain actions and outcomes are separated from their cause, both in time and place, and this in turn escalates complexity. The complexity is made even worse by the functional divisions of responsibility along the supply chain which is then institutionalised by the way in which performance of the suppliers and merchandisers are measured.

It is often said that what you do not understand, you cannot manage. This is particularly true for mass retailers in the context of supply chain management. What is required is an understanding of the interdependencies and the complex causal relationships in a supply which is crucial to the successful management of these activities. Decisions made at any point in the chain require a systemic approach. Greater co-ordination is required between buyer and sellers. Decision making requires a focus on co-ordinating activities along the supply chain in a way that is mutually beneficial for all businesses operating within the chain. This win-win situation is the key to a sustainable competitive advantage that is based on a more efficient supply chain.

1.1.1 The South African Retail Landscape

The South African retail landscape is dominated by large, listed companies. Deloitte Touche Tohmatsu Limited (DTTL), in their Global Powers of Retailing report for 2012 (Deloitte, 2012), ranked six South African retailers in the top 250 retailers globally by sales revenue. These were Shoprite Holdings Limited (92), Massmart Holdings Limited (126), Pick n Pay Stores Limited (133), The Spar Group Limited (179), Steinhoff International Holdings Limited (218) and Woolworths Holding Limited (222). Five of these organisations also appear on the Reuters Top 40 listed companies trading on the Johannesburg Stock Exchange (Reuters, 2012).

Table 1.1.1.1 below shows how the retail landscape is dominated by Shoprite Holdings Limited (Shopriteholdings, 2012), Massmart Holdings Limited (Massmart, Corporate Profile, 2012), Pick n Pay Stores Limited (PicknPay, 2012), Steinhoff International Holdings Limited (JDGroup, 2012).

Holding Company	Key Account Example	No. of stores in Gauteng	No. of stores in Kwa-Zulu Natal	No. of stores in Western Cape	No. of stores in other provinces	Total
Shoprite Holdings Limited	Shoprite, Checkers, Checkers Hyper	342	162	222	402	1128
Massmart Holdings Limited	Game, Dion Wired, Makro, Builder's Warehouse	97	70	47	141	371

Pick n Pay Stores Limited	Pick n Pay Supermarket Pick n Pay Family store	271	90	152	262	775
Steinhoff International Holdings Limited	Barnetts, Electrical Express, Morkels, Russels	175	72	73	273	514

Table 1.1.1.1 Dominant retailers in South Africa; outlets per province (See also Appendix 1)

1.1.2 Retail Formats

The classifications of retailing organisations have various considerations, the most common categorisation is based on operational structure and range of merchandise (Cox & Brittain, 2004). Levy and Weitz, (2009) also outline dimensions for classifying retailers which are summarised in the table below.

1. Size	Floor space, number of outlets.
2. Type of merchandise	Food or non-food, plugged appliances or furniture.
3. Depth and breadth of assortment	Variety is breadth or number of categories and assortment is the number of different items or depth.
4. Ownership Structure	Privately, publicly owned or franchising.
5. Services Level Offered	High level, fair or low level.
6. Price and Cost Structure	Aggressive price focus or specialised service offering.
7. Format	Brick & mortar, Click & mortar or online. Also store layout and design.

Table 1.1.2.1 Summary of retail classification factors adapted from Levy and Weitz (2009).

For the purpose of this study we define Shoprite Checkers Hyper, Pick & Pay Hypermarkets and Game as Hypermarkets; these are combination food and general merchandise stores with a floor space of over 1000 square meters (Levy & Weitz,

2009). Makro and Trade Centre are defined as Cash & Carry stores, also typically have a floor space over 1000 square meters and tend to carry more general merchandise. Cash & Carry retailers typically operate with store cards that customers must obtain, free of charge and swipe before each purchase. An additional characteristic of Cash & Carry stores are that the aisles are wide sufficiently so that fork lifts can pick up pallets of merchandise and arrange them on the selling floor (Levy & Weitz, 2009). Cashbuild and Builders Warehouse are DIY (Do It Yourself) focused Super Stores which often have over 1000 square meters of floor space and offer a broad assortment of merchandise under one roof as a destination format (Levy & Weitz, 2009).

1.1.3 Buyer-Supplier Relationships

Good buyer-supplier relationships are essential for the better performance of the organisation (Mishra, 2011). As large retail chains grow in importance and begin to dominate the retail landscape, so too do the strategic interactions between them and other members of the retail supply chain (Basker, 2007). Effective competitiveness in a retail supply chain is prevented by many systemic problems, such as a lack of integration in the overall business strategy of all players in the value chain, a focus on cost to the detriment of non-cost implications, an imbalanced approach to market sustainability, insufficient focus on customers and competitors, concentration of retail market share and a lack of systematic thinking. This prevailing lack of systemic thinking is due to increased complexity in supply chains encompassing several organizations with different corporate cultures, different policies and different routines (Holmberg, 2000). Waller, Johnson, and Davis (1999) add to this argument by stating that buyer-supplier relationships are made worse by management policies that deal with demand uncertainty, conflicting performance measures, planning calendars used by buyers, buyers acting in isolation and product shortages (stock out situations) which cause order inflation.

1.1.4 Competition

Suppliers to South African retailers have also become increasingly affected by competition within the supply chain and this challenge is exaggerated further by the level of retail concentration. This means that much of the buying power of retailers is

controlled by a handful of large listed key accounts (as discussed in § 1.1.1). Mishra (2011) raises the point that in a purchasing context, it is possible to identify dependency as the key source of power. This means that retailers in the South African environment tend to harness powerful positions due to the limited number of distribution options available to suppliers. In his discussion on inter-organisational relationships, Mishra argues that organisations do not trust each other and that they manage risk based on business case (or buying) decisions. Norek (1997) states that the power shift towards retailers has diminished manufacturer brand equity, as the retailers are coercing manufacturers to provide private label products. Another change brought about by the power shift is that suppliers to the (mass) merchants have to perform many functions that traditionally were the responsibility of retailers (Norek, 1997). Mass retailers, in their new position of power, find they can dictate demands on manufacturers through the offering of potential high sales volumes and through the suppliers' dependency on these potential volumes.
Supplier firms find themselves marketing to powerful buyers demanding trade promotions, customised orders, rebates on larger order sizes, specialised packaging and fixed delivery schedules.

An additional reason for increasing competition in the value chain is as a consequence of globalization (Ho, 2008). A clear example of globalisation occurring in the South African retail environment was the purchase of a 51% stake in Massmart by global retailer Wal-Mart in November 2010 for around R16.5-billion / R 148 per share (Dolan, 2010). Importantly, this type of corporate consolidation concentrates purchasing power at retail level in the value chain, leaving manufacturers and suppliers to these retail giants relatively weaker.

This is an escalating phenomenon especially in the consumer packaged goods retail environment which has become increasingly competitive in the past two decades (Kusum L, Jie, Aradhna, & Michael, 2010). Christopher (2005) and Kotzab (2008) have also argued that with the globalisation of the economy, the competition is no longer solely amongst single companies, there is now competition between members of supply chains.

Norek (1997) adds that the (mass) retailer's face their own challenges. To remain competitive and to survive in the concentrated environment, they need to deploy suitable strategies that meet the requirements of current and prospective customers

and create a defensible market position. In recent years mass merchants have grown in importance, developing dynamic retailing techniques which have broken traditional retailing rules. A typical South African example of implementation of a generic cost leadership strategy is Massmart. This organisation is made up of four divisions, each focused on high-volume, low-margin, low-cost distribution of mainly branded consumer goods for cash (Massmart, 2012). This strategy has made Massmart one of the largest and most successful retail operations in Africa but has implications for suppliers further up the supply chain.

1.1.5 The Conflict

One might expect that, in situations in which the retailer is dependent on the supplier because of the nature of the product (e.g. exclusive line), the inter-firm relationship would exhibit attitudes and behaviour indicative of common interests and collaboration. However, this is not the case (Lamming, 1996).

When it comes to demand uncertainty, forward buying continues to play an important strategic role. Forward buying occurs when retailers purchase units during a particular period, hold some of them in inventory and plan to sell them in future periods (Desai, Koenigsberg, & Purohit, 2010). Forward buying involves purchasing larger quantities, less frequently, based on an increasingly uncertain market demand and destabilising events.

Pressure placed on the retailer by the end (consumer) market, for lower retail prices, and thus reduced production costs, is passed on to the suppliers of merchandise. Any departure from perfect execution within the suppliers operation is therefore cause for concern to the retailer, as well as the manufacturer (Lamming, 1996).

To be competitive, retailers and suppliers have to reduce cycle times, improve communications, speed the flow of merchandise and information, and ensure correct inventory availability (Lowson, 2005). While Desai, Koenigsberg, and Purohit (2010) concluded that manufacturers are often hurt by forward buying practices of retailers, these manufacturers can benefit when the increase in its total sales offsets the reduction in wholesale price. However, competition between manufacturers limits each

one's ability to capitalise on forward buying and operates under the assumption that holding costs are high (Desai, Koenigsberg, & Purohit, 2010).

Manufacturer responsiveness is also of importance due to the delivery lead-time for procured merchandise from the retailer. Reichhart and Holweg (2007) defined production responsiveness as the ability of a production system to achieve its operational goals in the presence of supplier, internal and customer disturbances. Those disturbances clearly relate to the three types of uncertainty: supply, process and demand uncertainty (Davis, 1993).

Inventory buffers still exist in many places in supply chains (Davis, 1993). Turnbull, Delbridge, Oliver, and Wilkinson (1993) reported that when required to deliver just-in-time (JIT) to their customers, smaller suppliers were still relying on inventories based on an order plans (built on a forecast). This is in opposition to the ideas of Goldratt and Cox (2004) that suggest that a key operational goal of a firm is to increase throughput while simultaneously reducing inventory and reducing operating expenses. This is based on the argument that high levels of inventory increase operating expenses and reduce margins (Goldratt & Cox, 2004). Based on this premise, the typical merchandising practises of mass retailers (large order quantity / low order frequency) are in conflict with the objectives of suppliers and the retailers themselves (Chase, Aqilano, & Jacobs, 2001). What Goldratt and Cox (2004) propose is that production or replenishment be synchronised with consumption or sales, rather than an order plan or forecast.

1.2 Research Objectives

This study aims to identify if supplier competitiveness is becoming strained as the sale of consumer durable and semi durable goods, are concentrated in a handful of South African retailers. Suppliers are now under considerable pressure due to declining wholesale prices, the effects of globalisation, as well as limited distribution options. The resulting tension and inefficiencies in these vertical relationships stem from the fact that manufacturers and retailers have conflicting incentives (Desai, Koenigsberg, & Purohit, 2010). The balance of this inquiry is in understanding and framing the range

of new pressures borne by the suppliers who supply these mass merchants and providing a basis for the development of mitigating strategies.

Large national retail chains like Makro, Trade Center, Game, Cashbuild, Pick & Pay Hypermarkets, Builders Warehouse and Shoprite Checkers Hyper, also known as mass discounters, are generally much larger than the manufacturing companies supplying them with goods. Logically this means that power in the value chain resides with the retailer.

In summary, the purpose of this study is to:

- Determine whether any generic buying strategies are employed by these mass discounters when purchasing from manufacturers, vendors and suppliers;
- Identify and analyse the advantages and disadvantages of these buying strategies for the manufacturers, vendors and suppliers; and finally
- Assess what the impact these practices have on the competitiveness and sustainability of the manufacturers, vendors and suppliers.

1.3 Research Propositions

The following three propositions are made regarding the direction of this research.

- South African mass discounters are employing generic buying strategies when purchasing from manufacturers and suppliers.
- There are a number of advantages and disadvantages of these buying strategies for the manufacturers and suppliers.
- Supply side competitiveness and the sustainability of manufacturers and suppliers are affected by the buying strategies employed by South African mass discounters.

1.4 Chapter Summary

This study takes place against the backdrop of a highly concentrated and competitive retail environment that is subject to the effects of globalisation. The study itself

concentrates on how the competitiveness of manufacturers and suppliers are affected by the strategies employed by mass retailers. Growing in importance, mass retail as format is described and we consider the conflict between buyers and suppliers.

Chapter 2

2. Literature Review

2.1 Purpose and outline of the chapter

The purpose of this chapter is to outline where mass retail as a format, and the resulting buying strategy, has evolved from and why certain goals and activities within the supply chain are measured the way they are. This chapter aims to contextualise the framework and prescriptions of best practice and how practical merchandising decisions are made with regards to the sustainability of the entire value chain (if at all). Furthermore, models are offered which explain the nature of power that exists between mass retailers and suppliers, and how the resulting dominance of one party manifests in decision-making often to the exclusion of the weaker party. Competitiveness is important because we want to understand what operational aspect these buying practices affect and how this translates in terms of sustainability for suppliers and manufacturers. Finally, we discuss systems thinking and the Theory of Constraints. Through such thinking, new insights may be gained into how a relationship works, what problems are present, why these problems exist, how they can be improved upon and how changes made to one component of the system impact other components in the system.

2.2 Porters generic strategies

Porter's Generic Strategy Matrix has dominated corporate competitive strategy for the last 30 years (Pretorius, 2008). According to Michael Porter (1985), competitive strategies pertain to activities an organisation undertakes to gain competitive advantage in a particular industry. Ehlers and Lazenby (2007) describe Porters generic strategies as the activities that are determined by the strategic decision regarding the particular competitive advantage the organisation is seeking to achieve (Porter, 1980). However, there are some authors that criticise Porters model as over-simplified and maintain that differentiation and cost advantages can be combined to derive more sophisticated strategic options (Mintzberg, Quinn, & Ghoshal, 1995).

Business strategy can then be viewed as the concept and processes that link the organisation and its environment. Levy and Weitz (2009) define retail market strategy as the process of identifying the retailers' target market, the format the retailer plans to use to satisfy the target markets needs and the basis upon which the retailer plans to build a sustainable competitive advantage. In Levy and Weitz's (2009) definition, the retail format describes the nature of the retailers operations consisting of the type of merchandise, services offered, pricing policy, advertising and promotions programme, approach to store design and visual merchandising, location and customer services. A sustainable competitive advantage should elevate the organisation from its competition and should fulfill the following criteria (Levy & Weitz, 2009):

- it should relate to an attribute with value and relevance to the target customer segment,
- be perceived by the customer as a competitive advantage, and
- not be easily imitated by competitors.

Ehlers and Lazenby (2007) agree that the competitive advantage of an organisation should not only be based on its resources, strengths or distinctive competencies relative to competitors but these characteristics must also be perceived as advantages by the customers.

Porter (1980) combines the organisation's resources, scope of operation and competitive advantage to derive three generic types of competitive strategies. According to Porter, organisations have to select specific generic strategies that complement their competitive advantage. Organisations can choose to supply a product or service in three distinct ways (Ehlers & Lazenby, 2007);

1. Cost leadership; by being more cost effective than competitors

2. Differentiation; by adding value to a product or service and commanding higher prices; and

3. Focus; by narrowing its focus to a special product market segment which it can monopolise.

Target Scope	Advantage	
	Low Cost	Product Uniqueness
Broad (Industry Wide)	Cost Leadership Strategy	Differentiation Strategy
Narrow (Market Segment)	Focus Strategy (low cost)	Focus Strategy (differentiation)

Figure 2.2.1 Porters Generic Strategies adapted from Ehlers and Lazenby (2007).

Organisations pursuing a cost leadership strategy usually sell a product or service that appeals to a broad target market. To achieve a cost advantage, an organisation's cumulative costs across its value chain must be lower than the competitors cumulative costs (Ehlers & Lazenby, 2007). Organisations can do this in two ways: either by out-managing rivals in the efficiency with which value chain activities are performed and controlling the associated costs, or by passing some of the cost-producing value chain activities to other members of the value chain (Ehlers & Lazenby, 2007).

Differentiation strategy is a strategy aimed at producing products and services considered unique across the industry and is directed at customers who are considered less price sensitive (Ehlers & Lazenby, 2007). The uniqueness of the product often lies in its quality, technological superiority, design or image, and the difficulty for competitors to imitate (Ehlers & Lazenby, 2007). Organisations that pursue differentiation as a generic strategy are theoretically able to increase revenues by charging premium prices and outperform rival firms by generating above average returns.

The focus strategy is based on the choice of a narrow competitive scope within an industry. Here, the organisation focuses its efforts on a small (but viable) group of customers and can focus through cost leadership or differentiation. A focus strategy based on cost leadership aims at securing a competitive advantage by serving buyers in a target market niche at lower prices than competitors (Ehlers & Lazenby, 2007). A

focus strategy based on differentiation aims at securing competitive advantage by offering niche target market members a product or service they perceive as well or better suited to their own unique tastes and preferences (Ehlers & Lazenby, 2007).

2.3 Porters Value Chain Model

Michael Porter introduced the Value Chain Analysis concept in 1985. This was in response to criticism that his Five Forces framework lacked an implementation methodology that could practically link the firm's internal capabilities with opportunities in the business environment (Nieman & Bennett, 2002). Porters Five Forces framework (1980) essentially implied that an industry's attractiveness was based on the bargaining power of suppliers, potential threat of new entrants, bargaining power of buyers and the threat of substitute products as determinants of industry competition and the potential for profit for companies operating within that particular industry (Ehlers & Lazenby, 2007).

What is of particular interest in the context of this model is the bargaining power of suppliers and especially that of buyers. Power is the ability of a firm or an organisation to make or shape strategic decisions that affect the configuration and direction of the value chain and thus influence and control other firms in the chain (Gereffi, 2011). Akpinar and Zettinig (2008) describe power as the extent that a firm has or can gain access to coercive, utilitarian, or normative means to impose its will in a relationship. Furthermore, power is not a steady condition but it can be acquired as well as lost. Gereffi (2011) goes on to describe how power can reside in any part of the value chain structure and take many forms. Outside the chain, power comes from the state and other institutions created by the enabling environment and consumers. Those in possession of industry power actively shape the distribution of profits and risk through their activities (Gereffi, 2011). The degree to which product information flows between the retailer and supplier depends on the relationship between the two organizations, which itself is usually deemed to be affected by the different levels and types of power which each may exercise (Lamming, 1996).

What Porter's Five Forces model failed to do was explain why different organisations in the same industry perform differently. This lead to the Value Chain concept which was developed to provide a resource-based view of the internal operations (Nieman &

Bennett, 2002). The Value Chain Model helps identify a firm's core competencies and distinguish those activities that drive competitive advantage and provided a basis for understanding the different levels of performance within an industry. These internal activities are subject to forces from the external business environment (Nieman & Bennett, 2002). In Porters Value Chain model (Fig 2.3.1), the organisation can be subdivided into specific primary and secondary activities (Porter, 1990).

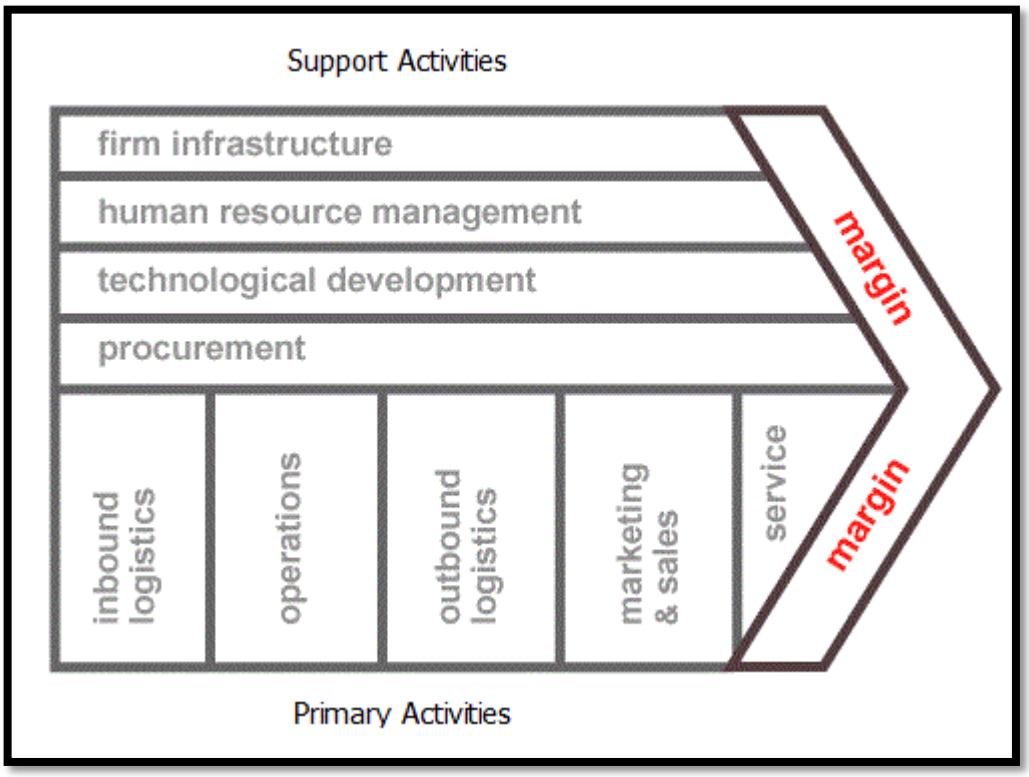

Fig 2.3.1 Porters Value Chain Model (Porter, 1985).

The primary activities are namely (Nieman & Bennett, 2002):

1. **Inbound logistics (procurement)**: These activities involve materials handling, warehousing, inventory control and transportation. It also involves relationships with suppliers and includes all the activities required to receive, store, and distribute inputs. This component is central to the theme of this study as it is the focus of much of the activities undertaken by merchandisers and planners for mass retailers.

2. **Production and operations:** This is the manufacturing or production part of the business. It includes machine operating, assembly, packaging, testing and maintenance. They are all the activities required to transform inputs into

outputs, products and services (intangibles are included). This component speaks to local manufacturing and supply as a value adding activity within the context of this study.

3. **Outbound logistics:** These activities distribute the final product to the customer. Activities include order processing, warehousing, transportation and distribution; essentially all the activities required to collect, store, and distribute the output, products and services. Within the framework of this study, outbound logistics will be a focal point, due to the nature of retailing in general. In the retail context, this means the final interaction with the customer at shop level and how exceptions and the associated costs are managed.

4. **Marketing and sales:** This function analyses customers' wants and needs, and brings to the attention of customers those products or services the business has to offer. These include advertising, promotion, selling, pricing, and channel management. These activities inform buyers about products and services, and entice and facilitate their purchase. Here, the most significant elements for analysis will be the advertising, promotion and pricing components.

5. **Customer service:** Service activities include installation, finance arrangement and spare part management. These are all the activities required to keep the product or service working effectively for the buyer after it is sold and delivered.

In addition to these primary activities, Porter's support activities as described by Nieman & Bennett (2002) include:

1. **Firm infrastructure**: These are typically internal activities that serve the general needs of the organisation such as general management, planning, finance, legal, investor relations.

2. **Human resource management**: Incorporate all activities involved in recruitment, training, promotion and reward systems.

3. **Technology development**: This activity pertains to the equipment, research and development, and technical knowledge utilised in the firm's transformation of inputs into outputs.

4. **Procurement**: Procurement in the context of this study is important as activities here are driven by corporate and business strategy. Performance measures are typically derived from the activities that include the purchasing of stock, leasing of properties, supplier management and contract negotiations.

Each of the primary activities adds value to the organisation in its own unique way. In order for the business to undertake its tasks more efficiently than its competitors, these activities must ensure lower production costs, faster and cheaper out-bound deliveries or higher standards of service delivery. The support activities also add value but are differentiated by the fact that their benefits are difficult to link with any one particular part of the organisation (Nieman & Bennett, 2002).

Margin, as depicted in Figure 2.3.1, is used to indicate added value: the difference between the total profit margin and the sum costs of carrying out the value-adding activities. This means that the value chain model allows us to focus our attention on the areas that add value to the organisation and those areas that allow us to make broad comparisons with the competition (Nieman & Bennett, 2002). Importantly, the profit margin is used as a measure of the organisations ability to manage the activities of the value chain in an effective and efficient manner for the benefit of all stakeholders (Nieman & Bennett, 2002).

2.4 Competitiveness

Although the concept of competitiveness lies at the heart of business strategy, its definition is often used loosely and does not lend itself easily to the analysis of how an interaction in a system affects competitiveness itself. Feurer and Chaharbaghi (1994) explain that the competitiveness of an organisation depends on a number of factors which are interrelated and cannot be looked at in isolation. Competitiveness is the relative strength that one needs to "win" against competitors (Cho, 1998). What is

clear is that competitiveness is relative and not absolute. According to Feurer and Chaharbaghi (1994), it depends on shareholder and customer values, and financial strength which determines the ability to act and react within the competitive environment. Competitiveness also means having the capacity as well as the potential, in terms of people and technology, to implement the necessary strategic objectives. Competitiveness can only be sustained if an appropriate balance is maintained between these factors which can be of a conflicting nature (Feurer & Chaharbaghi, 1994).

Michael Porter's book, The Competitive Advantage of Nations (1990), has become a work of great importance specifically around the concept of competitiveness. Porter (1990) suggests that traditional thinking has resulted in an essentially static view of competitiveness centring on cash efficiency due to scale advantages. Porter (1990) argues that innovation is the key to why firms based in a particular nation are able to create and sustain competitive advantage against the world's best competitors in a particular industry or segment.

Firms create competitive advantage by perceiving or discovering new and better ways to compete in an industry and bringing them to market, which is ultimately an act of innovation (Porter, 1990). In attempting to sustain a competitive advantage, innovative organisations need to perceive and exploit opportunities for innovation quickly. There is a distinct requirement for speed. Early movers often allow for innovations to be translated into other advantages which in-turn need to be sustained over time (Porter, 1990). Porter (1990) also states that the more sources of competitive advantage the better, and that some sources are more sustainable than others for example, process technology compared to labour costs.

Porter's Diamond Model (1990) is important in the context of this study because much of the recent debate and academic rigour on the topic of competitiveness stems from Porter offering a more systemic approach by relating the two streams of literature which are country-specific and firm-specific (Cho, 1998). A country's economic, trade, financial, and tax systems are all key drivers of its overall level of manufacturing competitiveness. Porter's Diamond Model was the first of its kind to view competitiveness from industry-specific studies (Cho, 1998). The diamond factors, which form a system, are a set of interdependent parts that together form a unitary whole. Weaknesses in one part of the system can negatively affect the whole (Porter, 1990). All these factors behave individually but are part of a mutually reinforcing

system (Porter, 1990). The bases of the Diamond Model as proposed by Porter (1990) are that firms gain competitive advantage when:

- there is rapid accumulation of specialised assets and skills;
- on-going information and insight input into product and process needs;
- the goals of owners, managers, and employees support intense commitment and sustained investment; and
- a dynamic and challenging domestic environment - stimulating firms to upgrade and widen their advantages overtime.

What Porter (1990) is suggesting is that competitive advantage is created through pressure to innovate. The nature of buyer needs affects how firms perceive, interpret and respond to buyer needs. According to the 2010 Global Manufacturing Competitiveness Index published in 2011 by Deloitte (Deloitte, 2010), the most important competitive driver identified by manufacturing executives surveyed was talent-driven innovation. This comprises both the quality and availability of a country's brain trust. Included in this are skilled workers, scientists, researchers, engineers, and teachers who collectively have the capacity to continuously innovate and simultaneously improve production efficiency. Porter (1990) also proposes that the standard of these factors is constantly rising and requires continual investments in factor-creating mechanisms.

Porter (1990) explains that competitive advantage in supplier industries confers potential advantages on a nation's firms in other industries because they produce inputs that are widely used and are important to innovation or internationalisation.

Mechanisms of supplier industries are listed by Porter (1990) as:

- Early, often preferential access to cost-effective inputs;
- On-going coordination through value chain linkages; and
- Process of innovation or upgrading helped by close working relationships.

Porter (1990) case for domestic competitiveness is supported by Nieman & Bennett (2002) in that domestic rivalry creates visible pressure to innovate, pushing each competitor to lower costs, improved quality and service. Association between vigorous domestic rivalry and the creation and persistence of competitive advantage in an industry was one of the strongest empirical findings of Porter (1990). From a strategic

perspective, competitiveness and cost leadership aim to reduce the organisations costs in relation to other suppliers, customers and competitors (Nieman & Bennett, 2002). This means that retailers or suppliers are in a continuous cycle of reducing costs with the result that they are the most attractive option relative to competitors who are perceived as higher cost. This is unsustainable. In the South African context, it would ultimately see the degradation and collapse of the domestic manufacturer and supply industry.

Operational responsiveness, as a component of competitiveness, recognises that adapting and changing to customer demand needs faster than competitors suggests that the organisation is more competitive than its peers (Nieman & Bennett, 2002). The quest for improved product or service quality in order to increase an organisations' competitiveness is a more complex challenge. This is because some dimensions of quality reinforce each other while others are in conflict (Nieman & Bennett, 2002). Improving logistics services, for example, can become increasingly difficult if a merchandise manager enlarges product lines within a merchandise portfolio.

Organisational competitiveness and ability to innovate is reflected in an ability to conceive and successfully implement creative business ideas. Success through innovation can only be achieved through access to innovative technology and superior human resource capabilities (Nieman & Bennett, 2002). In the retail context, an innovative supplier will ensure that the offered product matches its customers' needs and makes new products available in line with emerging trends. Nieman and Bennett (2002) also suggest that timing is a critical element of new product innovation.

Sustainability has become synonymous with the environmental concerns of an organisation (Nieman & Bennett, 2002). However, in the context of competitiveness, sustainability refers to the potential of an organisation to maintain or improve its competitive position in the eyes of its customers and shareholders over time (Feurer & Chaharbaghi, 1994). While having the ability to act and react within a changing competitive environment is important, the resulting competitive advantage can only be sustained as long as its potential can be maintained (Feurer & Chaharbaghi, 1994). This requires financial strength to fund the necessary strategic changes such as value creation and the introduction of new technologies. Feurer and Chaharbaghi (1994) propose that financial strength incorporates two aspects. Short-term financial strength which determines the ability of an organisation to act and react swiftly and maintain

operational activities and this is related to the availability of short term capital. Secondly, long-term financial strength determines the ability to raise capital for major investments such as the introduction of a new product range and production facility (Feurer & Chaharbaghi, 1994).

Some researchers believe that the concept of competitiveness applies more appropriately to firms and products (Feurer & Chaharbaghi, 1994). Much theory of firm competitiveness implicitly assumes that competitiveness is not simply based on country specific factors but heavily influenced by firm specific factors, as the latter are deeply ingrained and shape the former (Cho, 1998). The basic argument is that the competitiveness of a nation stems from companies within that nation (Cho, 1998). Achieving competitiveness through supply chain management means delivering "better" - more reliably and more cost effectively than anyone else (Persson, 1991).

Supply chain management has therefore become a key focal area for the cost leadership strategy and there is a clear link between a win-win strategy and improving performance, quality and productivity simultaneously (Persson, 1991). Specifically, Persson (1991) describes how many of these concepts relate to time. An example of this is responsiveness and lead times and the relationship between inventory turnover rates and the ability to adapt to changes in demand levels. Persson (1991) goes on to describe how the win-win relationship is indeed possible where relationships between suppliers and retailers are thought to be a trade-off. In the modern supply chain environment, a reduction in inventory levels not only liberates tied up capital but also improves customer services (Persson, 1991) by ensuring stock is available at the right place at the right time. Ensuring stock availability also ensures that no sales are lost as a result of a stock out situation. This brings us to the next section describing best practice for supply chains.

2.5 The SCOR model

In the past, manufacturers competed against manufacturers for a greater a share of the market place; wholesalers and retailers did the same. Each entity was strong enough on its own to take on the competition. Whether these companies survived and flourished, or perished, depended on how they performed in relation to their peers (Levy & Weitz, 2009).

Against the backdrop of the current competitive retail and supply chain environment, a concerted effort is needed to remain competitive. Competitive advantage is not only achieved through the efforts of a single chain member, but through the sum efforts of the entire supply chain. In this scenario, supply chains compete against other supply chains (Nieman & Bennett, 2002). Supply chain members also face shared risks due to the systemic nature of the chain. In the retail context, the chief risk is financial (Christopher & Lee, 2004). This is often related to inventory costs due to obsolescence, markdowns and stock-outs which can be significant. For example personal computers (as a consumer durable) devalue by more than one per cent per week (Christopher & Lee, 2004). In the USA, retail markdowns constitute about 20 per cent of total retail volumes (Christopher & Lee, 2004). These mismanaged supply chains lead to excessive or mismatched inventory and contribute to the most significant financial risks in lost profit (Christopher & Lee, 2004). Financial risks for manufacturers and suppliers can also present themselves through the risk of re-working stock and penalties for late or non-delivery of goods (Christopher & Lee, 2004).

Simply stated, the supply chain encompasses all those activities associated with moving goods from raw material through to the end user (Nieman & Bennett, 2002). Another definition given by Hugo, Badenhorst-Weiss & Van Biljon (2006) are the processes ranging from the procurement of initial raw materials to the ultimate consumption of finished product, linking supplier-user companies. Supply chain management is a management approach to controlling the flow of information, resources, materials and services from raw material suppliers through to end customers.

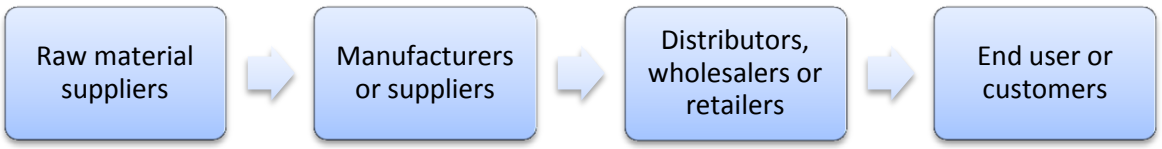

Figure 2.5.1 The Supply Chain (Nieman & Bennett, 2002).

The Supply-Chain Operations Reference (SCOR) model was developed by the Supply-Chain Council (SCC) to assist firms in increasing the effectiveness of their supply chains

and to provide a process-based approach to supply chain management (SCM) (Lockamy III & McCormack, 2004). The business activities culminating in satisfying a customer's demand divide supply-chain processes into five logical sections: plan, source, make, deliver and return. As a management tool, the SCOR process reference model spans from the supplier's supplier to the customer's customer (The Supply Chain Council, 2008). Designed for effective communication among supply-chain partners, SCOR can also be used to describe, measure, and evaluate supply-chain configurations. As a business process reference model, SCOR integrates the well-known concepts of business process re-engineering, benchmarking, and process measurement into a cross-functional framework (The Supply Chain Council, 2008). Since many of the questions in this exploratory study centre around best practises suggested by the SCOR model, a short explanation is required for each key area and the three levels of process detail.

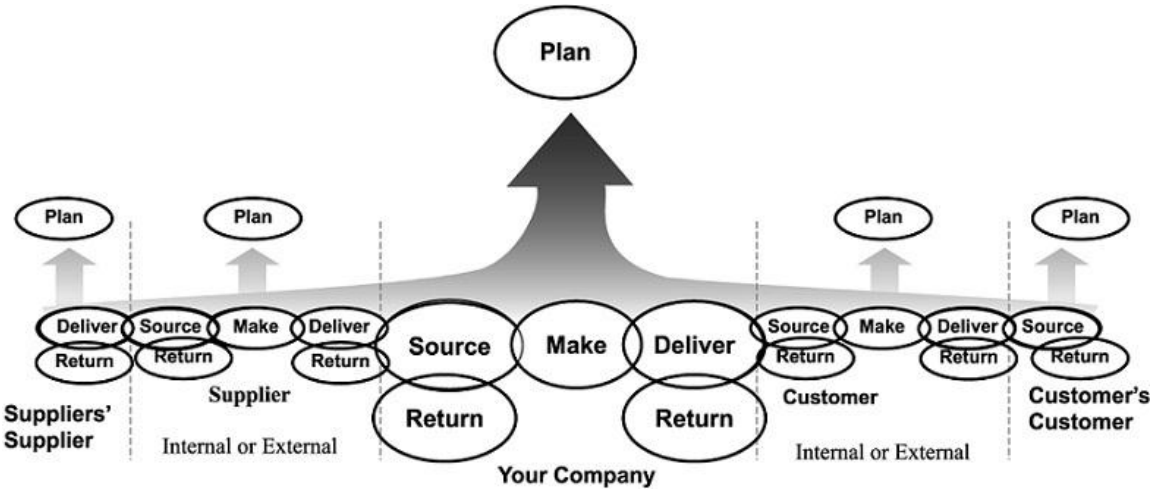

Figure 2.5.2 The SCOR Model (The Supply Chain Council, 2008).

The Supply Chain Council describes the planning component as the management of demand and supply planning. The objective of the planning component is to balance resources with requirements that formulate and communicate plans for the whole supply chain, across all source, make, deliver and return activities. For mass retail this means that 'plan' encompasses managing business rules such as merchandising terms and conditions, supply-chain performance, data collection, inventory levels, capital asset utilisation, transportation, planning, and regulatory or compliance requirements.

Sourcing covers identifying and selecting supply sources when not predetermined (for example, engineer-to-order products), managing business rules, assessing supplier performance, maintaining data, and managing inventory, capital assets, incoming product, supplier network, import/export requirements, and supplier agreements (The Supply Chain Council, 2008). Sourcing for mass retailers, as a best practise, also includes managing product order and scheduled deliveries, verifying and transferring product to stores, as well as authorising supplier payments.

For manufacturers the 'make' component encompasses make-to-order and engineer-to-order production execution schedule activities. This means produce and test, package, pilot product and release product to market. The Supply Chain Council (2008) adds by stating that 'make' is about finalising engineering for engineer-to-order product; managing rules, performance, in-process products, equipment and facilities, transportation, production network, and regulatory compliance for production (The Supply Chain Council, 2008).

'Deliver' encompasses ordering, warehousing, transporting, and installation management for stocked, make-to-order, and engineer-to-order product. Included are all order management steps from processing customer inquiries and quotes to routing shipments and selecting carriers, warehouse management from receiving and picking product to loading and shipping product, receiving and verifying product at customer site and installing, if necessary; invoicing customers, and managing delivery business rules, performance, finished product inventories, capital assets, transportation, product life cycle, and import/export requirements (The Supply Chain Council, 2008).

The new 'return' component, which was only added in version five of the SCOR model (Lockamy III & McCormack, 2004), encompasses processes associated with the return of product for any reason; it extends to post-delivery customer support and operates across the full breadth of the model.

As shown in figure 2.5.3 the SCOR model is designed to support supply chain activities at three process levels across multiple industries. Any organisation using the model must look to extend the model to at least level 4 thereby integrating its own organisation-specific processes, systems and resources with the business process reference model.

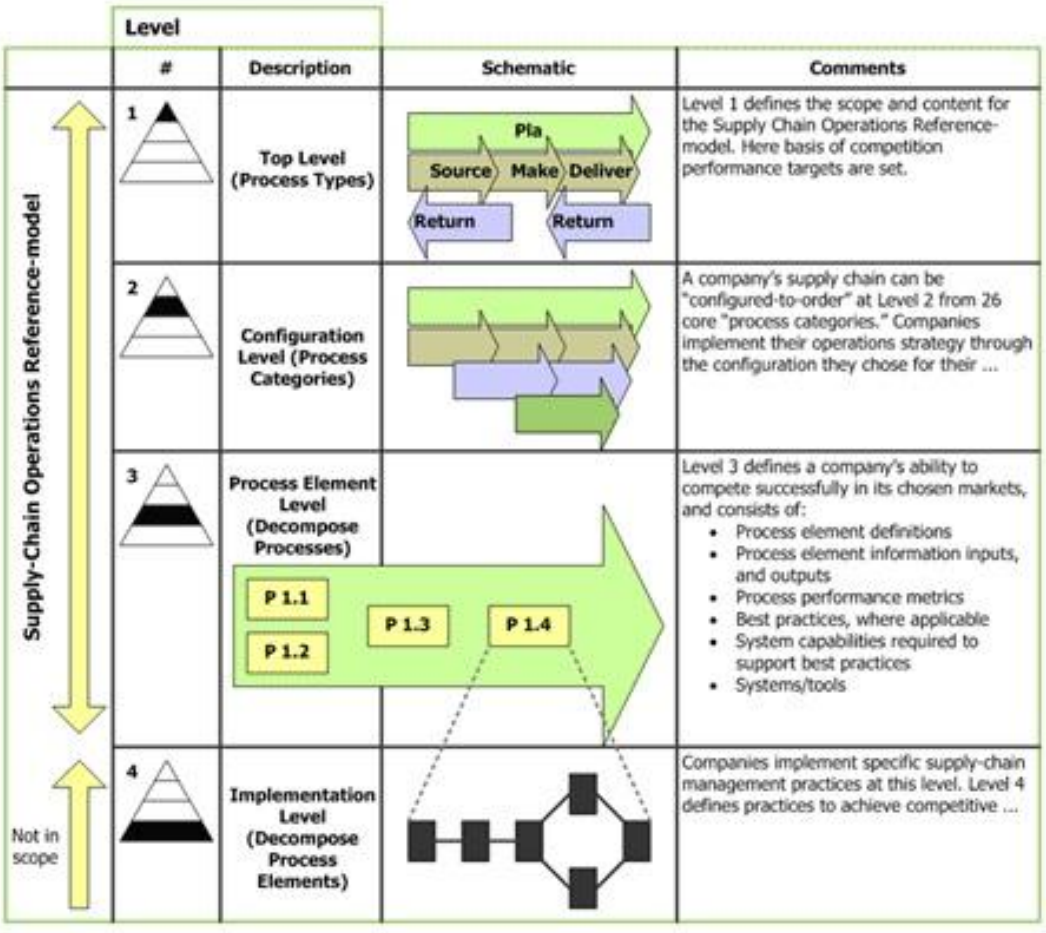

Figure 2.5.3 SCOR boundaries with regards to scope (The Supply Chain Council, 2008)

Level 1 defines the scope and content of the core management processes for the plan, source, make, deliver and return decisions. For example, the SCOR Plan process is defined as those processes that balance aggregate demand and supply for developing actions which best meet sourcing, production, and delivery requirements (Lockamy III & McCormack, 2004).

Level 2 describes the characteristics associated with the following process types deployed within the core processes: planning, execution and enable. For example, supply chain partners require processes for planning the overall supply chain, as well as planning processes for supporting source, make, deliver, and return decisions (Lockamy III & McCormack, 2004). Characteristics associated with effective planning processes include a balance between demand and supply and a consistent planning horizon. This is crucial in a situation where there is reliance on effective forecasting such as mass retail merchandising.

Level 3 provides detailed process element information for each Level 2 process category. Inputs, outputs, description and the basic flow of process elements are captured at this level of the SCOR model (Lockamy III & McCormack, 2004).

Although the SCOR model acknowledges the need for an implementation level (Level 4) for effective SCM (supply chain management), this level lies outside of its current scope (The Supply Chain Council, 2008). The rationale for its exclusion is that the SCOR model is designed as a tool to describe, measure and evaluate any supply-chain configuration. Thus, firms must implement specific supply-chain management practices based upon their unique set of competitive priorities and business conditions to achieve the desired level of performance (Lockamy III & McCormack, 2004).

2.5.1 Collaborative Planning Forecasting & Replenishment

As one of the recommend best practices for supply chain management, the Collaborative Planning, Forecasting and Replenishment (CPFR) guidelines described by the SCOR handbook, outlines best practice in the retail context. CPFR will also provide the basis upon which the effects of current mass retail and supplier interactions are assessed. Wal-Mart was the founding company for CPFR but the standard has been adopted by the Voluntary Industry Standards body (VICS), the Uniform Code Counsel (UCC) and the Global Commerce Initiative (GCI) (The Supply Chain Council, 2008).

CPFR defines eight collaborative tasks (The Supply Chain Council, 2008):

1. Collaboration in the setting of business goals;
2. Developing a joint business plan;
3. Sales forecasting of consumer demand;
4. Order planning based on the sales forecast;
5. Order generation;
6. Order fulfilment;
7. Exception management for out-of-bound conditions; and
8. Performance assessment based on the key metrics.

The key metrics in the final collaborative task are reliability, responsiveness, flexibility, costs and asset management. Using a framework is important because companies

must structure supply chain relationships and build infrastructure capable of configuring complementary resources to form unique and inimitable capabilities that deliver above-normal returns (Fawcett, Waller, & Waller, 2010). Fawcett, Waller, and Waller (2010) describe what they believe to be the appropriate structure which includes joint aligned metrics, forecasting and planning meetings, integrated information systems, high levels of trust, and a willingness to share risks and rewards.

2.6 Drivers of Supply Chains Management

2.6.1 Bullwhip

The supply chain can be operated in one of two ways: the traditional way, in which the downstream retailer decides the inventory level and keeps the inventory, or the new scenario in which inventory-keeping responsibility and stock level decisions switch to the upstream supplier (Lee & Chu, 2005). Levy & Weitz (2009) suggest that when manufacturers and retailers do not co-ordinate their supply chain activities, excess inventory builds up in the system. This build up of excess inventory is called the bullwhip effect and was first discovered by Procter and Gamble when they noted wide variations in order quantities from retailers were shaped like a bullwhip, even though demand was relatively constant.The management of inventory by the supplier continues to draw attention in many industries (Waller, Johnson, & Davis, 1999).

Hussain and Drake (2011) describe bullwhip as the amplification of demand variability as it progresses up a supply chain. Failure to collaborate with other supply chain members can create this potentially devastating phenomenon (Hussain & Drake, 2011). Its effects include inaccurate forecasting leading to periods of low capacity utilisation alternating with periods of insufficient capacity. For example periods of excessive inventory caused by over-production alternating with periods of stock-out caused by under production, lead to inadequate customer service and high inventory costs (Hussain & Drake, 2011). The bullwhip effect indicates that the inventories in the supply chain tend to be higher upstream than downstream. The effect is caused by factors such as deficient information sharing, insufficient market data, deficient forecasts or production uncertainties (Fawcett, Waller, & Waller, 2010). Best practice of CPFR aims to mitigate these very factors. Mass retailers and their respective suppliers are naturally predisposed towards the bullwhip effect. This is because mass

merchandisers often engage in intense promotional activities, which result in consumers responding with greater sensitivity to promotional activity which in turn further amplifies demand and variability (Hussain & Drake, 2011). Wang, Bezawaada and Tsai (2010) also conclude that consumers exhibit greater promotion sensitivity when shopping in the mass retail format.

Mass-retail promotional activities and amplified demand variability also cloud the real market trends and consumer demand levels resulting in planning uncertainty and weakened forecasting accuracy. However, Holmberg (2000) states that uncertainty and statistical variation is a reality in the retail world. No process and capacity can be planned perfectly. Processes and planning with inherent uncertainty (such as a collaboration process or forecast) and interdependence can have devastating effects on the value chain. Even if a high level of collaboration takes place, due to statistical variation, there will always be variations in the outcomes of those processes and plans.

2.6.2 Supplier Driven Supply Chains

In a supplier driven partnership, the supplier, usually the manufacturer but sometimes a reseller, vendor or distributor, makes the main inventory replenishment decisions for the consuming organisation. The supplier monitors the retailer's inventory levels, physically or via an electronic platform, and makes periodic resupply decisions regarding order quantities, transportation and timing (Waller, Johnson, & Davis, 1999). This suggests that transactions customarily initiated by the buyer (such as purchase orders) are initiated by the supplier, which is then typically approved based on the merchandisers "open to buy" budget.

Supplier capability refers to the ability of suppliers to meet all transaction requirements. These may include quantity and quality specifications, on-time delivery and environmental, labour and safety standards (Gereffi, 2011). Manufacturers and suppliers need to reduce order costs and administration, increase residual value in whole supply chain and remain viable as businesses themselves to be competent and reliable supply chain partners.

The effects of limited local manufacturing capacity and inventory requirements also play a significant role in the supply to local mass retailers. Waller, Johnson, & Davis, (1999) found that like inventory, excess capacity represents a buffer against demand uncertainty. As capacity utilisation increases, one would expect more inventory to be required at retail level. However, their results show that with higher plant utilisation, the inventory requirements of the major retailer distribution centres actually increase only slightly under any replenishment plan. Assuming the major customers are given priority at the manufacturing plant the increased inventory needs are small (Waller, Johnson, & Davis, 1999). This means that the manufacturers are effectively trading one buffer for another and foregoing power in the negotiating process.

2.6.3 Demand Driven Supply Chains

In a demand driven supply chain scenario, orders for merchandise are generated at the demand side of the supply chain. This is normally done on the basis of sales data captured by the POS (point of sale) system (Levy & Weitz, 2009). This information provides a basis upon which retailers can build decisions on and around their strategic buying practises. The information from the EPOS (electronic point of sale) system is used to forecast demand, specify order quantities, re-order/replenish stock, effectively utilise storage areas and manage logistical and order costs (Levy & Weitz, 2009). In addition, these strategic buying practices can be aligned with marketing, financial and business decisions overall.

Lee & Chu (2005) counter argue that in the traditional supply chain there are inherint risks for the retailer. It is the retailer at the end of the chain that faces stock-out costs for not meeting customer demand on time. From a pure cost perspective, where the supplier has the negotiating power, the upstream supplier has little incentive to stock buffer inventories to meet end-user demands.Therefore retailers have to carry extra inventories to handle demand uncertainty due to the absence of buffer inventory further upstream. This means that the upstream suppliers avoid the additional cost of carrying stock and the retailer carries the risk. However, in a pull supply chain, there is less likelihood of being overstocked or out of stock as the store orders merchandise as needed on the basis of consumer demand (Levy & Weitz, 2009). This means increased inventory turnover as the retailer is more responsive to demand. A pull approach

becomes more effective when demand is uncertain or difficult to forecast (Levy & Weitz, 2009). However this is not necessarily the way mass retailers are operating.

2.6.4 Power in the Supply Chain

In most supply chain relationships, power is asymmetrical (Fawcett, Waller, & Waller, 2010). The powerful partner is in position to dictate inventory terms that are disadvantageous for the other supply chain members. Fawcett et al. (2010) suggest that this results in behaviour that impedes collaborative inventory management as a result of insufficient information sharing which is not uncommon between retailers and suppliers.

Consumers generally expect instant stock availability in store. However with insufficient information sharing, suppliers and retailers can fail to provide for the potential sale as the forecasts or other information needed to plan production and logistics is inadequate (Fawcett et al., 2010). Without adequate information regarding promotional activities, pricing changes, new product or model launches and new store openings, the only way for the supplier to meet the customer's demands is to carry extra inventory (Lee & Chu, 2005). This extra inventory is often stored in dispersed locations by the supplier and without compensation. That is, the powerless supplier is expected to absorb extra inventory (and potentially expediting) costs as part of the price of selling to such a good (strong) retailer (Fawcett et al., 2010).

Fawcett et al., (2010) also go on to discuss abusive consignment policy with powerful retailers, in which vendor managed inventory is treated simply as consignment inventory. To sell to a retailer, the supplier must deliver product to the retailers distribution centre (or store) while retaining ownership. Payment is not made until the product is used or sold. Under the right circumstance this arrangement can be positive for both parties. However, in many instances, excessive costs are pushed back onto the supplier, minimizing any gain (and often creating a loss) from the relationship. In these two examples costs transfer to the less-powerful member of the supply chain (Fawcett et al., 2010).

The challenge of retailer power is to establish to what extent, for what purpose and how should the channel power be used in relationships with suppliers. Managing these

power relationships requires a level of management sophistication, which may take some time to evolve (Sullivan & Adcock, 2002). Given the level of retail concentration present in the South African and the inherent power of mass retailing formats, this is cause for concern in the short term.

2.7 Systems Thinking

Systems Theory, or the systems way of thinking, is extremely useful in analysing complex problems and the performance of organisations in terms of how efficiently they operate. Systems Thinking provides an uncomplicated way of understanding how components, in a supply chain for example, influence one another within the boundaries of the whole (Holmberg, 2000). The core concept of Systems Thinking is that a system is merely a way of thinking about, or understanding, any dynamic process and the natural outcomes of that system (Holmberg, 2000). One fundamental principal which is often reflected in the work of leading system theorists such as Russell Ackoff and Peter Senge is that complexity and dynamism can be best understood in the context of a system.

Fawcett et al. (2010) defined Systems Thinking as an approach to problem solving, by viewing problems as parts of an overall system, rather than reacting to a specific part, outcome or event which has the potential to create unintended consequences. Consequently, Systems Thinking focuses on cyclical rather than linear cause-and-effect relationships (Fawcett et al., 2010). Described another way, a systemic approach is concerned with the system as a whole, not with parts of a system in isolation.

Peter Senge in his book, The Fifth Discipline, makes a case for Systems Thinking as the fifth discipline we should all learn in order to have a better understanding of our dynamic world. Senge writes:

> "*From a very early age, we are taught to break apart problems, to fragment the world. This apparently makes complex tasks and subjects more manageable, but we pay a hidden, enormous price. We can no longer see the consequences of our actions; we lose our intrinsic sense of connection to a larger whole*." (Senge, 2006)

Fawcett et al. (2010) describe three fundamental stages in the evolution of Systems Theory.

1. Rational systems are made up of organisations as multifaceted collectives, designed and maintained to pursue specific goals. From this, organisations devote the vast majority of their resources and time to the attainment of these goals. Organisation systems consist of people, structures and processes that work together to make an organisation work towards its goals (Cusins, 1994).

2. Natural systems theorists argue that organisations are more than tools designed for goal achievement. Rather, organisations are social entities that are structured and governed to survive. The ability of the structures to motivate and leverage the commitment, intelligence and initiative of the collective participants determines the organisation's probability of surviving in a hostile environment (Fawcett et al., 2010).

3. Finally, open systems theorists stress the complexity of an organisation's distinct component parts and perceive organisations as intimately and reciprocally related to the surrounding environment. Organisations depend on the environment and must respond to it as it evolves. As such, attention shifts away from structure and more towards process – the process of organising, adapting, and changing to not just survive but also to improve performance (Fawcett et al., 2010).

Cusins (1994) views a system as a dynamic process and outlines this in his description with the following five statements:

1) A system is defined from its environment by an arbitrary boundary.
2) Inputs from its environment cross the boundary into the system.
3) Within the system, inputs interact in a transformation process.
4) Transformed inputs leave the system as outputs.
5) The direction of flow indicates the flow of energy, materials, information and resources.

Holmberg (2000) states that the systems concept is generally expressed as encompassing inter-connected components separated from their environment by a system border and provides the following definition:
"The central concept system embodies the idea of a set of elements connected together, which form a whole, this showing properties which are properties of the whole, rather than properties of its component parts."

With Holmberg's definition in mind, the reasoning behind using systems thinking is that it provides a method for describing, analysing and planning complex systems of different kinds (Holmberg, 2000). According to Goldratt (2004), the Theory of Constraints (TOC) recognises that every organisation must be understood as a system with a goal; hence, every action taken by any part of the system must be judged by its impact on that goal. One can reasonably state that a supply chain is a system and within the frame of this study, retailers and suppliers are indeed a part of that supply chain system. Holmberg (2000) goes on to say the systems analysis helps us depict real world systems by using a structured way of building models. The general approach is to define components such as regulations, policies, controls and people. From, there one would decide what components should be included in the system and define how the components are related (Holmberg, 2000).

The majority of these views can described as both competing and complementary. Importantly, they each emphasise three vital, overlapping features of organisations that influence a dynamic system of collaboration (Cusins, 1994). These are the relationships between the organisation and its environment, the nature of the system design process, and the rationale for the organisation's existence (Fawcett et al., 2010).

A simple systems analysis could be to look at the relationship and interaction between suppliers and retailers, including the Supply Chain Council's eight collaborative tasks, as discussed in § 2.5.1.

If we decide to look at the supply chain as a whole, we can make suggestions that can potentially improve both the supply side competitiveness and the sustainability of manufacturers and suppliers. Conversely, if we were to consider what issues mass retail must address in isolation, the decisions and actions could perhaps look different. For example, the retailer's customer may be extremely price sensitive. This in turn

causes the retailer to do everything in its power to be the low cost provider. This means that the financial burden and risk is shifted to the supplier to at least improve the retailer's short term performance metrics such as stock turnover and gross margin. Such actions do not necessarily mean that the supply chain system is optimised, rather a single node is optimised which might be to the detriment of the larger system. It is exactly this kind of behaviour that necessitates the need to look at the supply chain from a systems perspective and fuels the need for this study.

2.8 Theory of Constraints

Since its inception almost three decades ago, the Theory of Constraints (TOC) has developed quickly and stood its ground as a management philosophy and a general theory in operations management (de Souza & Pires, 2010). Originally developed by Dr Eliyahu Goldratt, the TOC encompasses a systematic approach to organisational problem solving in the form of "five focusing steps".

1) Firstly, the system constraint must be identified. A system constraint is anything that significantly prevents a system from improving its performance towards a specific goal. There is at least one constraint present in every system, since there is always a weakest link in a chain (de Souza & Pires, 2010).

2) Secondly, the TOC approach helps managers to decide how to exploit the system constraint.

3) Thirdly, by subordinating all other processes to that decision, a manager can align every other part of the system to support the exploitation of the constraint, even if this reduces the efficiency of non-constraint resources.

4) Fourthly, if capacity is still not sufficient, one can acquire more capacity to address the constraint until that process is no longer the bottle neck (Goldratt & Cox, 2004).

5) After the constraint problem is solved, one can return to the beginning and re-start the analysis on a different constraint.

The TOC is a continuous process of improvement: identifying constraints, breaking them, and then identifying the new ones that result (Kim, Mabin, & Davies, 2008). If this process is not continually applied, inertia becomes the system constraint (Goldratt & Cox, 2004).

2.9 Thinking Process

In much the same way as Goldratt's "Five Focusing Steps" (Goldratt & Cox, 2004) address identifying and managing constraints in a system, TPs, as a tool, also focus on factors that are currently preventing a system from achieving its goals. The TP tools then provide specific structures and guidelines for diagnosing and analysing the underlying causes of problematic symptoms in order to determine what needs to be changed (Mabin, Forgeson, & Green, 2001). The original suite of TPs comprises five logic diagrams. These are the Current Reality Tree (CRT), Evaporating Cloud (EC), Future Reality Tree (FRT), Prerequisite Tree (PRT), Transition Tree (TT) and Categories of Legitimate Reservation (CLR) (Kim et al., 2008).

The TPs first identify symptomatic manifestations as evidence that the system is not performing as well as it should. This is accomplished through the CRT and EC. Devising a strategy to address these causes is then outlined by the EC and FRT, culminating in detailed plans which lead to the implementation in the form of PRT and TT (Mabin et al., 2001). Reservations and resistance to change are examined throughout the process, the solution and plans being modified to incorporate those reality checks provided by people's doubts, harnessing the intuitive and creative powers of those intimately involved with and affected by the problem and the proposals (Mabin et al., 2001).

There are also strong parallels between the systemic thinking ideas discussed in § 2.7 and the ideas of dynamic complexity of Senge (2006). In the Fifth Discipline, Senge (2006) describes two types of complexity. Firstly, detail complexity is the type of complexity where there are very many different variables to consider. Secondly, dynamic complexity is the type of complexity where cause and effect are subtle and the resulting effect over time is not immediately obvious. Goldratt and Cox (2004) distinguishes the systemic approach as a warning against focusing on a localised optimization (i.e. detail complexity) in the supply chain to the exclusion of the system

as a whole (i.e. dynamic complexity). Goldratt's focus is on improving the performance of a system as a whole by making decisions based in dynamic complexity. Senge (2004) states that the real leverage in most management situations lies in understanding dynamic complexity, not detail complexity. In other words, the real leverage in most management situations lies in understanding cause and effect, dependency and variation.

2.10 Chapter Summary

Porter's Generic Strategies (1980) provide a theoretical basis on which mass retailers have built their competitive strategies. Porter's Value Chain model (1985) is reflected upon from the perspective of power in the supply chain. This power is described as the ability of a firm to take ownership and responsibility for its own strategic decisions and sustainability. However, it is postulated that power also generates negative effects in the form of influence and control over other firms in the supply chain. This is due to the nature and directional configuration of the supply chain. With this directional configuration in mind, competitiveness as a relative concept is effected through the interrelated aspects and dynamics present in the supply chain. Within the context of the Porter Diamond Model, we also considered the principals of generic business strategies.

The SCOR model is integrated into the literature review as a model for best practice. Within the context of a retail study, many of the supply chain partners aim to achieve the best practice targets as laid out in the Collaborative Planning, Forecasting and Replenishment (CPFR) model. The CPFR model first implemented by Wal-Mart is a frame work aimed at mitigating the risks and costs associated with the bullwhip effect, and ordering and logistics, as well as improving forecasting with the aim of inventory reduction. The CPFR factors will form the framework of the discussion guide later in this study.

The nature of buyer or supplier driven supply chains are considered in the light of the retail environment. Buyers and suppliers often make decisions, set targets and measure performance in order to avoid the onset of a bullwhip situation. The nature of a supplier driven or buyer driven supply chain dictates the terms and causes of bullwhip such as deficient information sharing, insufficient collaboration and demand

uncertainties. The implementation of the SCOR model's CPFR is aimed at mitigating these same factors.

Using systemic thinking as an approach to answering the research questions, we aim to view the possible problem as part of the overall system, as opposed to the manifestation of a problem in a specific part of the system. It can be argued that a supply chain is systemic in nature and therefore appropriately subject to Goldratt's Theory of Constraints. Through the construction of thinking process diagrams, we are able to communicate the conflict and model the implementation of a solution. Senge (2006) describes the essence of the problem when he said that:

> "*…all organizations sit within a larger system, and in a sense it is illogical to think that the wellbeing of a company can be advanced independent of the wellbeing of its industry, its society and the natural systems upon which it depends*."

Chapter 3

3. Research Methodology

3.1 Scope and Purpose

The investigation will cover the interactions within the supply chain framework between mass discounters and their respective manufacturers, suppliers and vendors operating within the borders of South Africa. Exploratory information will be collected from both manufacturers and mass retailers operating specifically in the consumer durables and semi durable sectors of South Africa.

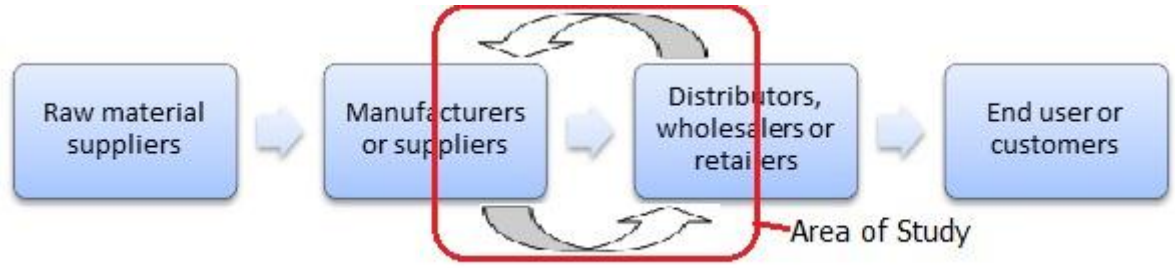

Figure 3.1.1 Adapted Supply Chain (Nieman & Bennett, 2002).

3.2 Nature and Method Chosen

The study will take place over two phases. Phase one will be the data collection phase and will be qualitative and exploratory in nature (Cooper & Schindler, 1998). Qualitative research aims to gather deeper understanding of the problem and the behavioural reasons that govern such behaviour (Wiid & Diggines, 2009). This will be done in order to identify the key elements of the mass retailers' purchasing behaviour, provide resolution on their respective strategies and policies, and to identify the key undesirable effects and assumptions affecting the manufacturers' competitiveness.

The objectives of an exploratory study are as follows (Wiid & Diggines, 2009):

- to acquire new insight into the problem;
- to be a preliminary survey before a more structured study of the problem;
- to explain central concepts and constructs;
- to determine further priorities for the research; and
- to develop new hypotheses about existing phenomenon.

Saunders & Lewis (2012) describe an exploratory study as research that aims to seek new questions and to assess topics in new light. The reason an exploratory study was chosen is due to the absence of literature and information on how mass retail buying strategies affect the competitiveness of manufacturers and suppliers in the South African retail environment.

The second phase will be data coalition, consolidation and representation. The discussion guide framework (Appendix 2) and propositions developed in § 1.3, will be the bases of the presentation of the data. The data will then be analysed diagrammatically based on a thinking process (TP) tool called the Communication Current Reality Tree. Mouton (2001) states that diagrams are a visual technique used to identify and display the essential elements involved in decisions, uncertainties, assumptions and objectives, and how they influence each other. This particular TP tool was developed in order to offer a systematic way of communicating conflict and to illustrate undesired effects. Once this has been established we can determine what we want, why we want it and avoid unintended and further undesired consequences that might result (Scheinkopf, 1999).

Mabin et al., (2001) explain that the traditional TP model is comprised of a suite of five logic diagrams (four trees and a cloud) and a set of logic rules. The diagrams use two different types of logic. Three of the trees, the Current Reality Tree (CRT), Future Reality Tree (FRT) and Transition Tree (TT) use sufficiency or cause-and effect logic (Mabin et al., 2001). They are built up by constructing connections between observed effects and causes using "if" and "then" statements, and checking for "sufficient cause". Sufficiency or cause-and effect logic is when we assume that something is the inevitable result of the mere existence of something else (Scheinkopf, 1999).

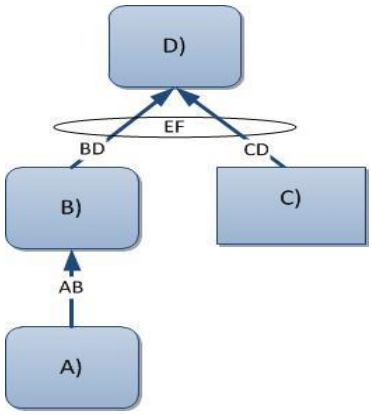

Figure 3.2.1 Sufficient cause diagram, adapted from Scheinkopf (1999).

Component	**Example**	**Definition**
1) Entity	A, B, C, D	An entity is a single element of the system. It is expressed as a complete statement.
2) Arrow	AB, BD, CD	An arrow is an indicator of a relationship between two entities. The entity at the base of the arrow is the cause and the entity at the tip is the effect. Arrows are where assumptions reside.
3) Cause	A and B+C	Entity A is the cause of entity B. Entity B and C are bound by the and-connector. AB cause D.
4) And-Connector	EF	The and-connector is an ellipse that groups entities to represent 'logical and'. Each entity at the base of an arrow that is captured by an and-connector must exist in the system in order for the entity at the arrow to exist as an effect of them.
5) Effect	B, D	An effect is an entity that exists as an inevitable result of a cause. B is an effect of A, D is an effect of B and C.
6) Assumptions	The "space" where arrows lie	An assumption is the reason for the existence of the cause-effect relationship. Assumptions lie underneath the arrows and are valid or invalid. B is caused by A because of the assumptions underneath arrow AB.
7) Entry Point	C	An entry point is an entity that does not have an arrow pointing to it. Round-corner entry points exist in the current reality. Square-corner entry points are entities that do not yet exist. These are called injections.

Table 3.2.1 Sufficient cause summary, tabulated and adapted from Scheinkopf (1999).

Sufficiency can be of three types. If we consider figure 3.2.1 above: A is sufficient to cause B or if both B and C occur together, then they will be sufficient to cause D. The and-connector situation is where B and C separately both contribute to D, but only together are sufficient to cause D (Mabin et al., 2001). When you are speculating about causes for effects or effects of causes, you are actively using sufficiency or cause and effect thinking (Scheinkopf, 1999).

The other two tools, the evaporating cloud (EC) and the prerequisite tree use necessary condition thinking (Mabin et al., 2001). In figure 3.2.2 below, in order to have B we need D, so B is an objective of D. A is an objective of B and C, meaning that A can only exist in the system if B and C exist because of the assumptions represented by arrows AB and AC. Therefore, in order to have A we need B and C. This means that necessary condition thinking is the thought pattern we use when we are thinking in terms of requirements.

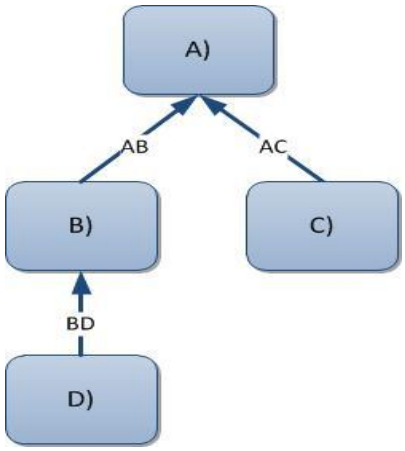

Figure 3.2.2 Necessary condition diagram, adapted from Scheinkopf (1999).

Component	**Example**	**Definition**
1) Entity	A, B, C, D	An entity is a single element of the system. It does not need to be expressed as a complete statement.
2) Arrow	AB, BD, AC	An arrow indicates a relationship between two entities. The entity at the base of the arrow is the necessary condition and the entity at the point is the objective. Arrows are where assumptions reside.
3) Necessary Condition	B, C, D	An entity is a necessary condition when it is considered required in order for the objective to exist or be allowed to exist. This is located at the base of the arrow.

4) Objective	A	An objective in and entity that cannot exist unless another entity, the necessary condition, exists as well. It is located at the point of an arrow,
5) Assumption	The "space" where arrows lie	The assumption is a reason for the existence of the necessary condition relationship. Assumptions are valid or invalid.

Table 3.2.2 Necessary conditions summary, tabulated and adapted from Scheinkopf (1999).

Scheinkopf (1999) goes on to decribe that necessary conditions are rules, policies or laws that provide the limitations or boundaries within which we believe we are allowed to pursue goals and objectives. When we think that something must exist before we are able to achieve something else, we are using necessary condition thinking. Terms such as must, must not, cannot, need and have are indications of necessary condition thinking (Scheinkopf, 1999). The logic rules in the EC are categorised as legitimate reservation (Mabin et al., 2001). The application of these rules allow us to make causal connections of logic to the facts that we know, and the assumptions we make, to conclude truths about larger, more complex relationships—to convert mere data into information, and convert aggregated information into knowledge (Dettmer, 2006).

Problem Identification	Current Reality Tree (CRT) Evaporating Cloud (EC)	What are the core conflicts resulting in the undesired effect? What assumptions will challenge the conflict?	Analysis – What to change?
Problem Communication	Communication Current Reality Tree (CCRT)	Communicates the core conflict and demonstrates the undesired effects.	Analysis – Systemic context of the management problem.
Construction of Solution	EC Process Future Reality Tree (FRT)	What key injections (changes) will we introduce to eliminate the core conflict? How can we ensure that this injection will lead to all the desired effects without creating negative	Strategy – What to change to?

		side- effects (negative branches)?	
Designing and implementing	Prerequisite Tree (PRT) Transition Tree (TT)	In what order do we need to achieve the planned changes? What inhibits the implementation? What must be done in order to overcome the obstacles? What actions must we take to implement the PRT?	Tactics - Management activities mitigating possible undesired effects of injections.

Table 3.2.3 The Thinking Process table, tabulated and adapted from Mabin et al. (2001)

As can be see above in Table 3.2.3, once the problem identification step has identified what to change, the second step in the TP deals with the search for a plausible solution to the root cause; that is, what to change to. This task can be accomplished with the aid of the EC and the FRT (Kim et al., 2008). The EC method was designed to address conflict or dilemma situations viewed as trade-off situations where there is no acceptable compromise (Mabin et al., 2001). The EC provides alternative insightful ways of viewing the dilemma and provides an approach leading to alternative ways to resolve the conflict. The search for solutions to "evaporate" the dilemma can be done in several ways. Ideas for solutions (also termed "injections" in Theory of Constraints) could be generated by examining the conflict cloud directly, or by methodically surfacing assumptions and then seeking to invalidate them. (Kim et al., 2008).

The method followed in this study will be a more recent development of the TP tools called the Communication Current Reality Tree (CCRT). The CCRT is a combination of the necessity-based logic of the cloud converted to sufficiency-based logic and then combined with the current reality tree (Youngman, 2012). Youngman (2012) uses this combination to describe the relationship between observed undesirable effects (symptoms) and the underlying core conflict. The CCRT does this by combining the positive aspects of both tools:

- Current reality tree – shows the core problem as the source of many undesirable effects; and

- Cloud – shows the core problem is not the product of any one person.

Youngman (2012) describes the steps as follows:

1) Start with the EC, this is constructed with necessity-based logic.
2) We then surface the underlying assumptions represented by each of the arrows.
3) We then need to turn this necessity-based logic into sufficiency-based logic. The mechanics of this is to turn the arrows on the EC around, so that we read from bottom to top; if objective then requirement, and because we know the assumptions the EC will now read; if objective and assumption, then requirement.

   We now have a cloud that looks like figure 3.2.3 below.

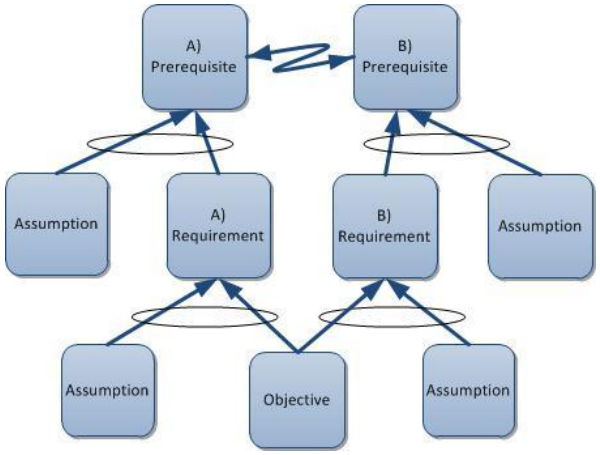

Figure 3.2.3 The sufficiency-based EC, adapted from Youngman (2012).

4) From here we will develop the Communication Current Reality Tree directly out of the prerequisites using the undesirable effects that we investigated through data collection phase 1. The CCRT effectively ties the undesirable effects back to the core conflict demonstrating that the core problem is not the deed of any one component of the system (Youngman, 2012).

3.3 Research Design

Phase one will be exploratory in nature (Cooper & Schindler, 1998). The researcher will undertake expert interviews with those key individuals in a decision-making position regarding merchandising management and procurement, both from the mass retailers and suppliers perspectives.

The execution of this study will be semi-structured, using a discussion guide (Denscombe, 2007) and a single researcher. See Appendix 3. Saunders and Lewis (2012) define semi-structured interviews as a method of data collection in which the interviewer asks about a set of themes using some predetermined questions, but varies the order in which themes are covered based on what the interviewer consideres appropriate. The information collected here will point to the presence of buying strategies and the practicalities of their day-to-day implementation. The reason for using a semi-structured discussion guide will be to allow for some deviation in the discussion and provide the richness of detail required for developing logical propositions.

The first stream of interviews will be conducted at merchandise management department level within each of the retail accounts at a location convenient to the participant. The first stream participant will then provide contact details for the second stream participants (suppliers) who deal directly with the merchandise departments. These two information streams effectively represent the two sides of the same coin and will be used to find behavioural consistencies across retail accounts and unearth the effects on competitiveness on manufacturers. This will be done until saturation level is reached, which means that no further insights are gained by an additional interview (Saunders & Lewis, 2012) or according to the minimum sample numbers. It is anticipated that each interview will take between one and two hours. The interviews will be recorded, with permission from the interviewee, and then transcribed.

In phase two, the researcher will then manually categorise and cluster the key ideas based on the discussion guide framework. Documents showing supplier evaluation criteria will be collected where available. The purpose of collecting this information is so that it can be used to complement, contrast or verify the information provided through interviews and to understand what qualifying criterion must be met and maintained by a potential supplier. The interactions between supplier and manufacturer will be considered on the bases of the eight CPFR tasks discussed in the literature review in § 2.5.1 of this research paper. Supplier competitiveness will be

considered based on the literature reviewed and from the following supply chain performance metrics as provided in the CPFR SCOR model (2008):

1. Reliability
2. Responsiveness
3. Flexibility
4. Costs, and
5. Asset management.

A summary of the types of questions that will be used, the circumstances they will be used in and example questions in relation to this study are summarised in Appendix 2. Essentially the types of questions used in the interviews will be introductory, probing, specifying, direct, indirect, structuring and interpreting in nature.

The effort to represent the complex characteristics of an environment within a simple model is valid only as long as the simplification results in a meaningful analysis while still capturing essential features of the environment (Denscombe, 2007). Systems thinking offers a method for describing and analysing problems in the context of a complex environment. It is well suited to solving the complex and dynamic socio-economic problems found in logistics systems today (Mabin et al., 2001). This second phase of the study will use the Cloud to surface assumptions and show the core conflict as well as the Communication Current Reality Tree to depict the undesired effects.

3.4 Population and Sampling

In phase one for the first data collection stream, the individual sample members will be selected on a purposive bases; a type of non-probability sampling in which the researcher's judgement is used to select members based on a range of possible reasons and premise (Saunders & Lewis, 2012). At least two merchandisers from different departments from the following retail accounts will be interviewed: Shoprite Checkers Hyper, Pick & Pay Hypermarkets, Game, Makro and Trade Centre, Cash Build and Builders Warehouse. The sample will be selected from divisions that deal with durable and semi durable products.

Information regarding phase one stream two participants will then be gathered from the merchandisers and will be a type of non-probability sampling method called snowball sampling. This is used when samples of special populations are needed. In this case, the researcher will use the retail respondents to identify the individuals at the manufacturer or supplier who are specifically required (Wiid & Diggines, 2009).

Minimum Number of Respondents	Type of Organisation	Typical Management Level	Motivation for Inclusion
5	Manufacturer/Supplier	National Product or Brand Manager for particular durable or semi-durable goods	Identify if supplier competitiveness is being strained
5	Mass Retailer	National Merchandiser/Planner for particular durable or semi-durable goods	Determine whether any generic buying strategies are employed
2	Logistics Chain Partner	Channel Director - Retail	Practicalities of their day-to-day operations

Table 3.4.1 Population and sampling information table.

Care will be taken with regards to non-response bias. Should responses to a particular question be low, additional suppliers will be selected on a purposive basis until saturation level is reached (Denscombe, 2007). Managerial roles within these organisations will be favoured in the selection of interviewees due to the strategy execution roles and performance measurement criterion that these positions typically fulfil and undergo respectively. The respondents will be asked to consider a time frame that will cover the last two full calendar years, as well as current year to date.

3.5 Research Limitations

Considering the two phased approach, time and financial constraints will be significant factors of concern. While exploratory research provides insights into, and a fuller understanding of, an issue or situation, definitive conclusions should be drawn with extreme caution (Saunders & Lewis, 2012).

Retailers also source from international suppliers and vendors outside of our geographic frame of study. The outcomes of this investigation will exclude these suppliers. Additionally, there are a number of retail accounts that may be considered as mass discounters but who will not be interviewed due to time and cost constraints.

The findings are subject to dispute if any of the underlying arguments or logic is refuted or assumptions undermined. The categories of legitimate reservation are proof-reading tools for logical cause and effect trees. According to Youngman (2012) categories of legitimate reservation have a dual purpose:

- They raise valid concerns about cause and effect rigor; and
- They do not raise resistance or defensiveness of others in the process.

The following is a description of each of the reservations (Youngman, 2012).

Category	**Description**
1) Clarity Reservation	Requesting additional explanation, to fully understand the cause and effect relationship of the individual entities.
2) Entity Existence Reservation	Questioning the existence of the cause or effect entity.
3) Causality Existence Reservation	Questioning the existence of the causal link between the cause and the effect.
4) Predicted Effect Existence Reservation	Using another effect to show that the hypothesized cause does not result in the initial effect.
5) Insufficient Cause Reservation	Explaining that an additional non-trivial cause must exist to explain the observed effect.
6) Additional Cause Reservation	Explaining that an additional cause which adds to the size of the observed effect must exist; neither cause by itself can account for the effect.
7) Tautology	Being redundant in stating the cause and effect relationship.

Table 3.5.1 Categories of legitimate reservation, tabulated and adapted from (Youngman, 2012).

Response bias (Denscombe, 2007) from phase one may also potentially degrade the quality of this study. It is considered that merchandise managers may not fully disclose

day-to-day merchandising practises which are not aligned to acceptable ethical standards. Should this become evident, the researcher may decide to make the interview results anonymous, both from an individual and organisational perspective, in the hope that this will mitigate the effects of this error. Care will be taken in analysing data with logic based on necessary and sufficiency conditions. Necessary conditions are circumstances which must be satisfied in order for an event to come about (Denscombe, 2007).

3.6 Chapter Summary

This study will investigate specifically the relationship, motivations and outcomes between mass retailers and their respective suppliers. It will be qualitative and exploratory in nature to allow new insights to surface. Data will be collected from individuals in the form of semi-structured interviews. Data will then be clustered to find the undesired effects. Using the TP model, the researcher will initiate the CRT development beginning with the undesired effects. Once the core problem is identified by using CRT, the next step is to try to resolve the core problem by using the EC process. Once a solution or an injection has been identified via the EC method, the FRT can be constructed and evaluated to test the solution. The FRT identifies and validates what to change as well as considering the impact of the injection(s) on the future of the organisation (Kim et al., 2008).

Chapter 4

4. Research results and analysis

4.1 Purpose and Outline

The purpose of this chapter is firstly to present the results of the semi-structured interviews and secondly to analyse and interpret the data through the Cloud and Communication Current Reality Trees. The interviews undertaken are numbered as follows:

Sector	Interview	Business title
Retail	1	National Buyer – Appliances
	2	National Planner – Electronics
	3	National Buyer - Audio and Visual
	4	National Planner - Consumer Electronics
	5	Group Head – Merchandising
Industry	6	National Head of Sales and Marketing
	7	National Product Manager - Major Appliances
	8	Chief Operating Officer
	9	Country Manager Southern Africa
	10	Marketing Services South Africa
	11	National Key Account Manager
Logistics	12	Channel Director – Retail
	13	Key Account Manager

Table 4.1 Interview number and title of interviewees

The presentation of the data will be based on the discussion guide (Appendix 2). The conclusion will then address the research questions directly and make

recommendations based on the data analysis and theoretical discussion from the literature review.

4.2 Presentation of Data

The data presented has been clustered according to the responses from the semi structured interviews. The focus will be on the most common answers, realities, assumptions and undesired effects that surfaced.

4.2.1 Collaboration in the setting of business goals

It was generally noted that in most cases collaboration in some form or another is currently taking place within the mass retailing environment. This ranges from a purely relationship-based approach through to formalised agreements.

One interviewee from a mass retailer stated that, *"As far as collaboration goes, it's a matter of trust between buyer and supplier".* The need for collaboration is recognised as being a means to an end - that is the ability of the supplier to meet the minimum order quantity and required price level. In this instance, the supplier also needed to align his product with the packaging and quality expectations of the retailer. Another typical business goal driving collaboration was identified in the situation where a unique product or first-to-market and exclusivity arrangement was required.

Another driver of collaboration from the mass retailer's perspective is the greater margin it allows for errors in forecasting. One mass retailer said *"you must understand if you are collaborating with your supplier, you are making extra margin, therefore you can reduce the margin to clear the stock. If you are buying a product from a supplier at his product [price] where the margins are not so great, there is no room for that clearance".* Typical promotional activities don't seem to benefit the market in terms of growing the market size. An interviewee stated that *"if you do a birthday [promotion] you would probably grab some market share but you are not really going to grow the market."*

Much of the collaboration also seemed to be *"driven from a quarter to quarter basis mainly because of the nature of the product."* This speaks to the fact that many consumer durables based in the technology segments of the market were prone to obsolescence. However, it was noted that *"beyond that quarter there's very little collaboration between the parties"* which seems to indicate that there is a short term focus with regards to collaboration.

With regards to strategic practices and collaboration, one mass retailer pointed out that *"There are a lot of factors that can influence your common goal."* One of the mass retailers described their goal as a *"win-win situation where the supplier wins and we win and we get there because it is a relationship-based environment".* Another retailer respondent explained that collaboration was based on a "*common purpose and goal rather than a specific goal in the market.*" Further to that point it was noted that "*with the mass retail policy it is obviously big volume, low margin and move boxes out*" which was frequently described as a "high low strategy." This speaks to the nature of strategic practices mass retailers are employing. The same retailer went on to say "*At the moment it happens though the relationship between the buyer and the vendor; we have a common goal to sell more stuff and it's just a case of working together to do that as effectively and efficiently as possible and hope to make as much money as possible."*

One of the local suppliers mentioned that much of the collaboration was undertaken around the need to forecast and accommodate lead times; "*… depending on the product, you have to order your products up to eight weeks in advance so my retailers have to forecast accurately with us … based on a two month lead time."* However another local manufacturer pointed out that *"in the past it was a very distrait information flow between us and retailers, unless it was a very close to operational activity that required it."*

In summary it could be argued that collaboration was taking place on multiple levels between mass retailers and most suppliers and manufacturers. Much of the collaboration topics centred on the mass retail strategy of high volume, low margin and its various implications.

4.2.2 Developing a joint business plan

Developing joint business plans or joint business planning (JBP) seems to be done only with strategic suppliers or suppliers that, in the opinion of the mass retailers, are important enough to the attainment of the merchandisers' targets. In the words of one retailer, "*a strategic supplier is one who they will want to carry as a brand for a long period of time.*"

"Say a buyer has fifteen suppliers; he only collaborates with two of them out of the fifteen. The biggest problems we have … is that if we find local suppliers and you take a product and make it a success, he will then, to achieve his targets offer it to the rest of the trade and then you have a situation where he takes market share away from you." Avoiding the loss of market share is one of the key drivers motivating the mass retailers due primarily to the fact that market share was used as a performance indicator. Unfortunately, there was no mention of whether this defensive strategy pays off in the long term. Another mass retailer reinforced this statement by saying "…*Rands banked and a certain volume of units in order to keep us at a set position in market shares, so we kind of know what type of volumes we need to do and naturally the volumes are always talked about with our vendors because they are also trying to keep a certain market share.*"

In terms of what constituted actual business plans, one mass retailer stated that "*these are your measurable, these are what you are required to achieve, these are your stretch targets, these are your consequences of not meeting targets*". Another mass retailer stated that one of their typical goals were in-store promotions through front-end incentives provided by the vendors. "*We are trying to get as much support from the supplier as possible because our marketing budget doesn't really allow for that kind of thing, so we have got to try and find the funding from the suppliers*." This point leads back to the earlier statement that only selected suppliers are chosen for joint business planning. "*In most cases the bigger suppliers are quite keen to do that sort of thing because it is a brand building exercise for them, they are getting exposure*."

One of the local suppliers' stated that their joint business goals included things like overall volume and then drill down to unit [model] specifics as well as margin expectations and revenue expectations, what the growth would and should be within in their specific group. Other factors included activities like paying towards advertising.

This was typically structured carefully because the manufacturer might end up paying even for losses in market share as this manufacturer explained, "*So we need to ensure that if we do pay a portion of whatever we allocate to them as a group that we actually get a return on that. So that would include the trade discount off invoice, early payment settlement discount, and volume rebates depending on whether they are able to achieve those volumes.*"

Another supplier explained that the typical goals included "*everything from supply chain management, to integration of staff, to trading terms, to absolutely everything from an operations perspective*". "*Bottom line is a financial forecast for the next year, showing growth, volumes, values, margins for both parties while controlling stock holdings and availability of stock.*" The actual business goals covered "*actual plans into what we are delivering to you, in what frequencies and what promotions. We then have discussions with each chain about how can we make sure that their numbers really materialise*"

Suppliers can readily see the value of joint business planning. In the words of one, "*I think what makes the plan even stronger is that you can combine it with the info that they have - they have targets and they have goals, such as store openings, birthdays, so that is the kind information that they need to give to us, anything that might influence the plan that we have.*"

One local manufacturer noted that this type of activity only took place on an informal basis. "*I can't see that happening on a formal structured basis like getting together and bashing out a common strategic vision. I can't see that it would be a formal basis, but rather on a product-specific basis.*"

Another important aspect of joint business planning was to achieve price points, which is noted as important for South African mass retailers. "*What we've notice in particular for appliances is what we call magic price points, and we try to achieve those points for both parties.*" In response, suppliers must fight to maintain their margins. In joint business plan meetings with mass retailers, margin is one of key points of contention for suppliers.

Another point raised in one of the interviews with a mass retailer was that "*business planning and strategy was volume driven, turnover focused*". In this instance the

strategic focus is on cost leadership where the buying behaviour is driven by revenue and sales out targets. "*A lot of that focus goes into asking are we in the right place, are we making enough money, are we selling enough stock, and actually less emphasis is put into the replenishment cycle.*" What was of interest with this discussion was the fact that there was little or no emphasis on managing the undesired effects of too little stock - such as an out of stock situation, or too much stock - such as a clearance sale which both contribute to lower profit margins.

The main aspects raised around the collaborative business planner were aspects such as price points, market share, volume and revenue targets and incentive structures. While profit margin was mentioned, measures and plans around the concept of replenishment and buffer management were typically absent.

4.2.3 Sales forecasting of consumer demand

Forecasting was observed as one of the most problematic yet central activities undertaken within the supply chain. Almost every respondent noted that there was some kind of undesired effect as a result of forecasting inaccuracy. Typically forecasting was done within four to twelve week cycles, with eight weeks the most common.

One mass retailer stated that *"the biggest problem we have is the projections exclude promotional activity. We normally add a percentage onto those projections for promotion plus the opening of new stores.*" Another reason for forecasting inaccuracy is that the market is dynamic and can change from season to season. "*We take a year's history which can be detrimental because if you took a certain product last year and did very well on it, for that specific season, the nature of demand for the product could have changed."* Seasonality effects can also be compounded by stock lead times.

According to another mass retailer, *"we used to commit to our seasonality basically six months in advance, we are now up to a year out… and we have had to move our time lines out quite dramatically to make sure we get our stock in due to lag."*
Another mass retailer when asked about the degree to which forecasting consumer demand was undertaken stated that *"the biggest concern that you have in the South*

African market is that from production time, factory order to production, can be anything from six – twelve weeks. So you very often thumb suck as a retailer what's going to happen next year", and then added, *"So, you tend to rely on collaboration with the local suppliers."*

"We do resist giving firm forecasts because the market changes and in SA [South Africa], we've got one of the longest lead times in the world to get to SA amazingly enough, so you know you need to tell a factory in Korea now what you think will sell in eight weeks' time and in eight weeks anything can happen."

One of the local suppliers described the process as follows: *"We sit with Account Managers who are responsible for the different accounts. We will go through what they have achieved throughout business in the past and we will also consider GfK figures [GfK is an external data provider] from the past, similar periods as well as the immediate period prior to the start of the next quarter. We will then consider what the market is doing as far as entry level [product] is concerned as well as top end where the products are selling."* This supplier also uses data to look at technical feature trends and structure. Once they have an overall idea of the market they then break that figure down into a sales plan for individual units. *"When we have our overall quarterly targets we then split it and drill down into unit specifics. We have a minimum of 21 days of stock on hand on all lines."*

Another supplier stated that "*the forecasting systems being used at the moment with our reseller is not particularly great... A lot of them have actually just been working on previous [sales] histories."* It was noted that they were trying to change to a replenishment system based on consumption. *"We are changing to a sell-out basis [through] an infrastructure where we are getting the sell-out information. We are not just taking history [into account] where we are losing out on the products nine times out of ten, so we are looking at the consumer demand instead as opposed to just order taking."* This particular supplier indicated that *"we have to order eight weeks in advance but we forecast forward 20 weeks in advance at any given time."*

Interestingly this manufacturer was also using a different [merchandising] methodology in that they implemented TOC buffer management for a number of years. "*Forecasting was always a problem in our industry, we are not in food, we are in non-food, and the non-food industry in South Africa was never structured enough to rely on*

forecasting, it's not a constant market, you can't really forecast good enough. In the past we forecasted about 50-60% [accuracy] that wasn't enough for our own planning and that is the reason about three to four years ago we moved into TOC Buffer management and move away from forecasting." Even through collaboration with mass retail, this local manufacturer found that indications of orders were never fully committed to by the mass retailer. "*What we have learnt in the past is that indications [from mass retail] were not more than indications and it was never committed to and never fully thought through and sometimes they will make you create stock for their forecasting and then not take it [the created order] or they will request that [amount of] stock on the last minute so any forecasting system didn't improve our operation and efficiency."*

Another supplier has a different approach "*Now what we do is we have a six month rolling forecast … I can still tweak it a little bit, but based on that the whole production plan is set up. We work with the build to order system ... so that means that we will only build when we have an order*."

It was also mentioned by a local manufacturer that "*commercial sales team typically visit the buyers and merchandisers and discuss forecast by SKU [stock keeping unit] and look at it over the next three to four months and decide, so there is a lot of that. I am not saying that is good. It can always improve."*

Another of the suppliers spoke of the problematic effects of inaccurate forecasting. "*As an importer, forecasting is everything. If your forecasting isn't correct it will kill your business either if it is over forecasting or below forecasting, for us who's importing from China and Korea mainly 10 – 12 weeks lead time on forecasts so if you under shoot you have to wait two months before the new stock arrives, which damage your business a lot*."

Forecasting was recognised as central to the problems faced by mass retailers in terms of stock variability. The ramifications of these issues also cascaded to their respective vendors who often bore the brunt of the effects. Long lead times, dynamic markets and the quality and availability of sell out and historical information were all cited as reasons for inaccurate forecasting.

4.2.4 Order planning based on the sales forecast

One of the national buyers stated that "*you know exactly the quantities you would want and you know exactly how it would be split into drops and how it would work. And if it was going to be a direct indent [a sale delivered directly to the retail distribution centre (RDC)] you would then split the drops further into your RDC's so you would have a container here in Cape Town, two in Johannesburg and another container coming to the Durban warehouse. So basically you would agree on a price, and you would then develop the forward commitment and then the actual planner would place the order."* However there were problems noted with that system *"A lot of the time the actual splits to stores are incorrect; so you will have one store that has far too much and another with far too little and then to try balance that stock costs you extra money to move stock from one store to another."*

One of the buyers interviewed revealed that part of their growth strategy was to expand sales (and market share) through stores openings. *"So if you have six stores opening and that comes to 10% of turnover you would increase your orders by 10%."* New store openings then increase the stock requirements and the buyers can place even larger orders. The difference in the order size from the previous period was then passed onto the supplier who would be expected to carry that difference as buffer. "*You don't intend to increase [inventory level] by 10% because you now are carrying the stock and its costing you, but if the supplier is carrying the stock you would probably bump it to 12% or 15% just to cover yourself."*

One mass retailer explains that order planning is based on forecasting undertaken by the planners. *"Planners are very analytical so they will sit down and say that our trend analysis says that in the last six weeks you have sold so many, so the next six weeks you will do that. We watch the rate of sale and we look at the stock on hand and we decide the order quantity for general replenishment."* No mention was made here whether or not this information was communicated to manufacturers in the same frequency or just at re-order point. "*When it comes to strategic buys, we plan with the vendors, we decide we want 5000 units of this and 1000 units of that, then we will actually say we want a 1000 in week three and 1000 in week seven and 1000 in week 11, and that will be bulk orders and it goes via our distribution centers."*

One common theme here it that there is often a sales plan that is typically based on the forecast. One of the local supplier's interviewed noted that this is planned up front. *"So we would sit with their planner and go through typical months' orders and do the adjustments as and when the sales change within the market. What happened typically, if this plan failed in execution, is the stock left over is then purged from the market. That will also give me the opportunity to do end of line special bids or we can do an exclusive. For example, if we are overstocked and the product is not necessarily selling as well as we expected it to, then I can do a sell-out allowance."*

An alternative approach by one of the local manufacturers was that production is based on the weekly sell-out from the buffer stock. "*We are currently running a dynamic buffer system so we have decided on the key [product] range which always has buffers on. Planning is based on a pool system, where buffers are consumed, replenishment occurs and the buffer is adjusted according to the most recent actual activity we have. So in essence we are not producing to forecast we produce to buffer and the buffers are time based".*

Another manufacturer noted their sales planning was an *"eclectic" process. "We take a look at it from a few perspectives, the important thing to realise, and people forget about this, is that when things go wrong people point fingers. The [planning] process will not work if it's not a consensus forecast. So you would have a meeting and at that meeting would be all the stakeholders, sales and marketing, operations, the two guys dealing with the national groups [mass merchandisers], the exports guy, the product manager and the distribution manager on the logistics side. So everyone actually does contribute and buy in."* However there were some problems when there was a lag in manufacturing capacity. *"The trouble is that the back orders that you build into the forecast, if they collapse then all hell breaks loose."* Backorders are a regular occurrence, as one supplier noted *"…for planning they forecast, supposedly eight weeks out and place orders four weeks in advance. I've already got orders for November [interview date 19/9/2012]. Those orders do change regularly. Due to over forecasts and under forecasts you make pockets of extra stock that we then need to route to our warehouse. Then we do spike deals that will clear some stock and the ramification of that is generally that sales of stock already out in the market will be affected."* This point is a clear indication the dynamic nature of demand in the market place.

Similarly one of the planner for the mass retailers said that *"I am responsible for stock levels and stock age, so I manage the open to buy, and the overall stock levels and the age profile of the stock, because at point of receipt we start measuring how old it is, how long it been in the business and then we have structures to move it out."*

One of the mass retailers explained this outcome in more detail saying when stock turns become too low "*the net result of it is… all our suppliers and our competitors end up in a scenario where you eventually, the terminology is, are burning on stock. You will then have to reduce the price and clear it."*

It can be said that order planning based in the forecast is a complex and difficult task. Indications are that this is not only due to the complexity associated to wide assortments and a national footprint that mass retailers must manage but also to due to the dynamic nature of competition in the mass retailing environment.

4.2.5 Order generation

Based on the interview data, mass retailers seem to work primarily on an "*open to buy*" system which is based on the order plan and financial budgets. One of the local manufacturers explained the process in detail saying that mass retailers tend to manage their own ordering cycles; *"...in the JBP [joint business plan], one of the matrix is the stock that they [mass retailers] are holding is based on turnover and they specify in the matrix the rate that stock holding can increase compared to the increase of the volumes [sold] themselves, so they are starting to see that they need to limit the stock holding. If they are not generating or increasing sales or revenue they will not increase stock holding and they would like both parties to control it together."* This behaviour was noted by this local manufacturer to be present in only one of the national mass merchandiser accounts. *"[Retailer] is doing that in collaboration with the supplier the rest of the chains are doing it internally, so what you would get is a buyer would call an open to buy, that open to buy can be throughout his range and I'm only one of ten in his range, if he doesn't have open to buy no matter who's occupied on his shelves, I will not get an order on my stock that is out of stock because he can't buy because he has a limit of how many [much] stock he can hold. So I can be penalised for a buyer not doing his job properly on another supplier. Even though my product is flying of the shelves [which] are empty you cannot get it [stock] in."*

One local supplier explained that "*we have as part of our joint business practice with them [that] if we have an agreement in place and they want to give us eight orders eight weeks in advance, … it needs to be an order, so we get our orders eight weeks in advance from them as part of joint business practice... we don't do that with everybody else, so the great thing about that is that your orders are already on the system two months before your stock arrives and your deliveries are booked. It is just easier chain management to get it there. But before they actually place the order there is a weekly meeting with them and that's about 'this is how much you are selling-out'… instead of a 'sell-in' conversation it's a sell-out conversation but weekly and that will determine what they put in their pipeline…"*

The more granular the sales forecast becomes the more problematic ordering the right quantities and frequencies become. According to one supplier interviewed *"even though the general picture looks ok… it might still be a different situation per store."* This order frequency responsibility seems to have been inherited by the suppliers as one interviewee put it, "*we need to look into the details and need to make sure that we push them every single time...because otherwise they are lazy as well."* It seems to be the mass retailers that typically have the power to control the order generation function. *"As a supplier we definitely get the short end of the stick, but they don't want to hold the stock and so if the market falls they can cancel the order. Then it's our problem."*

This sentiment was repeated by one of the channel partners. *"With the larger [mass] retailers… the order does originate at the retailer and it's on a replenishment basis, especially with the big bulk wholesale type customers like Massmart, and [Metro] Cash and Carry. The order generation process is driven by the retailer in terms of how they sell a certain proposition against a certain price point."*

One of the mass retailers also explained that stock turns and account terms also dictated some of the order generation and frequency "*an example would be a 45 days stock turn or in terms of an analysis over a year, a stock turn of eight. So if you are running on a stock turn of eight you have 45 days stock cover. If your account payment is a 60 day cover, then it is very easy to then understand that … I order on Monday first, if I sell it by the 15th of the following month [45 days] – I only have to*

pay you on the 30th." So effectively mass retailers are retaining cash earned from sales for a two week period before paying suppliers.

There were also instances of automated ordering system although this was not common for slower moving consumer durables. *"We have a replenishment system that runs on SAP, human intervention is the worst thing to replenishment systems. The more you leave the enhancement replenishment system alone the more accurate it will become because it will auto correct it over time, if you keep manually intervening then it will never learn how to fix itself."*

The key message here was that the 'open to buy' system used by mass retailers negatively affects the ability of vendors to respond to a low stock or stock out situation. Order generation was typically managed quite closely by the mass retailer but it was not clear if this information was made available to all the vendors regarding their respective product categories.

4.2.6 Order fulfilment

One of the channel partners mentioned that "*The [mass] retailers are very aggressive on managing the order fulfilment, and it is a matrix that they monitor quite closely to make sure the manufacturer is delivering within that service level…. it is a really important matrix and typically where a manufacturer is poor on order fulfilment it effects it negatively on other things such as shelve space and priority in terms of promotions. It is a very big deal because when a price point breaks, or when a promotion breaks, you have to have stock."*

Order fulfilment was an issue for one of the suppliers due to the accuracy of the forecast and the sales planning upon which order fulfilment depends "*the [mass] retailer could place an ad (advertisement) where they last time sold 300 and this time all of a sudden they sell a 1000 — the disadvantages are dealing so far ahead of the time there is nothing you can do… you cannot get more stock, and you cannot make the ship arrive faster. So the disadvantage is that you have to take some risk."* Another supplier pointed out that, "*they [mass retailers] want 95% in stock - that means your delivery must be on time with 95%. Even when they only expect to fulfil 50% of their forecast they expect 95% delivery."*

When asking one of the local manufacturers what are the expectations from the retailers regarding order fulfilment the answer was *"98-99% and they don't take into account that a lot of the problems are on their side*." When asked why this was difficult to achieve, the manufacturer responded, "*because they not giving us enough lead time…sometimes they order huge quantities at a short time and they expect you to have your stock there again. On TOC we are offering lots of solutions like partial delivery where you need it but we can't deliver the whole delivery. So you won't be out of stock and we don't need to deliver the whole quantity immediately, so we spread it [production] over a period of time."*

A solution to the high volatility created from weekend special deals was mentioned by a local manufacturer where a mass retailer was *"moving away from weekend promotions into extended promotions, so they go for promotions that run for two to three months which allows them to keep on replenishing as they keep on exhausting their stocks."*

One of the supply chain partners explained the pressure on local manufacturers and suppliers by saying, "*So what happens with Lawnstar as an example is if Lawnstar has given an order let's start it off with a hundred and they get given a cycle time per order, so they are saying that every two weeks you will deliver 200 lawnmowers. If Lawnstar misses one of these deliveries they get penalised. They actually lose the contract and they have to go renegotiate the sale. That's the reality of it and it has a huge impact."*

Expectations from the mass retailer's side regarding order fill rates were normally high. It was noted that high percentage order fill rates were difficult to maintain as a target for vendors during times when there were short sharp promotional campaigns that the mass retailers ran.

4.2.7 Exception management for out of bound conditions

Much of the costs associated with exception management is negotiated and built into the supplier agreement. One national buyer said, *"That's been negotiated outside the supplier agreement at this stage but going forward that will be put into the whole criterion."*

Another mass retailer said that *"With all supplier negotiations, where the suppliers listed with the organisation we do a service SLA [service level agreement]. So by pure law requirements there has to be a 14 day exchange guarantee and a minimum one year warranty, so all of the repairs and the back-up will then be carried by the actual supplier.*

This was echoed by another of the mass retailers "*in all our trading terms we have a service level agreement with suppliers so typically we offer customers a 14 day exchange period for out of box failures, we are also governed by the CPA, the customer has a six month period to return something if they are not happy with it."*

One of the local manufacturing representatives said that *"We have an open policy on returns, we take control of our products… most of our retailers know that if it is a legitimate return we will take it back, most of the retailers have agreements with you with a period of time when you take it back. We actually are very lenient with the retailers, because the business that you might lose when you don't take stock back is way more. If they say they want to return we will accept it."*

Exceptions regarding out of bound conditions were normally managed early in the negotiating process and governed by the service level agreement. Government regulations also play a role, dictating some of the requirements. Supplier and manufacturers were typically the business entity that had to take the responsibly to handle these conditions.

4.3 Performance assessment based on the key metrics

4.3.1 Reliability

The reliability component seemed to be extremely important to mass retailers in general, besides expecting very high levels of order fulfilment one local supplier said, "*Reliability is absolutely everything as retailers are predominately based on advertising broadsheet business in a big way and if you miss that the penalties are absolutely huge, the loss of business is huge, the impact for our business as well as theirs"* This was also emphasised by one of the mass retailers who said *"because if we do not have products in store then we miss out further and we lose out on market share and that is what it is all about."*

One of the major emphases here was that the supplier and manufacturer need to manage the mass retailer's expectation. From the interviews it is clear that mass retailers do apply significant pressure regarding reliability "*they do put pressure on us but if you can clearly indicate to them what the time frame looks like then there is no discussion. So it is those small dynamics we are trying to improve on, say 50% of the time your delivery 100% on time, and the other 25% of the time you delivered the quantity right but on a revised delivery schedule and the remaining 25% of the time you were late or you did only part of the deliveries."*

Some of the suppliers intimated that the mass retailers are justified to apply this pressure especially during promotional periods as this is the nature of the mass retail channel. It was stated that, "*they only get really nervous for example when they have a birthday deal and have a special broad sheet. So if you then do not supply on time then they start shouting and screaming. They say OK we are kicking off tomorrow, we are 40 stores and 10 of them still have not received stock, and then we need to make sure that they do same day deliveries. I think they have got every right as well, if they planned in advance and we did not come to the party any reason such as the shipment came late from Europe or whatever, then the pressure is on our shoulders."*

4.3.2 Responsiveness

In terms of responsiveness mass retail tended to be fairly understanding and accommodating to a degree. There was typically a window period where suppliers and manufacturers could deliver stock. One local manufacturer stated that *"for most of the [mass] retailers, we work on a two week process of orders our general lead time for day to day operations is two weeks and most of the [mass] retailers expect that we have it by their stores on the day that is specified that is usually a two week window. If it is a promotion or a big quantity we will work on four – six weeks, but what their expectations are is that the week before and after everything will be in their stores in some cases it can be Pick n Pay that can have a few hundred stores and Game will have a 110 stores and Makro will have only 11 stores, but they still expect you to do the same, they give you an order and within two weeks and it is part of your range and you have to arrive at all the stores that ordered it on that time."*

Another supplier said *"The basics of what they expect from us in terms of delivering stock, there is a little bit of leeway, so when an order is placed for that week they will give you a leeway of delivery seven days before and to seven days after delivery date ... so that gives you a little bit of time ... but it is expected that their stock should be in the warehouse a week before a special promotion."*

This sentiment was also mentioned by one of the logistics partners in the supply chain who said, *"So if the scheduled product was supposed to be there on the 15th of June 2012 you have seven days prior or seven days after that to get that product checked into the DC with the GRV [Goods Receiving Voucher]."*

One of the other local suppliers had a differing opinion "*Their [mass retailers] expectations are straight away, they [mass retailers] want you to be able to delivery straight away everything and immediately we talk about buffer stock, bringing in certain percentage of extra stock … unfortunately with the achievement of actual forecasts being so inaccurate, all over the place, I think we average 33% [fill rate] at the moment.*"

4.3.3 Flexibility

In terms of flexibility one mass retailer considered themselves to be quite flexible with regards to replenishment orders but would penalise suppliers should the order be for a promotional product. *"Depending on what the occasion is, if it is a promotion line and we are going to be out of stock and if we are going to have unhappy customers and the CPA breathing down our neck, then we will penalise them, if it is run of-the-mill nobody is going to notice if it doesn't get there we have quite a bit of safety stock on the shelves it was just a replenishing order we will let it go for a little bit later, it's very flexible from my side."*

One of the local manufactures mentioned that within their business they tried to accommodate the flexibility expectations in as much as possible and that mass retailers *"generally understood". "For a strike as well, they will get a warning and they will pull in stock early. Look there again, if they have a catalogue printed ... we had that experience earlier this year, we brought in fridges from China and there was a strike, so we had to put one of our lines here on a double shift, we were very flexible, we couldn't just tell them [extra manufacturing staff] to leave till we knew there would be excess stock. We also knew that the Chinese fridges would arrive at some point so as a supplier you have to be flexible."*

Another local manufacturer stated that "*We need to be 100% flexible because they do what they want because they are holding the all the cards so we will try to transfer some of their stock, we will do it store for store and amend order where necessary. A lot of the times they would reject orders because they've had changes on their systems without even notifying us, so they are not the best of customers when it comes to reliability but they expect us to be 100% flexible and reliable and we must deal with all their messes and fusses."*

Another supplier stated that flexibility expectations were as a result of the way costs are built into the sales plan. *"They [mass retailers] could be as bad as demanding compensation for the brochure costs … if you can't supply the product they will ask you to pay for the ads. It could be that bad but it depends how rigidly they build that cost into their plan but if it's a deal that can wait then fine and you can negotiate, so it varies from pretty serious to "ok let's make another plan."*

4.3.4 Costs

For the cost component one local manufacturer explained that *"most of the mass retailers in South Africa work on back and front end numbers, so we get terms signed with head office which include specific percentages of our turn-over going into advertising, rebates and settlement discounts that is managed by Head Office Revenue, and then the buyers will negotiates the prices on promotions, and day-to-day operations. So they manage their business on the back end and the front end. So we do have a percentage allocated to advertising in most of the mass chains."*

The costing aspect was typically managed at a corporate level and was outside every day buying practices. This aspect of performance measurement was also typically profit driven. *"Well 99% of that is done on a corporate level with a trading group. So you would have flexibly. It's ultimately … every business, whether you are a supplier, a consumer or a retailer, everybody is profit driven. You wanna have more cash in your bank account than somebody else has in their bank account."*

Suppliers have adjusted some of their operational activities in an attempt to gain cost savings. This includes delivering directly to RDC's or through *"cross-docking"* which effectively leapfrogs nodes in the supply chain. *"First of all we are getting our orders eight weeks in advance so that means it is an order not a forecast - we know what we are bringing in is going to them, so I am saving on distribution costs. Because they have Regional Distribution Centres, I can send direct containers and that on its own is a direct container process as opposed to bringing it into my warehouse and delivering can be anything between 6-10% saving just on doing a container as opposed to separate truck loads. They have staff to offload it so I am saving from not having to send my own staff to offload containers. These indents or direct deliveries are also typically secured on a volume basis or "MOQ per transaction (minimum order quantity) … per container."*

4.3.5 Asset Management

Much of the asset measurement tools such as stock turns and return on inventory were used to measure the performance of the merchandising unit. One buyer from a mass merchandiser explained, *"each individual buyer is a whole cost centre, so if your buyer*

is carrying too much stock he gets charged interest on that — it comes off his bottom line. He is measured on his bottom line; he is incentivised on his bottom line. So his advertising costs, stock holding costs, warehouse costs are all part of the buyers function. So the better his stock turns the better he is going to be financially — that's the bottom line."

It was typical for the manufacturers and suppliers to support the promotional efforts of the mass retailer. One interviewee from a mass retailer replied, when asked about the degree to which promotional activity is supported, that *"it was dependent on the depth of the vendor's pockets."*

One mass retailer mentioned that much of the asset management activities were typically performed around the age profile of stock and shrinkage *"six to eight weeks and for the company, specifically its sixty eight days, but within that you have small appliances with sixty days, major appliances are 72 days and then of course your food stuff is far less, depending on expiry date. Outside of that you get you write offs, [and] shrinkage."*

In terms of storage, one mass retailer said that, *"[it] is also dependent on the supplier because some suppliers have warehouse facilities they have the ability to hold stock for one or two months. It is harder for other suppliers who do not have any warehouse facilities, so stock is brought to you by the supplier and that stock needs to go somewhere so you need a warehouse … if the suppliers have warehouses, the optimal way is to do multiple drops, so everything we replenish is based on sales which is based on the future advertising activities … if you replenish on a weekly basis, that automatically turns as the retailer's stock into financial management, the better your stock turns the more cash you hold. The less stock you hold improves your stock turns and you really start to benefit from your financial aspect, you get decent returns and investment."*

Another mass retailer noted that *"our objective is not so much to minimise stock but to improve stock turns, … if you want to push your stock higher you have to have a strategy that will increase your sales because then it will keep your stock turn at a set level."*

A national planner for one of the mass merchandisers explained that, *"The ad hoc replenishing of stock is taken from the stock the vendor actually holds, in their warehouse, they are actually on peripheral lines as such, the big orders we don't place in the beginning of the quarter, we don't hand out the orders all at once."*

Much of the asset management that traditionally was the responsibility of the retailer has been shifted to the manufacturers. A local manufacturer had the following to say regarding asset management. *"A lot of the time they [mass retail] are not managing the stock on the shelves, we see a lot of stock outs, if we don't manage it, they don't manage it, in a lot of cases we realise that in order to increase ourselves we need to merchandise, we need to manage the shelves and this is what we do. In some chains that is the expectations, that you manage 'your' shelves, so we are fighting for shelf space to make sure that our products are on the shelves, and our people make sure that our stock is in place. We are moving to rotate stock that is not moving. We believe that we are more proactive in shelf turn around than they are."*

4.4 Data Analysis

4.4.1 The Cloud

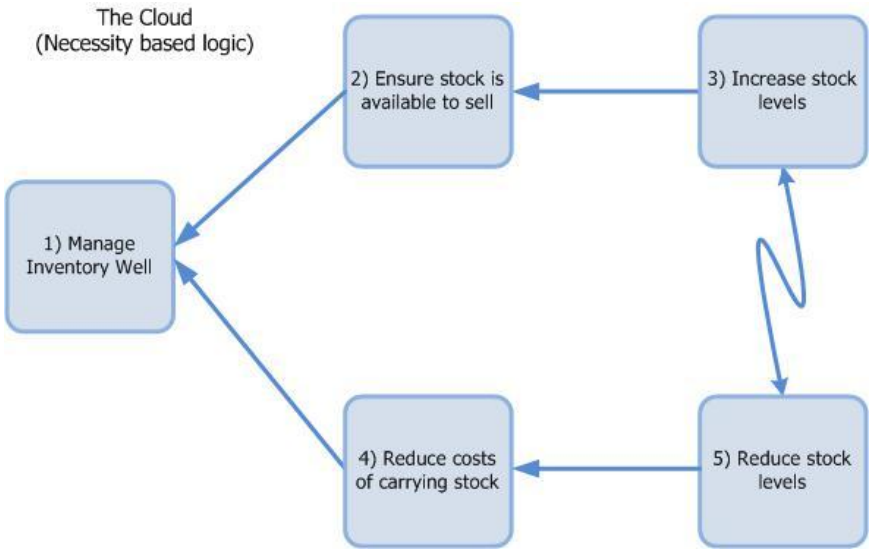

Figure 4.4.1 The Cloud, as adapted from Young (2012).

The cloud (figure 4.4.1) is a representation of the core problem. In order to meet the objective 'Manage inventory well' (entity 1), mass retailers need to ensure that stock is available for sale as well as ensure that the costs of carrying inventory are effectively managed. Entity '2' and '4' are requirements for entity '1'. However, in order to have requirement '2' we must ensure that we have sufficient stock. This is represented by prerequisite '3' or increase in stock levels. On the other hand, in order to have requirement '4' mass retailers need to reduce stock levels, as represented by prerequisite '5'. The conflict is represented by the broken arrow between entity '3' and '5' where prerequisite '3' is in conflict with prerequisite '5'.

The assumption represented by arrow '1 and 2' is a valid one in that having stock to sell at the right place at the right time and in the right quantities means that inventory is managed well. Having stock to sell at the right place at the right time also means that the mass retailer avoids a lost sale (for themselves and everyone else in the chain), ensuring stock is available the retailer avoids losing share of total retail sales (one of the performance measurement metrics used by merchandisers and planners) and the supplier concerned also avoids losing market share. Surfacing assumption represented by arrow '2 and 3' shows that merchandisers believe they need to buffer against demand uncertainty. This is based on the reality that there are long lead times.

This 'long lead time' contributes to increasing stock levels and is a factor upon which the safety stock policies are based. The surfaced assumption, represented by arrow '1 and 4' is that carrying stock absorbs cash (and is an opportunity cost) as well as creates additional overheads through costs like warehousing, shrinkage and insurance. Further to this point, reducing these overheads means that a retailer would improve the financial performance of the merchandising department concerned. This is because the less revenue tied up in stock, the greater the number of 'stock turns' that can be achieved. The solution, according to the retailer, is based on the assumption represented by arrow '4 and 5' that one needs to reduce stock levels thereby concomitantly reducing costs associated with carrying the stock.

We now convert the cloud into the Communication Current Reality Tree (CCRT) which uses sufficiency logic.

4.4.2 The Cloud Converted

In order to convert the cloud to sufficiency based logic we simply reverse the direction of the arrows and turn the cloud 90 degrees as seen in diagram 4.4.2. The diagram now reads from the bottom as follows; entity '1' and '7' are individually sufficient to cause '2'. Furthermore entity '1' and '9' both contribute to entity '4' separately but if both '1' and '9' occur together, then they will be sufficient to cause '4'. The new entry point (injection) at '11' is to increase order size which is based on two surfaced assumptions. The first is that increasing order size is considered cost effective and this assumption leads to entity '4'. The second assumption is that a large order will ensure that enough stock is available and this leads to '2'. One of the manufactures interviewed stated, *"…they [mass retailers] want those big quantities because they are trying to push pricing down and they don't think about the long term implications."*
If there are long lead times then more stock will be required in the form of buffer stock to ensure that one avoids a costly stock-out situation. Many of the consumer durable products in South Africa are imported and suppliers and retailers operate within highly regulated legislative and legal environments. This leads to long lead times. In other words entity '6' and '12' individually are both sufficient to cause '8' and entity '8' alone is sufficient to cause the mass retailers to increase stock levels at entity '3'. If stock needs to be available at the right place at the right time, then the assumption will be to keep stock on hand to ensure that one avoids a lost sale. Entity '2' alone is sufficient to cause '3'. Entity '4' and '10' individually contribute to entity '5' but if both '4' and '10' occur together, then they will be sufficient to cause '5'. Entities '3' and '5' are still in conflict, and from here we add the undesirable effects (UDE) with the aim of tying the UDE's and current realities back to the core conflict.

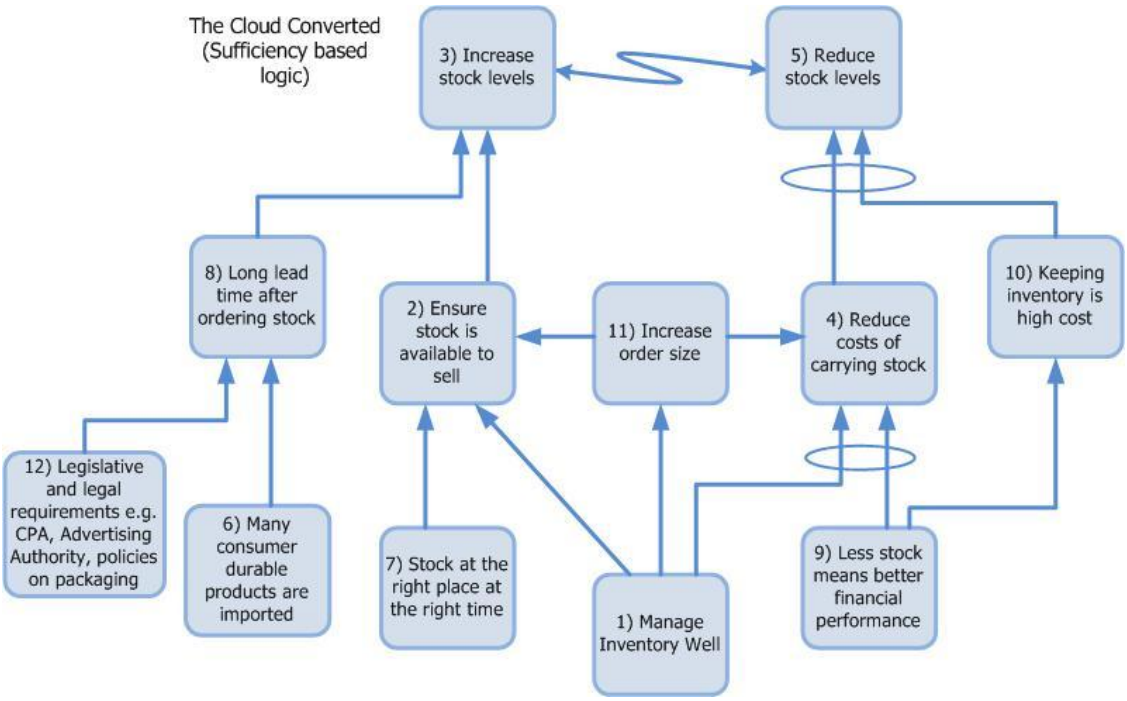

Figure 4.4.2 The Cloud converted, as adapted from Young (2012).

4.4.3 The Communication Current Reality Tree

The top part of the CCRT (figure 4.4.3) contains the UDE's, realities and the resulting behaviours stemming from the core conflict and they read as follows from entity '14'; as a result of dynamic demand retailers and suppliers tend to forecast demand in order to plan for the long lead times, maintain buffer inventory and increase stock levels. An additional contributing factor motivating forecasting behaviour is that the supplier and manufacturer need to understand how much to produce (and import) as mass retailers look to reduce stock levels. The UDE resulting from retailers wanting to reduce stock levels at '5' is sufficient to cause order frequency to vary significantly (orders dry up), specifically during the time just after a large order is placed. When orders dry up at entity '15', manufacturers and suppliers are pressured into offering or accepting back-end and front-end discounts in the hope that an order will be secured to improve their operational cash flow. According to one manufacturer, *"they [mass retailers] can buy almost nothing for a long time and then they will buy ten thousand items, they sell it for cost and then you stay two to three months without production because they decided on 10000 (units) so they have enough in their warehouses for too long."*

Long lead times are sufficient to cause entity '13'. Long lead times are known to be a key driver of safety stock policies, including buffering, and are also a source of forecast error. On the other hand, frequent technological innovations and new product launches by suppliers also lead to obsolescence in the consumer durable and semi durable sector and this is a major UDE that mass retailers look to avoid by forecasting.

Entity '16' and '18' individually contribute to having too little stock, but if both '16' and '18' occur together, then they will be sufficient to cause '20'. Similarly entity '17' and '18' both contribute to entity '19' separately but if both '1' and '9' occur together, then they will be sufficient to cause '19'. One of the UDE's of forecasting is a situation where there is too much of certain stock items. This undesirable effect is amplified the further out in time the forecast pertains. The resulting oversupply of stock drives some of the reasons for mass retailers wanting to reduce stock levels in the first place, since the oversupplied stock ties up cash, requires storage and needs to be insured against risks such as fire, theft and shrinkage. Many buyers and planners simply forecast based on a budget which is often built on sell-out figures from the previous year. Forecasting efficacy is further weakened the more granular the forecast becomes.

Another intensifying factor of this undesirable effect is that suppliers and manufacturers tend to offer discounts on stock and budget for marketing to the mass retailer based on order size (represented by entities '16' and '17'). This means that mass retailers are propelled towards the promotional behaviour that causes demand fluctuation. With this in mind both entity '19' and '20' contribute to increasing the uncertainty of demand levels and are connected back to '14' by a negative feedback loop, driving the forecasting behaviour further.

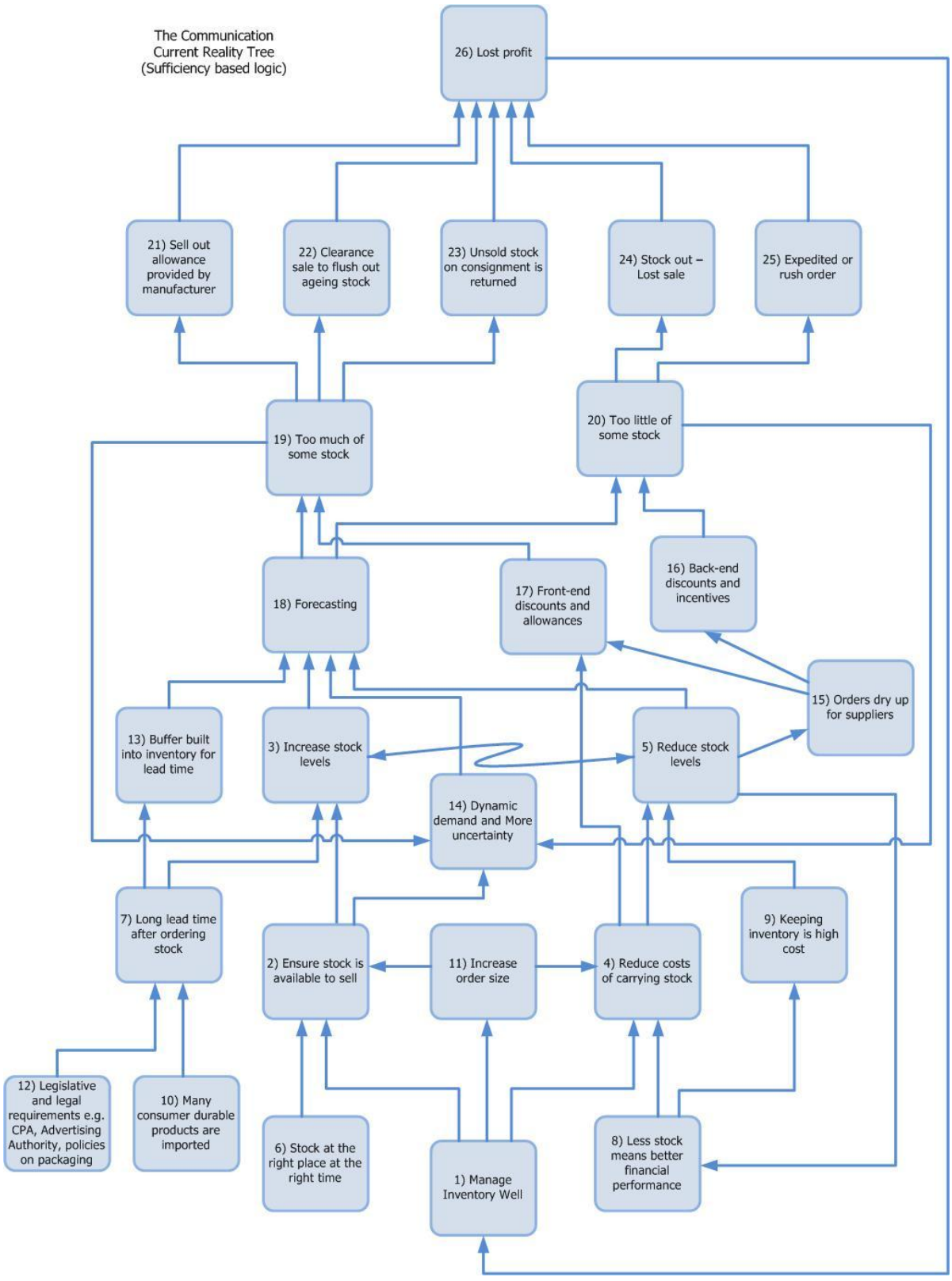

Figure 4.4.3 The Communication Current Reality Tree, as adapted from Young (2012).

The other UDE of forecasting is that there are too few of certain stock items leading to stock outs / out of stock (OOS) situations that result in a lost sale for all participants in the supply chain. While in some instances an OOS situation is caused by ordering

problems (predominantly poor inventory management and inadequate conformance to reorder points), poor forecasting is considered the primary cause that lead to late orders or no orders at all. With sales not taking place due to an OOS situation both the retailer and manufacturer will once again find it difficult to forecast future demand. This is because both parties have no idea what could have been sold if stock were to have been available. The final result of a lost sale means that potential profit is lost for all participants in the value chain. One merchandiser for a mass retailer suggested that an OOS *"costs you brand loyalty, it costs you future sales, it costs you relationship with your dealers, it costs you money because of loss of sales. Out of stock has many different types, they are from under forecasting which means you generally had a fantastic month before."*

Entity '20' was also sufficient to cause the expedited or rush order for stock when safety stock levels are critically low or the OOS situation has already occurred. This is in contrast with the assumption surface earlier in the CCRT between entity '11' and '4' where it was suggested that large orders reduce ordering cost due to less frequent orders. Expedited orders typically cost more than a straight re-order or modified re-order simply because of the resources and priority placed on getting stock on the shelves.

Entity '19' and '26' both contribute to '21' but if both '19' and '26' occur together, then they will be sufficient to cause '21'. When both '19' and '26' occur simultaneously, they are also sufficient to cause '22'. Having too much of some stock was also enough to cause entity '23'. With too much stock one can logically assume that over time the stock age profile falls outside of the merchandise parameters and is either cleared or if on consignment returned to the supplier or manufacturer.

Entities '21', '22', '23', '24', '25' are all sufficient to cause lost profit individually, for all the members of the supply chain. Entity '27' is an undesirable effect because the primary way performance of merchandise managers and planners is measured is through financial metrics, for example gross margin return on inventory (GMROI). The GMROI calculation evaluates whether a required gross margin is being earned by the products purchased, compared to the investment in inventory required to generate those gross margins. When products are cleared they tend to be sold at lower than average prices meaning that margin is given away and profits are lost. When a sell-out allowance is provided, the supplier or manufacturer effectively cushions the mass

retailers loses so that the mass retailers overall margins are not heavily affected. This negative outcome is then fed back to the starting point entity '1' where the merchandiser needs to manage inventory better.

4.5 Implications for research questions

There are strong indicators that generic buying strategies are being employed by mass discounters when purchasing from manufactures and suppliers. This is evidenced by the fact that many of the activities and behaviours seen in the CCRT (figure 4.4.3) are performed in an attempt to achieve cost advantage. Supply chain management is a key focal area for the cost leadership strategy for mass retailers in South Africa but there is a weak linkage between supplier and manufacturer competitiveness and sustainability, and the mass retailer's intention to improve their own performance, customer service and efficiency. Through the mass retailers purchasing strategy there seems to be a continuous cycle of trying to reduce costs to the point where their offering is the most attractive option relative to the other mass retailers (Nieman & Bennett, 2002). While there were noted inefficiencies in terms of out-managing rivals in the proficiency with which retailing activities are undertaken by mass retailers, there were significant behaviours that suggest that mass retailers are attempting to control the costs associated to retailing activities. This was typically done by passing some of the cost-producing inbound logistics activities (Nieman & Bennett, 2002) such as warehousing, inventory control and merchandising to upstream members of the value chain (i.e. suppliers).

The advantages of these buying strategies for the manufacturers and suppliers are clearly that the mass retailers provide the means to access a large number of South African consumers through their national distribution network. Mass retail continues to gain importance as a retailing format as more and more consumers look to secure the lowest price possible for consumer durable or semi durable products. If the supplier or manufacturer is considered strategically important, the high level of collaboration in projects reflected in joint business planning means that the business growth will be tied to the success (or failure) of the mass retailing format. The mass channel is also regulated (because the majority are listed) and highly formalised. The business environment does offer some security with regards to contractual agreements and ethical business practice.

One of the key disadvantages for the suppliers and manufacturers of the generic buying strategies deployed by the mass retailers in the context of the South African retailing environment is the use of negotiating power. Due in part to the concentrated retailing environment, and the nature of outcomes from generic strategies exercised, power resides on the side of the mass merchandiser with regards to durable and semi durable products. Mass retailers typically have the ability to influence and control other firms in the chain. While there is a degree of collaboration found with the larger suppliers, mass retailers typically lead the strategic discussions and decision making. The degree to which sell-out information is shared between the mass retailers and suppliers depended on the power relationship between the vendors and mass retailers.

The impact of these practices on the competitiveness of the manufacturers and suppliers was not positive when considering the ability for suppliers and manufacturers to manage their own strategic imperative. Suppliers and manufacturers are governed or limited to the extent to which they can act or re-act (Feurer & Charabaghi, 1994) in a competitive situation specifically because of the long lead times and infrequent ordering. In this case the relative strength of manufacturers and suppliers to win against competitors is effectively muted during periods where there are no orders (Cho, 1998) or while stock is en route because no decisions can be implemented during these periods (typically between six-twelve weeks). So if one brand does a promotion within a mass retail account, a competing brand can do very little about it until the next order where terms such as "front-end" and "back-end" discounts and budgets are agreed upon. Similarly, should there be a sales run on a particular product that has not been forecasted, a stock out situation could easily occur that cannot be rectified until new stock arrives some weeks later. With suppliers and manufacturers unable to respond to market conditions quickly, their operational responsiveness as a component of competitiveness is left with much room for improvement.

The impact of these practices is on the sustainability of the vendors specifically related to margin. Margin is negatively affected due to the tactical strategies mass retailers use to rectify problems associated to forecast error and market dynamics (Nieman & Bennett, 2002). While in most cases these tactics do mitigate the negative effects of the UDE and keep products in the supply chain moving, the profit margins lost cannot be recovered and this is damaging for all stakeholders in the value chain. While having the ability to act and react within a changing competitive environment, it is important to also note that competitive advantage can only be sustained as long as its potential

can be maintained (Feurer & Chaharbaghi, 1994). This requires financial strength to fund the necessary strategic changes such as value creation and the introduction of new innovative products.

4.6 Chapter Summary

What was evident is that supply side competitiveness and the sustainability of manufacturers and suppliers is being pressured by the buying practices being employed by South African mass discounters. In many cases, the infrequent orders were the primary problem faced by vendors. With margins under pressure, the front-end and back-end discounts offered- contribute towards the undesired effects. If the manufacturer concerned is not a strategic business partner, there is typically little information sharing and long waiting periods for replenishments orders. During this time the ability of manufacturer and suppliers to control their own competitiveness and responsiveness is effectively limited. With the South African retail environment being so concentrated, the mass retailers also tend to be in the position of power regarding negotiations around price, fill rates, inventory management and specifically the control of information. The generic buying strategies South African mass discounters are employing when purchasing from manufacturers and suppliers also created a number of advantages and disadvantages for the vendors. The primary advantage is that the mass retail channel represents a significant opportunity for manufacturers to reach a large customer base and achieve high volumes of sales through a formalised retail environment. The key disadvantage is the inability for suppliers to manage their own strategic objectives through short term financial uncertainty and the inability to be responsive to market threats and opportunities.

Chapter 5

5. Conclusion

5.1. Purpose and outline

The aim of this chapter is to distil the key findings from the data within the context of the literature reviewed. The summary will cover the main findings and discuss the shortfalls of the study and research design. We will also revisit the main conclusions and the ramifications for the research questions. In the Recommendations section we will propose a Future Reality Tree (FRT) designed to mitigate the undesired effects for the suppliers and manufacturers and then we will discuss areas of potential future research.

5.2. Summary of main findings

The main finding around collaboration and joint business planning is that collaboration is taking place, but the degree is dependent on the importance of the vendor to the mass retailer. The levels of collaboration range from a relationship based on trust to a formalised joint business program.

Much of the power in the South African retail context remains with the mass retailer. What drives the mass retailers is an almost myopic focus on volumes to the exclusion of long term sustainability. This was summed up in the statement by one of the mass retailers as "*business planning and strategy is volume driven, turnover focused"* and this ideal was reinforced by one of the manufacturers saying, "*they want to control when they want to promote it and when they want those big quantities because they are trying to push pricing down and they don't think about the long term and implications*". What is of particular concern is the clear lack of emphasis on the replenishment cycle from the retailers' side. In many cases the supplier involved in the collaboration tends to be the weaker party in the negotiation. The suppliers are focused on reducing order costs and administration to increase their own residual value in the supply chain and remain viable as businesses themselves. Suppliers are only

considered to be competent and reliable supply chain partners when they offer various incentives such as volume driven discounts and back-end rebates, most often at the expense of their margin. The supplier competitiveness, in terms of the ability to meet all transaction requirements, is diminished to a large extent by the mass retail buying practices. To this end one of the interviewees stated that ", *if the buyer doesn't have 'open to buy' [budget] no matter who's occupying his shelves, I will not get an order on my stock that his out of stock because he can't buy because he has a limit of how many stock he can hold."* This means that this manufacturer is getting penalised for their stock selling well over and above the devastating stock out situation. *"Even though my product is flying of the shelves, they are [remain] empty [because] you cannot get it in".*

The failure to think systemically in this case leads to the most of the significant financial risks in term of lost profits for all participants in the value chain, in the long term. The logical conclusion is that if the future of South African suppliers and manufacturers to the South African mass retail environment is unsustainable, this compromises the future of mass retail as well.

Another main finding is the lack of connection between retail strategy, sustainability and performance metrics. Most metrics are not derived via systemic thinking and are therefore in support of optimisation of the supply chain as a whole. As result of the missing connection, merchandise managers seem focused on internal performance measurement criterion such as reducing the cost of ordering or the assumption that keeping stock is expensive. One could argue that a stock out situation is even more costly and that carrying sufficient stock is the lesser of two evils. Mass retailers still depend heavily on financial metrics as their key performance indicators. Unfortunately, these metrics are better suited to solely assessing and optimising the performance of retailer. The lack of consideration in terms of the CPFR performance metrics regarding the performance of the supply (value) chain as a whole, results in significant UDE for manufacturers and suppliers.

5.3. Summary of main conclusions

The more effective and proactive the information sharing – that is, the degree of collaboration - the more responsive the entire supply chain will be. There is a positive association between improved competitiveness, sustainability, and the robustness of collaboration efforts around the setting of business goals and joint business planning. Where interview discussions exposed existing collaboration between mass retailers and their strategic suppliers, the sentiment and opinions tended to be very positive. Major obstacles for more meaningful and fruitful co-operative practices remain the way in which merchandisers and planners are measured in terms of performance. Short-term financial metrics continue to drive their behaviour. Competitiveness is centred on short-term financial strength, which undermines the ability of local suppliers and manufacturers to act and react swiftly and maintain operational activities. A major obstacle on the supply side is the fact that ordering cycles from retailers are too long and can lead to cash flow problems. Sustainability must be built on long-term financial strength and the supplier's ability to constantly employ capital for buffer stock and the introduction of a new product ranges in line with developing consumer trends. It is also important that the mass retailers share the responsibility for buffer stock through retail distribution centres (RDCs) and on more equitable terms.

5.3.1 Generic buying practices

There is much testimony from the interview data that supports the statement that the majority of South African mass retailers are employing generic buying strategies when purchasing from manufacturers and suppliers. From the data, we noted that the mass discounters aim for competitive advantage based on range and cost leadership. Primarily, this cost advantage is achieved by passing some of the cost generating value activities to other members of the supply chain, such as warehousing and exception management activities. There is however, some evidence of certain mass retailers have become more progressive in that they are attempting to 'out-manage' rivals through greater supply chain efficiencies brought on through closer collaboration and partnership. This collaboration is currently only seen in 'strategic' mass retail-supplier relationships.

5.3.2 Buyer and supplier collaboration

CPFR is a set of business processes that assist in reducing supply and demand uncertainty through improved communication and collaborative efforts based on shared goals. Based on the initial purposive sample of merchandisers and planners, and the consequent snow ball sample of suppliers and manufacturers, collaboration was generally present. However, collaboration on a larger scale with less important suppliers needs further investigation. What was noted with regards to collaboration and category management was that the costs of in-store shelf management was readily accepted by supplier and manufacturers since they could be more reactive to demand levels on an item level. This responsiveness when dependant on forecasting, specifically on item or SKU (stock keeping unit) level, was considered weak as a result of forecast inaccuracy even in a collaborative setting.

What is not as evident, yet vital for maximising competitive advantage, is an efficient replenishment system. While the collaboration around forecasting takes place, the timeliness and quality of information shared is not significant enough for suppliers to respond before a stock out scenarios. In this situation, collaboration is crucial for reducing order delay and mitigating long lead-times. It is especially significant for products with significant demand variation. Buyer-supplier collaboration needs to focus on making useful, timely and accurate information available to all parties in a format that promotes usage. The costs related to these lost sales were not quantified in terms lost profits but one respondent pointed out that "*the loss of business is huge, the impact for our business as well as theirs*" indicating that at least the suppliers and manufacturers are aware of the significance of the loss.

5.3.3 Advantages and disadvantages

While improved competitiveness and sustainability are clear advantages for manufacturers and suppliers who collaborate, there were no particular advantages discussed by the sample of interviewees other than simply being listed as a supplier and benefiting from a national distribution footprint. While there are higher levels of revenue turnover to be had due to the relative large scale of mass retailers, when compared to smaller specialist stores, there remain questions around actual margins and profitability of these transactions. Supply side competitiveness and the

sustainability of manufacturers and suppliers was negatively affected by the mass buying buying practices. Large infrequent orders make cash flow management pivotal. We also see a situation where cash is tied up in buffer inventory held and managed at the suppliers' expense. These buffer inventories are typically built on the mass merchandisers' budget from forecasts that are subject to statistical fluctuations. The resulting fluctuations lead to preventive measures such as larger orders resulting in too many of a certain stock keeping units (SKU) on hand. This was done to prevent a situation where too little of other SKUs where on hand which was cause for reactive measures such as an expedited orders to avoid an out of stock situation.

5.3.4 Forecasting a key problem

The general reason given by interviewees as to why forecasting is done is that efficient replenishment depended on a forecast that is reasonably accurate, coupled with buy-in from the majority of channel members. What was found was that the bigger the batch or order size, the greater the production and delivery lead time. It was also noted that there is a tendency to increase forecast to match merchandise department goals; assuming the best case scenario in response to promotions. Production and supply uncertainty is also built into the forecast (demand hedging). Consequently, larger and less frequent orders are then placed.

The forecasting problem is compounded further by the fact that retailers have little visibility of the situation (both high and low levels of stock), due to the fact that buffer inventory is often held offsite. The net result gave rise to increased inventories levels and higher risk of obsolescence on the one hand while out of stock situations are experience on the other. The ensuing unnecessary costs and mark downs in the form of retail clearances lead to lower profits. As Feurer and Chaharbaghi (1994) stated, competitiveness can only be maintained between these factors when the appropriate balance is reached and appropriate balance can only be achieved through collaboration.

5.3.5 Competitiveness and sustainability

The primary objective of CPFR is to improve both supplier and manufacturer sustainability and competitiveness on a large scale, whereby 'win-win' scenarios are

generated through a common plan for the supply chain as a whole. Once this is communicated and understood by each party, reduced lead and response times, as well as improved forecasts should be observed. Also of great importance is the way in which merchandisers are measured. There needs to be less emphasis on order and inventory costs - that is, purely financial measures. These metrics need to be augmented to include supplier management factors like order fill rates, reduced stock outs, shorter lead times, order accuracy and the meeting of collaborative targets. One requirement for CPFR performance measures to work effectively is the need to track the accuracy of the forecast itself with regards to merchandising and promotional decisions. Fluctuations in the forecast as a result of these merchandising activities provide the suppliers and manufacturers with an understanding as to how these activities affect sell out volumes,. To gain time benefits, there needs to be more transparency in the supply chain which will help the supplier and manufacturer become more responsive (as a source of competitive advantage). When a supplier and manufacturer can replenish to consumption instead of having to wait for orders, the business will get more time to respond to demand fluctuations. Increasing the order frequency will also reduce order or batch size, reduce lead time and forecast lag and balance the flow of products moving through each node of the supply chain. With more accurate forecasts there will be fewer stock outs, less obsolescence and improved throughput resulting in improved returns on assets and greater profit margins for suppliers, manufacturers and mass retailers.

5.4. Recommendations

As Holmberg (2000) suggested, some statistical fluctuations in demand will always be present in retail, however current mass retail buying behaviour seems to amplify the severity and negative effects.

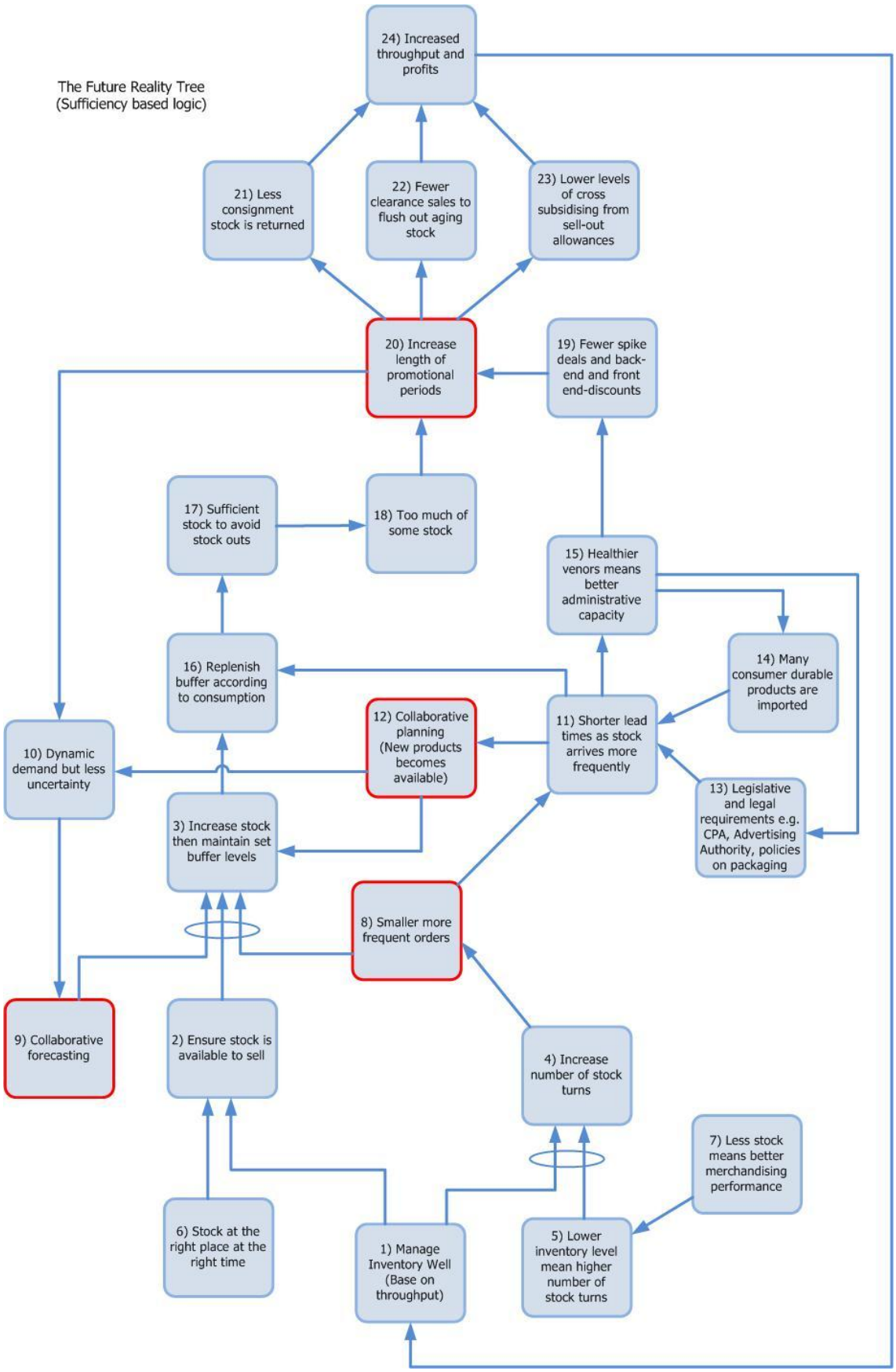

Figure 5.4.1 The Future Reality Tree as adapted from Young (2002)

To evaporate the severity and negative effects, mass retailers can make certain injections into the Communication Current Reality Tree which address the undesired effects. Starting at entity '1' in figure 5.4.1 in which the performance of merchandise managers is measured by making the primary goal throughput based on number of stock turns opposed to measure based in financial costs. This in turn would lead to better management of buffer levels in terms of stock holding and smaller more frequent replenishment orders. In fig 5.4.1 this is represented by entity '1' and '5' which individually both contribute to entity '4' but together will be sufficient to cause an increase in stock turns. Entity '4' alone is sufficient enough to cause the merchandisers to decrease order size and increase order frequency at entity '8' our first injection. At this injection, the smaller more frequent replenishment orders mean a steadier cash flow for manufacturer and suppliers as time between orders decreases. This improvement in short term financial strength is sufficient to cause improved operational performance at entity '15' which in turn supports better performance in managing some of the factors causing longer lead times at entities '13' and '14'.

Our next injection at entity '12' endorses greater levels of collaborative business planning. This is caused by the increased interaction required to manage more frequent order fills and the reality that new improved (technology) products are constantly being developed. With the retailers wanting to stock the new and improved merchandise, manufacturer and supplier competitiveness is also improved in line with their ability to respond to opportunities and manage threats in the market place. Entity '12' also contributes to improve certainty around market developments at entity '10' and the maintenance of correct buffer levels at entity '3'.

Our third injection is at entity '9' where it is recommended that collaboration in developing forecasts is undertaken on a greater scale and to greater depths than what is currently taking place. Entity '9' together with entity '2' and '8' are sufficient to cause entity '3' which now means that replenishment of the buffer must be based on consumption not sales forecasts (albeit adjusted). Replenishing to consumption means that one avoids the costly stock out situations and expedited orders, but it also means that some stock items may still be on hand when new products become available. However, with lower inventory levels, less stock needs to be cleared and this brings us to the next injection at entity '20'.

Increasing the time length of promotional activity at entity '20' means that demand oscillations are smoothed out. This contributes to less uncertainty at entity '10' and

results in alleviating the undesirable effects of excess stock - clearance sales, sell out allowances and fewer returns on consignment stock. Individually each of the entities '21','22','23' are sufficient to improve profit levels as throughput increases at entity '24'.

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Appendices

Appendix 1

Mass retailer outlet numbers

Holding Company	Key Account	No. of stores in Gauteng	No. of stores in Kwa-Zulu Natal	No. of stores in Western Cape	No. of stores in other provinces	Total
Shoprite Holdings Limited	Shoprite	87	48	70	138	343
	Checkers	66	24	31	39	160
	Checkers Hyper	18	4	5	1	28
	Usave	79	27	54	55	215
	OK Furniture	56	32	26	102	216
	House & Home	22	6	8	10	46
	Hungry Lion	14	21	28	57	120

Shoprite (http://www.shoprite.co.za/pages/127416071/store-locator/Store-Locator.asp), Checkers (http://www.checkers.co.za/pages/storelocator.aspx), Checkers Hyper (http://www.checkers.co.za/pages/storelocator.aspx), Usave (http://www.shopriteholdings.co.za/pages/1019812640/store-locator/store-locator.asp), OK Furniture (http://www.shopriteholdings.co.za/pages/1019812640/store-locator/store-locator.asp), House & Home (http://www.houseandhome.co.za/finding_a_store1.asp?prov=WESTERN%20CAPE), Hungry Lion (http://www.shopriteholdings.co.za/pages/1019812640/store-locator/store-locator.asp).

Holding Company	Key Account	No. of stores in Gauteng	No. of stores in Kwa-Zulu Natal	No. of stores in Western Cape	No. of stores in other provinces	Total
Massmart Holdings	Game	32	17	17	42	108
	Dion Wired	10	2	4	2	18
	Makro	8	3	3	4	18
	Builder's Warehouse	14	1	6	7	28
	Builder's Trade Depot	3	10	7	10	30
	Builder's Express	7	7	5	7	26
	CBW	9	11	3	54	77
	Jumbo	1	1	2	2	6
	Cambridge	12	8	0	8	28
	Kangela					16
	Rhino	1	10	0	6	16

Massmart store information retrieved from http://www.massmart.co.za/corp_profile/geo_profile.asp.

Holding Company	Key Account	No. of stores in Gauteng	No. of stores in Kwa-Zulu Natal	No. of stores in Western Cape	No. of stores in other provinces	Total

Steinhoff International Holdings Limited	Barnetts	23			75	98
	Electric Express	26	13	12	28	79
	Hifi Corporation	14	5	7	8	34
	Incredible Connection	30	8	13	14	65
	Morkels	39	18	11	45	113
	Russels	43	28	30	103	204

Barnetts (http://jdgroup.co.za/2011/branches_barnetts_05.htm), Electric Express (http://jdgroup.co.za/2011/branches_electric_04.htm), Hifi Corporation (http://www.hificorp.co.za/locate-stores/gauteng/#pg) Incredible Connection (http://www.incredibleconnection.co.za/StoresCityFinder.aspx?Prov=Gauteng&Page=5), Morkels (http://morkels.co.za/store-locator.html) , Russels (http://jdgroup.co.za/2011/branches_russells.htm).

Appendix 2

Discussion guide

Metric	Discussion
1) Thank you	Thank you for taking the time to meet with me today.
2) Introduction	My name is Craig Bowen and I would like to talk to you about your experiences in participating in the retail value chain.
3) Purpose of interview	This information is being collected for the research component in partial fulfilment or requirements for the degree of Master of Business Administration at Gibs.
4) Confidentiality	This is a qualitative study. The data will be aggregated into clusters and will not show individual names or companies. All responses will be kept confidential. This means that your interview responses will only be shared with my research supervisor Dr. Pieter Pretorius. I will ensure that any information collected in this study does not identify you as the respondent. Remember, you do not have to talk about anything you do not want to and you may end the interview at any time.
5) Duration	The interview should take less than one hour.
6) Structure of interview	With your permission I will be taping the discussion. This is because I do not want to miss any of your comments. Although I will be taking some notes during the session, I cannot write fast enough to get everything you say down. Therefore, please be sure to speak up so that we don't miss your comments.
7) Opportunity for questions	Are there any questions about what I have just explained?
8) Consent question	Are you willing to participate in this interview?

Nr.	Buyer Supplier interaction
1)	Collaboration in the setting of business goals,
2)	Developing a joint business plan,
3)	Sales forecasting of consumer demand
4)	Order planning based on the sales forecast
5)	Order generation
6)	Order fulfilment
7)	Exception management for out of bound conditions
8)	Performance assessment based on the key metrics
	Competitiveness Metrics
A)	Reliability
B)	Responsiveness
C)	Flexibility
D)	Costs
E)	Asset Management

Appendix 3

Summary of question types

Type of question	Situation used	Examples
Introductory	Starting a new topic.	Retailer: Can you tell me about your procurement process? Supplier: Tell me about your manufacturing processes?
Probing	The researcher wants to find out more detail regarding a theme.	Retailer: Can you say a little more about supplier expectations? Supplier: Could you tell me about the expectations of mass retailers?
Specifying	The researcher wants to find out more detail regarding a specific aspect already discussed	Retailer: Can you say a little more regarding what your supplier selection criterion is specifically? Supplier: What selection criterion do mass retailers consider important?
Direct	The researcher wants answers about a topic introduced by the interviewer to apply to the participant	Retailer: Have you ever had and out of stock situation? Have you ever had to place a rush order? Supplier: Have you ever received a large unanticipated order due to a stock out situation? If yes, how did that

		affect your competitiveness?
Indirect	The researcher wants answers about a topic introduced by the interviewer to apply to others.	Retailer: How do the suppliers respond to large infrequent orders? Suppliers: What are the ramifications of large infrequent orders on your performance?
Structuring	The researcher want to show questions on a theme have been completed.	Retailer: I would now like to ask you about your promotional policies. Is that alright? Supplier:
Interpreting	The researcher wants to check interpretation of the participant's response is correct.	Any: Do you mean that suppliers fund in-store promotions? Retailer: Is it correct that suppliers set aside budget for implementing retail promotions? Supplier: So what you are saying is that this affects your throughput?

Summary and examples of question types (Saunders & Lewis, 2012).