A COMPREHENSIVE STUDY OF MARKETING/SUPPLY CHAIN MANAGEMENT CROSS-FUNCTIONAL INTEGRATION IMPACT ON PERFORMANCE

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DECLARATION

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ABSTRACT

A substantial body of literature is written on the benefits of cross-functional integration between marketing and Supply Chain Management (SCM), nevertheless, a major gap was identified regarding concrete actions needed to be taken to effectively implement such integration and measures to realise and evaluate the integration's impact on performance. Previous research has failed to support the claim about the positive impact of marketing/SCM cross-functional integration on performance.

This research proposes a framework to conceptualise marketing/SCM cross-functional integration in order to optimise Supply Chain Performance (SCP) and overall business performance through identifying a set of integrative marketing capabilities and a measurement taxonomy to assess the impact on performance. Due to the novelty of the research, scarce studies and limited cross-functional effective practices, purposive sampling of specific case studies had to be followed. The case studies were selected from the Egyptian Fast Moving Consumer Goods (FMCG) market. Five Multinational Companies (MNC) fulfilled a set of criteria to be used as the research case studies and to reflect a global perspective.

The research was divided into three phases, exploratory, explanatory and descriptive. The exploratory phase used a semi-structured research approach. At the exploratory phase, the cross-functional integration status between the marketing department and the SCM departments was examined. Moreover, a set of integrative marketing capabilities was explored. These capabilities are claimed to have the ability to impact SCP and business performance if well aligned between the demand creation side of the organisation (marketing and sales) and the demand fulfilment side (SCM). In addition, a list of integrative practical SCP measurements were investigated at this phase in an attempt to compile a measurement taxonomy capable of assessing the impact of integrating/aligning the identified marketing capabilities with SCM.

At the second phase, the explanatory phase, the study attempted to support the results of the exploratory phase. The explanatory phase was divided into two parts, Part A and Part B. This phase employed a more structured approach. Part A resulted in defining the strength of the relationship/influence between each identified marketing capability and each SCP attribute (reliability, agility, responsiveness, cost and asset management). Part B resulted in a proposed comprehensive measurement matrix of 28 Performance Indicators (PI) capable of assessing the impact of marketing/SCM cross-functional integration on SCP and business performance. Thus, a conceptual framework was developed to visualise the measured impact of marketing/SCM cross-functional integration on performance through illustrating the influence of integrating each marketing capability on each SCP attribute and that this influence can be measured by specific corresponding PI.

Moreover, in order to practically illustrate a cross-functional integration process, a descriptive research phase was conducted. The integration processes of each case study were mapped and in-depth observations were undertaken to follow and understand the level and scheme of cross-functional integration between the marketing department and the SCM

department at the case studies. The descriptive phase resulted in a practical cross-functional integration process model based on the best practices of the five MNCs. This research phase followed an unstructured research approach to fully comprehend the cross-functional integration phenomenon.

Finally the cross-functional integration process of Unilever Mashreq, a core case study, was demonstrated and the results of its integrative Key Performance Indicators (KPIs) were shown in order to serve as a real life example reflecting the integration impact on performance.

The research provides an original contribution to knowledge by developing a conceptual framework that can benefit companies by offering a tool to evaluate the effectiveness of the marketing/SCM cross-functional integration leading to improved SCP and overall business performance. Moreover, this research also presents a practical integration model to marketing and SCM executives with key cross-functional processes that facilitate implementing successful practices between the demand creation side of the organisation, the marketing department, and the demand fulfilment side of the organisation, the SCM department.

This study is dedicated to the sun and moon of my life, my children, Raphael and Rosemary, who spent a lot of time apart to give me the chance to concentrate on my research.

Raphael 6 years

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ABBREVIATIONS

AA	Automated Applications
AG	Agility
AM	Asset Management
AMA	American Marketing Association
APO	Automated Planning Optimizer
AUD	Agreed Unconstrained Demand
B2B	Business to Business
BSC	Balanced Scorecard
CAP	Company Activity Planning
CCFOT	Customer Case Fill Rate On Time
CD	Customer Development
CEO	Chief Executive Officer
CIP	Customer Involvement Programmes
CKRB	Customer Knowledge and Relationship Building
CPG	Consumer Packaged Goods
CRM	Customer Relationship Management
CSCMP	Council of Supply Chain Management Professionals
DC	Distribution Centres
DP	Demand Planning
DSI	Demand and Supply Integration
FBMS	Function-Based Measurement System
FG	Finished Goods
FGI	Finished Goods Inputs
FMCG	Fast Moving Consumer Goods
GM	General Manager
GSCF	Global Supply Chain Forum
HR	Human Resources
IT	Information Technology
KPI	Key Performance Indicators

MD	Managing Director
MFP	Market Forecasts and Planning
MMC	Managing Marketing Channels
MNC	Multinational Companies
MOQ	Minimum Order Quantity
MRP	Manufacturing Resources Planning
MSO	Marketing and Sales Organisation
NDA	Nondisclosure Agreement
OLAP	Online Analytical Programming
OSA	On Shelf Availability
P&G	Procter & Gamble
PI	Performance Indicators
R&D	Research and Development
RL	Reliability
RM	Relationship Marketing
ROA	Return On Assets
RS	Responsiveness
SA	Selling Activities
SBU	Strategic Business Unit
SCC	Supply-Chain Council
SCI	Supply Chain Integration
SCM	Supply Chain Management
SCO	Supply Chain Orientation
SCOR	Supply Chain Operations Reference
SCP	Supply Chain Performance
SCR	Supply Capability Review
SG	Segmentation
SKU	Stock Keeping Unit
SnOP	Sales and Operation Planning
TMM	Targeted Marketing Mixes

1 INTRODUCTION

1.1 Research background

Businesses exist to create and build profitable customer relationships which can be effectively realised through forming a network-based business model referred to as the supply chain (Lambert and Cooper, 2000; Ryals and Knox, 2007; Juettner *et al*., 2010). In order to compete in the market place organisations have to ensure resilience, strength and flexibility of their integrated supply chains (Groznik and Maslaric, 2010). The Supply Chain Management (SCM) concept has been continuously developing and maturing since its foundation, however, some important aspects remain under-researched.

According to the Council of Supply Chain Management Professionals (CSCMP) (2007) "Supply chain management integrates supply and demand management within and across companies". Thus, SCM is concerned with the efficient matching of supply and demand, however, identifying customers' needs, understanding and realising customers' perception of value in order to create demand is out of the SCM scope. Demand creation falls under the marketing's domain (Juettner *et al*., 2007). Hence, integration between marketing and SCM is rather essential.

O'Leary-Kelly and Flores (2002) describe integration as the level of cooperation and coordination between separate parties working together in order to achieve mutually desired outcomes. Integration between marketing and SCM is divided into two levels, namely, integration and external integration. External integration refers to cooperation and coordinating efforts with supply chain partners crossing organisational boundaries (Gimenez and Ventura, 2005). Thus, external integration denotes the inter-organisational aspect (Chen *et al*., 2007).

Meanwhile, internal integration reflects collaboration and coordination within the same organisation between different departmental units. From this perspective, internal integration

points to cross-functional coordination between marketing and SCM departments aiming at harmonising strategies and processes (Chen *et al*., 2007). Marketing and SCM share the same customer focus principles in terms of achieving customers' satisfaction. Thus, generally internal integration represents a cross-functional alignment between marketing and SCM philosophies (Juettner and Christopher, 2013).

Empirical studies show that efficient execution of SCM plans and programmes entails a positive impact on organisations' performance. Moreover, research within the marketing and SCM disciplines emphasises the advantages of the proposed integration on Supply Chain Performance (SCP) and business performance (Juettner *et al*., 2007; Juettner *et al*., 2010; Juettner and Christopher, 2013). Although cross-functional integration was emphasised by a number of scholars as a vital factor for performance improvement, various businesses were unsuccessful in executing this cross-functional alignment (Deloitte Research 2002 as cited in Juettner and Christopher, 2013; Godsell *et al*. 2004). Furthermore, a number of organisations started cross-functionally aligning marketing/SCM strategies; they were, however, unable to measure the impact as there were no appropriate measures assigned to assess the impact of such alignment (Juettner *et al*., 2007).

The main challenge faced by organisations, which begin to implement the cross-functional alignment, is the immaturity of performance measurements. Unless integrative performance measurements metrics are assigned, the impact of cross-functional integration will not be recognised (Juettner *et al*., 2007). Marketing/SCM integration was repeatedly supported in literature; nevertheless, scant empirical studies have been undertaken to identify measurements capable of assessing impact of this integration on SCP and business performance (Juettner *et al*., 2007; Esper *et al*., 2010; Haddad *et al*., 2012). Juettner *et al*. (2007) point out that the majority of existing functional measures are conflicting in nature between the different functional departments and in order to overcome this problem a number of functional measurements have to be replaced by integrative measurements to assess the integration impact on performance.

Thus, it seems reasonable to analyse the mechanism of cross-functional relationships between marketing and SCM and to explore performance measurements that might be capable of assessing the impact of such alignment on performance.

This chapter presents an overview of the entire research. It begins by providing a background on the research, followed by the research context, aim and objectives, research methodology, research originality and a summary of the thesis structure.

1.2 Research context

The literature analysis indicated a gap in literature and practice as the majority of conducted studies on marketing/SCM integration are theoretical or conceptual in nature. Specific directions or measurements were hardly found to direct managerial practice to realise the impact of cross-functional integration and to justify its usefulness to SCP and business performance. Therefore, in order to create a link between marketing functions and SCP which can be measured based on five attributes, namely, Reliability (RL), Agility (AG), Responsiveness (RS), Cost (CO) and Asset Management (AM) (Supply-Chain Council, 2008) specific marketing capabilities had to be identified. These capabilities are suggested to have an impact on SCP and business performance if effectively integrated between marketing and SCM. Such capabilities are not clearly identified in literature.

This research focuses on developing a framework to conceptualise a measured impact of marketing/SCM integration on SCP and business performance in SCM oriented companies. The framework proposes a set of marketing capabilities that can influence the five SCP attributes, RL, RS, AG, CO and AM. Moreover, the framework is supported by a measurement matrix/taxonomy that is comprised of integrative measures to evaluate and measure the impact of the integration on SCP and business performance.

The developed conceptual framework provides a holistic view to companies to help them evaluate the effectiveness of their marketing/SCM cross-functional integration practices in order to optimise SCP and overall business performance. In addition, a practical cross-

functional integration process model is developed based on the five Multinational Companies (MNC) integration processes to be used as a best practice guide for other organisation seeking to implement cross-functional integration techniques.

1.3 Research aim and objectives

Based on the above discussion regarding the scarcity of empirical study on the impact of marketing/SCM integration, the research aim is:

To develop a conceptual framework for a measured marketing/SCM cross-functional integration impact on SCP and business performance to be used by companies as a guide for effective cross-functional integration practices.

In order to achieve the main aim of this research, the following objectives have been formulated:

1. To analyse the current gap on the integration between marketing and SCM based on literature.
2. To understand the marketing/SCM cross-functional integration status at the Fast Moving Consumer Goods (FMCG) MNCs selected as case studies.
3. To identify marketing capabilities at the case studies that possess the ability to impact SCP.
4. To construct a marketing/SCP measurement metrics model capable of assessing the marketing/SCM cross-functional integration impact on SCP and business performance.
5. To develop a practical cross-functional integration process model based on the selected five MNCs' best practices.

1.4 Research methodology

The research follows an inductive research approach using data triangulation of both quantitative and qualitative research methodologies. This research mainly aims at investigating the alleged marketing/SCM positive cross-functional relationships' impact on SCP and business performance and assigns the appropriate measurements to assess this impact. This aim is conceptualised in a framework that proposes a novel perspective of a measured cross-functional integration approach. Thus, the case study approach was chosen to enhance the understanding of this complex social phenomenon and to help the researcher retain an in-depth analysis of this real-life situation.

Reporting of empirical in-depth studies on measuring the impact of integrating marketing and SCM is rather scarce in scholarly work. Therefore, this research intensively reviewed literature regarding concepts, theories, and possible practices involving this topic. A major gap in literature was highlighted and the same deficiencies were reported by scholars over a long period of time. Based on the outcomes of the thorough literature analysis on marketing, SCM, cross-functional integration and SCP measurements, an initial conceptual framework was developed as a prediction for a measured relationship between marketing and SCM. Thus, the Egyptian FMCG market was screened for case studies relevant to this novel research (see section 5.2.2).

Five MNCs were selected according to specific criteria to serve as case studies in this research (see section 5.2.3). As the empirical study on this topic is rather scarce the case studies started with an exploratory phase to validate the initial framework and to formulate a proposition. Then, an explanatory phase was conducted to refine the exploratory phase outcomes and further develop the framework. Lastly, a descriptive phase was undertaken to illustrate a practical process for realising the conceptual framework. The proposition and the research framework were empirically validated based on the multiple case studies. An in-depth investigation was carried out with practitioners and experts in the field as a big gap also exists in practice between industry leaders and the small/medium sized companies on the level of effective marketing/SCM cross-functional practices.

The exploratory phase was qualitative in nature using mainly semi-structured interviews to explore the current status of cross-functional integration within the organisations. It also investigated the current SCP measures that can be impacted by this integration. Furthermore, interviewees were asked to identify and discuss the marketing capabilities that can impact SCP if properly integrated. The second phase followed an explanatory approach using structured interviews to yield quantitative results. The first part of the structured interviews was constructed to demonstrate the impact of the different proposed marketing capabilities to the five major SCP attributes (RL, AG, RS, CS and AM). Meanwhile, the second part aimed at constructing a marketing/SCM measurement taxonomy capable of assessing the impact of each marketing capability on each of the five SCP attributes.

Phase three is a descriptive analysis based on unstructured interview, archival record and documentation in order to illustrate the integration process at top MNCs in the FMCG industry (selected case studies) through developing a practical cross-functional integration process model. The entire study followed data triangulation as evidence was collected for analysis from various sources such as observations, companies' records, archives and the in-depths single and group interviews.

1.5 Research originality

It is vital to possess clear customers' insights and to respond effectively to their different needs, through the coordination and integration of demand creation side (marketing) and supply fulfilment side (SCM) of the organisation which can be a source of a superior competitive advantage in today's highly competitive markets. The topic of marketing and SCM integration has attracted significant interest in both domains for the last 30 years (Juettner *et al*., 2010). Although, the conducted studies emphasised the contribution of this integration to the supply chain and organisation's success no contribution to date addresses specific actions to realise the integration or concrete integrative measurements to assess the integration's impact on SCP and business performance.

This research leverages the understanding of the marketing/SCM integration issues in order to assist companies in facing the existing supply chain network-based competition. The original contribution to knowledge is comprised in developing a framework for a measured marketing/SCM alignment and providing a measurement matrix as a tool to measure the impact of this alignment on SCP and business performance.

The proposed framework challenges the traditional view of marketing in the demand creation and SCM in the demand fulfilment role by emphasising the need to integrate marketing capabilities that are influential to SCP. The study directs practitioners to managerial issues on marketing/SCM integration and demonstrates the need for a cross-functional interaction approach to facilitate the integration and render positive impact on performance.

The conceptual framework is validated based on five FMCG industry global leading companies used as case studies in this research. The contribution of this research is also reflected in helping practitioners to identify tools to design and implement a cross-functional integration process through a practical cross-functional integration model proposed in this research. This practical model can be used by organisations to realise integration and attempt to improve performance. It leads to balancing customer value creation with the existing resource scarcity of the demand fulfilment side. The study reveals that the Key Performance Indicators (KPIs) of a major case study have been positively influenced by cross-functional integration practices.

1.6 Structure of the thesis

This thesis is comprised of the following seven chapters:

Chapter One - Introduction: This chapter provides a general overview of the research topic, aim, objectives, the methodological approach and contribution to research. Chapter One also highlights the thesis structure and briefly describes each chapter.

Chapter Two - Literature review and analysis: This chapter extensively reviews the literature on the concepts of marketing, Relationship Marketing, SCM and SCP measures, their developments and definitions. Moreover, this chapter identifies gaps concerning the integration of the SCM concept and the marketing concept.

Chapter Three - Measuring performance of a marketing/SCM integrated business model: A conceptual framework: In this chapter a measured marketing/SCM relationship is conceptualised in an initial framework that attempts to incorporate the marketing capabilities with the potential to impact SCP attributes and integrative measurements to assess this integration impact. In addition, marketing capabilities are suggested and measurement metrics present in literature with the potential of assessing this integration's impact on SCP and ultimately business performance, are highlighted.

Chapter Four - Research methodology: The objective of this chapter is to identify the research scope, philosophy, approach and strategy that led to the formulation of the theoretical framework. Furthermore, this chapter presents the research methods used to investigate the alleged marketing/SCM positive integration impact on SCP and to assign the appropriate measurements to assess this impact. The fact of the novelty of the topic and the scarcity of the companies implementing effective cross-functional integration practices presented the need to follow the case study approach to understand this complex social phenomenon and to gain an in-depth perspective of this real-life situation. Moreover, the case study is divided into three research phases, exploratory, explanatory and descriptive in order to fully understand the phenomenon.

Chapter Five - Case studies and analysis: The exploratory phase: This chapter presents the in-depth analysis carried out in the first research phase, the exploratory phase. The exploratory phase followed a qualitative approach to collect primary data. In this chapter the methods of scanning the Egyptian FMCG industry are demonstrated and criteria for selecting five MNCs as case studies are discussed. The exploratory phase aimed at examining the status of marketing/SCM cross-functional integration processes, identifying a set of influential marketing capabilities on SCP attributes, compiling a preliminary set of practical integrative

performance measurements and further developing the initial conceptual framework. Through the updated framework the role of marketing/SCM integration in SCM oriented companies becomes clearer in this chapter.

Chapter Six - Case studies and analysis: The explanatory and descriptive phases: This chapter covers the second and third phases of the empirical study, namely, the explanatory and the descriptive phases. The explanatory phase followed more structured research techniques to yield quantitative results in order to validate the outcomes of the exploratory phase. The outcomes are demonstrated in the final version of the conceptual framework that is supported by an integrative measurement matrix/taxonomy capable of measuring the impact of the cross-functional integration on performance. This conceptual framework can be beneficial to business organisations as it offers a tool to evaluate the effectiveness of the marketing/SCM cross-functional integration leading to improved SCP and overall business performance.

The third phase of the research analysis, the descriptive phase is also presented in chapter six. The case studies' integration processes were mapped and in-depth observations were carried out in order to understand the level and scheme/process of cross-functional integration between the marketing department and the SCM departments. As an outcome, a practical marketing/SCM cross-functional integration process model is developed. Furthermore, in order to support the outcomes of the research phases the Sales and Operation Planning (SnOP) process and the integrative KPIs of Unilever Mashreq are presented to serve as a real life example of a core case study.

Chapter Seven - Conclusion and recommendations for future work: This chapter concludes the thesis by summarising the outcomes, presenting research limitations and providing direction and recommendations for further research.

Figure 1.1 illustrates the structure of the thesis:

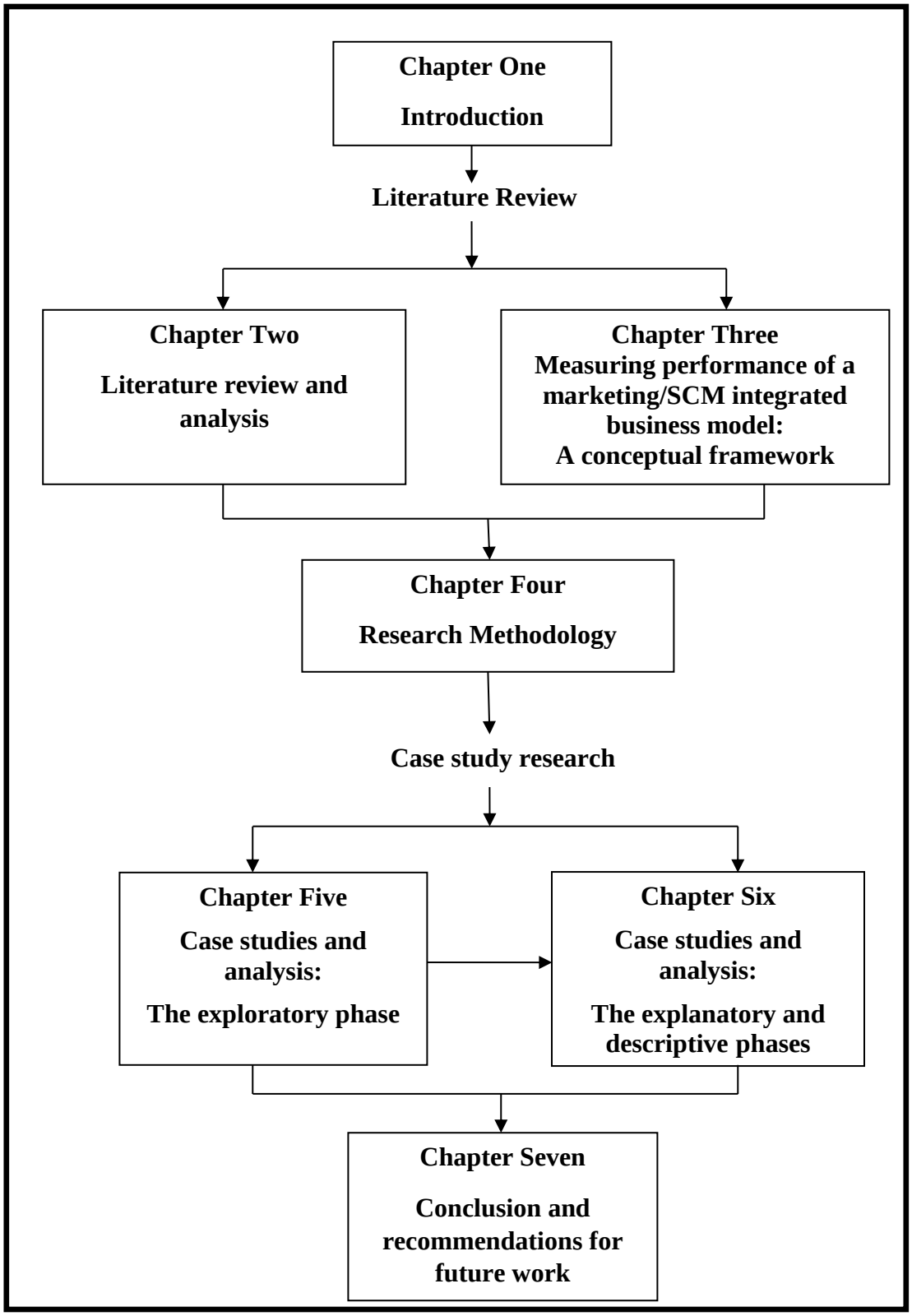


Figure 1.1: Structure of the thesis

2 LITERATURE REVIEW AND ANALYSIS

2.1 Introduction

It is widely suggested that the reason for existence of businesses is to create and build profitable customer relationships (Ryals and Knox, 2007). During the past decades, the dynamic business environments and competitive market pressures have encouraged the formation of a network-based business model called the supply chain (Lambert and Cooper, 2000; Juettner *et al*., 2010). Thus, it has been repeatedly emphasised in theoretical and empirical research on the concept of market orientation that cross-functional and inter-organisational coordination is the key to achieving the main goal of marketing, the creation of superior customer value (Jaworski and Kohli, 1993; Juettner *et al*., 2010; Haddad and Ren, 2013a).

In order to realise this coordination it is crucial to focus on the relationship between different disciplines sharing the same customer focus concept. This reflects the importance of integration between the demand side (what customers want) managed by marketers and the supply side (capacity) managed by the supply chain department inside any customer oriented organisation (Stank *et al*., 1999; Esper *et al*., 2010). Research within both the marketing and SCM disciplines highlights the mutual benefits of the proposed integration. However, evidence has been revealed that the implementation of proper integration practices is an objective of the conceptual theory but not fully realised in practice (Mentzer and Gundluch, 2010).

Generally integration is referred to as the level of cooperation and coordination between separate parties working together in order to achieve mutually desired outcomes (O'Leary-Kelly and Flores, 2002). There are two levels of integration between marketing and SCM: namely internal integration and external integration. Internal integration covers the collaboration and coordination between different departmental units within the organisation where the external integration examines the inter-organisational aspect (Chen *et al*., 2007). In this context, internal integration refers to cross-functional areas of the marketing and

supply chain departments where they strive to unify strategies and processes. On the other hand, external integration relates to crossing organisational boundaries throughout the supply chain (Gimenez and Ventura, 2005).

The development of long-term relationships between firms, in an effort to gain quality and efficiency to satisfy customers, is of particular interest to many enterprises (Keller, 2002). Relationship Marketing (RM) is one of the major elements playing a crucial role in building a solid network between supply chain members. RM creates successful partnerships and relationship integration throughout the supply chain which, in contrast to firms working individually, have the potential to render efficiencies, overall firm profitability, higher service and overall corporate growth (Bowersox *et al*., 2007; Lambert *et al*., 1998). Moreover, good SCM can make the marketing strategy easier which, in turn, will create customer value, satisfaction, and loyalty, and eventually lead to better profit margins, overall firm profitability, and overall corporate growth (Flint, 2004).

Although marketing/SCM integration was strongly supported in scholarly work, very little empirical research has been done to identify measurements to assess the impact of this integration (Juettner *et al*., 2007; Esper *et al*., 2010; Haddad *et al*., 2012). A major obstacle, to cross-functional and inter-organisational cooperation/integration, is conflicting KPIs between marketing and SCM (Juettner *et al*., 2007).

The objective of this chapter is to identify gaps related to the integration of the SCM concept and the marketing concept. In order to achieve this objective, literature is extensively reviewed on the concepts of marketing, RM, SCM and SCP measures, their developments and definitions. Hence, this chapter is structured as follows: it starts by presenting the historical stages in the business environment that led the conceptualisation of RM and SCM concepts. Then, the published studies on marketing and SCM integration perspectives are reviewed. Subsequently, the outcomes of the literature analysis are examined. The literature analysis resulted in identifying the literature gap related to measurement metrics capable of assessing the integration impact on business performance. Thus, this literature gap is discussed and finally conclusions are drawn. Accordingly, a conceptual framework,

illustrating the marketing/SCM holistic relationship, is developed in chapter three. A road map to the literature analysis is illustrated in Figure 2.1.

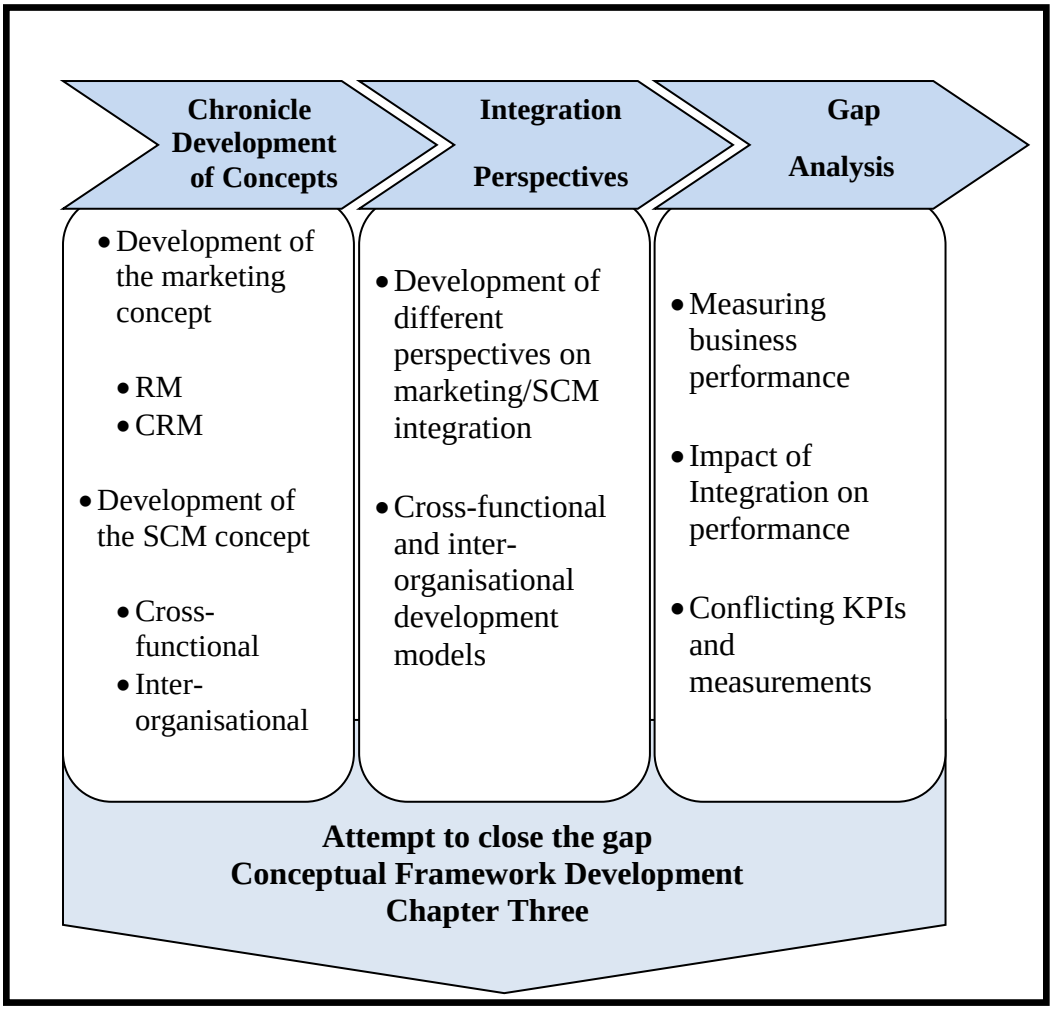


Figure 2.1: A roadmap to literature analysis

2.2 Marketing

In order to be able to clearly define the concept, history and developments are first examined. This section covers the historical stages in business after the industrial revolution that led to the conceptualisation of marketing. Furthermore, various definitions of marketing are presented and discussed. Subsequently, the marketing process and functions along with the marketing mix are exploited. Moreover, marketing capabilities are examined. Shortcomings of transactional marketing discussed led to the later section 'Relationship Marketing'.

2.2.1 The development of the marketing concept

To reach the current Marketing concept, business practices have changed over the years and have gone through four main development stages: the production, product, selling and marketing concepts. This led to the distinction of the marketing concept (Haddad, 2008).

The first stage can be referred to as the Production Concept that started with the Industrial Revolution. It assumes that consumers prefer reachable and relatively cheap products and, therefore, a company should concentrate on productivity and distribution. Although this concept was developed at the beginning of the twentieth century, it is still used when demand is higher than supply or when the production cost is high. Hence, increased productivity is needed to break it down (Kotler and Keller, 2012; Armstrong and Kotler, 2014; Kotler and Armstrong, 2014).

The Product Concept assumes that consumers prefer high quality products with the best performance and innovative features. It concentrates on product improvements and mainly overlooks other marketing and promotional tools that enable the company to communicate effectively with its customers and consumers. Moreover, this concept might also lead to marketing myopia; in other words, focusing on the product rather than its purpose or the original need of the consumer (Kotler and Keller, 2012; Armstrong and Kotler, 2014; Kotler and Armstrong, 2014).

The Selling Concept holds that without huge selling and promotional efforts the customers will not buy the product. Its objective is to sell rather than to investigate the market's needs and wants. This approach is mainly used in situations of overcapacity or with unattractive products (i.e. insurance and blood donations). The selling concept mainly focuses on short-term selling transactions rather than long-term customer relationships; assuming unsatisfied customers will forget and buy again. It is a risky strategy as surveys have shown that dissatisfied customers do not forget and tend to tell others about their bad experiences and create negative word of mouth (Kotler and Keller, 2012; Armstrong and Kotler, 2014; Kotler and Armstrong, 2014).

The Marketing Concept was introduced in the mid-1950s and is concerned with the customers rather than the products. It holds that the major factor to achieve the organisational objectives is to identify the customers' needs and to satisfy them better than other competitors. Marketing is all about identifying and creating the products that customers need and desire, not finding the right customer for the organisation's existing products. Marketing scholars claim marketing is a customer-driven concept (Kotler and Keller, 2012).

Kotler and Armstrong (2014) support the previous point by suggesting that marketing is not just a reactive approach but a proactive one. Thus, the customers' apparent needs should not simply be responded to, but their future needs and wants have to be foreseen before the customers even realise them. Customer-driven means extensive research of the customers and their current and potential desires and needs.

2.2.2 Definition of the marketing concept

Marketing has been defined by many business associations and scholars and has changed over time. The American Marketing Association (AMA) has been the authority of publishing the official definitions of marketing, since 1948. Their definitions are guidelines for practitioners, professors and scholars in the field. In 1948 the AMA adopted a definition of its predecessor organisation, the National Association of Marketing Teachers. The original

definition stated 'Marketing is the performance of business activities that direct the flow of goods and services from producers to consumers' (Kefee, 2004).

The mentioned definition was considered the main marketing definition untill it was revised in 1985. The new version claimed, 'Marketing is the process of planning and executing the conception, pricing, promotion, and distribution of ideas, goods and services to create exchanges that satisfy individual and organisational objectives.' The major change in the AMA's 1985 definition is the accommodation of the 4 P's and the focus on 'exchange' (Kefee, 2004).

At the start of the twenty-first century the need for a paradigm change in marketing relationships was widely discussed. Sheth and Parvatiyar (2002a) published a Handbook of Relationship Marketing. The AMA practitioners in 2004 shaped a new relationship oriented definition of Marketing and other marketing scholars like Kotler and Armstrong have put much more emphasis in their revised definitions on customer relationships.

The new definition in 2004, as released by the American Marketing Association, is: 'Marketing is an organisational function and a set of processes for creating, communicating and delivering value to customers and for managing customer relationships in ways that benefit the organisation and its stakeholders' (Gundlach, 2007).

Kotler and Armstrong updated their marketing definition many times and finally proposed it as ‘the process by which companies create value for customers and build strong customer relationships in order to capture value from customers in return’. Another shorter and simpler definition of marketing is ‘managing profitable customer relationships’ (Kotler and Armstrong, 2014).

2.2.3 The marketing process

The marketing process comprises a framework for businesses to understand how to make profit through creating value for customers as illustrated in Figure 2.2.

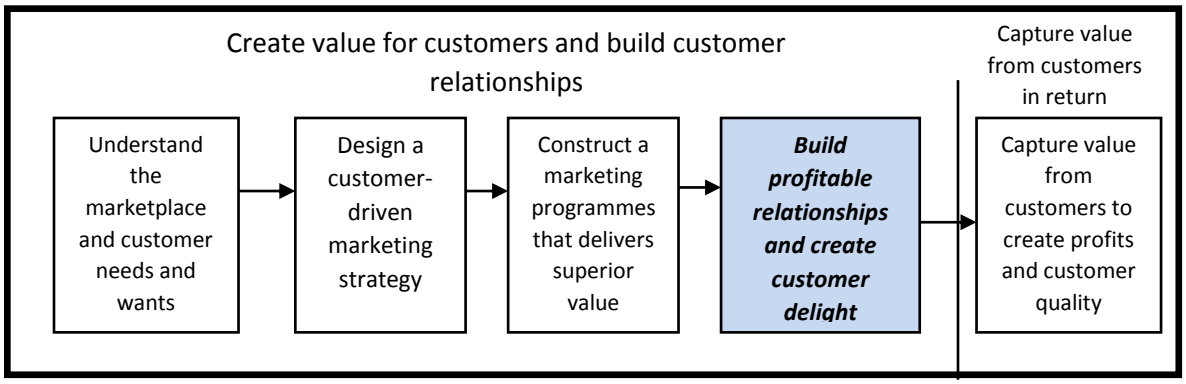


Figure 2.2: The marketing process
Source: Armstrong and Kotler (2014)

Value and satisfaction depend on the customer's expectations of the product or service. Marketers should, through market research, be able to assess the level of customer expectation correctly. Obviously customers compare between competitors' products and set their expectations accordingly. The various pools of information technology that allow the customers to know more than in the past, make them also more demanding and raise their level of expectations. Satisfied customers build long- term relationships; therefore, become permanent buyers and transfer their experience to others while dissatisfied customers switch to competitors and warn others of the product or service (Haddad, 2008).

In marketing, the term 'market' means the organisation's buyers or customers (actual or potential). Markets are the main concern of the marketing department because they are the source of revenue. The set of buyers forming the organisation's market, share the same needs and wants that the company can satisfy through building relationships with these customers (Kotler and Keller, 2012). The marketing strategy is concerned with the tactics that the company follows in choosing the customers or the markets to serve and offering them the suitable products or services in order to achieve profitable relationships. The right mixture of tools to target these markets have to be planned carefully (Armstrong & Kotler, 2014).

2.2.4 Marketing strategy and the marketing mix

The marketing strategy involves choosing the markets the company can serve best, i.e. segmentation and targeting, and proposing the suitable value for customers, i.e. differentiation and positioning. In order to target the right segment, differentiate the company's product or service from competitors and position it with a favourable image in the mind of the customers, the marketing department has to select the best suitable marketing mix putting the customer at the centre of its marketing activities as shown in Figure 2.3.

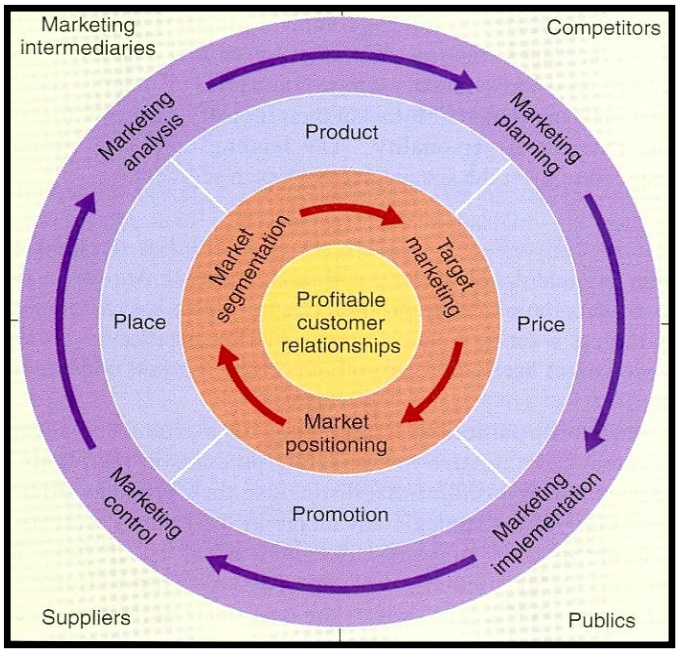


Figure 2.3: Managing marketing strategy and the marketing mix
Source: Armstrong and Kotler (2014)

Marketing Mix (also, called the 4 P's) is a mixture of four controllable tactical marketing tools that the marketers use to satisfy their target market needs and create the maximum demand for their products or services. If the marketer fully understands his/her target market needs and accordingly offers a suitable product or service with superior value, suitable price, and convenient distribution and appealing promotions, strong relationships will be created with customers and mutual benefits will be gained. These four activities are called the "four P's" (Product, Price, Place and Promotion) (Kotler and Armstrong, 2014).

Product is the goods or services the company is offering to its target market. Price is the required return the customers have to pay in exchange for the product. Place is the distribution activities undertaken by the company to make the product or service available at convenient places for the target market. Finally, Promotion comprises all communication techniques and channels the company uses to communicate the value of the product with the customers and affect their perception. In the past, promotion and advertising were always confused with marketing itself, although this is only one part of the marketing mix as illustrated in Figure 2.4.

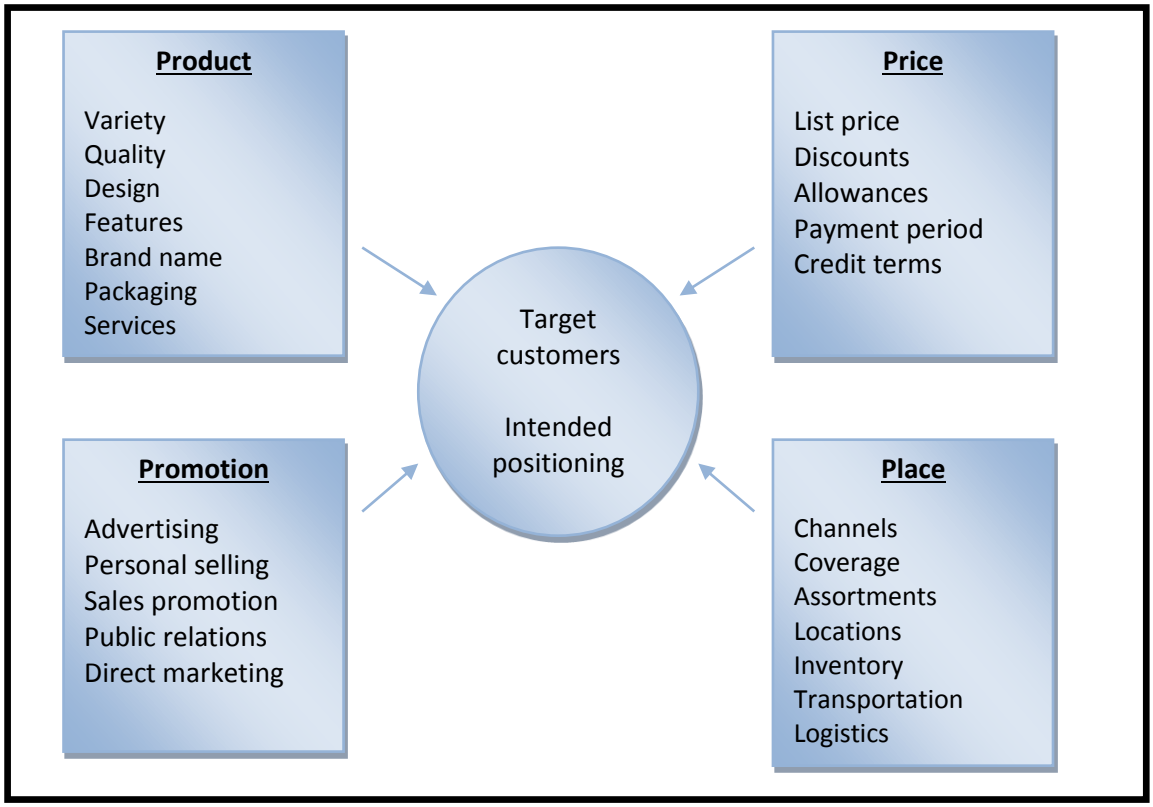


Figure 2.4: The four Ps of the marketing mix
Source: Kotler and Armstrong (2014)

The classic marketing concept is sometimes criticised for being purely transaction focused. It has also been alleged that, although, the customer is being put at the centre of all marketing definitions, in practice the customer is not always the centre of marketing activities and operations. Structuring the marketing activities in line with the marketing mix has been used

as a customer manipulation instrument (Bruhn, 2003). To overcome these deficiencies new marketing instruments and tools have been integrated through Relationship Marketing (RM).

2.2.5 Relationship marketing

Sheth and Parvatiyar (2002a) identified the need for a paradigmatic change in the marketing concept especially by businesses functioning in such a competitive environment. They assumed the evolution of the marketing concepts during the last century, focusing more on customers' needs, wants and satisfaction, transformed the business practices and philosophy significantly. Thus, the old concepts have to be further transformed into RM to become cross-functional in nature. It is essential to thoroughly examine the RM concept and its significant development across the years so as to highlight its focus, assumptions, discrepancies and goals. After exploring the development stages various definitions and functions of RM will be reviewed.

2.2.5.1 The development stages and definitions of the relationship marketing concept

In the mid-seventies a debate started concerning the classic marketing approach which is transaction-based versus a new relational approach. Various scholars wrote about RM from different perspectives and it is difficult to determine exactly by whom and when it was initiated (Bruhn, 2003).

Bagozzi (1975) started writing on marketing activities as an exchange process between seller and buyer, which triggered the conceptualisation of RM a decade later by Dwyer, Schurr and Oh (1987). In subsequent years, Ford developed the customer life cycle phases that the relationship goes through over time (Bruhn, 2003). The conceptualisation of the RM became explicit in the early eighties in the research field of services marketing (Berry, 1983).

Further literature has been divided into three levels, namely tactical, strategic and philosophical. Later on, the focus shifted to the attributes of interaction and networking between sellers and buyers as partners (Ford, 1990; Hakansson and Snehota, 1995). The

concept of RM spread widely during the nineties when customer retention, commitment and trust became the centre of marketing research (Morgan and Hunt, 1994). The research conducted on RM over the past twenty years has had a significant impact on the marketing science and was, therefore, called a paradigmatic change (Bonnemaizon *et al*., 2007).

2.2.5.2 Definition of relationship marketing

Various definitions exist for RM. As mentioned before, a number of scholars considered the concept from different perspectives. Among the most famous definitions is Groenroos' (1990) who defined RM as "the goal of relationship marketing is to establish, maintain and enhance relationships with customers and other parties at a profit so that the objectives of the parties involved are met". In Groenroos (1994) the definition was modified to "Marketing is to establish, maintain, enhance and commercialise customer relationships so that the objectives of the parties involved are met. This is done by a mutual exchange and fulfilment of promises".

Berry (1983), on the other hand, defined RM as follows, "Relationship Marketing is attracting, maintaining and enhancing customer relationships", similarly Morgan and Hunt (1994) referred to RM as all marketing activities directed towards establishing, developing and maintaining successful relational exchanges. Furthermore, Parvatiyar and Sheth (2002b) identified RM as 'the on-going process of engaging in cooperative and collaborative activities and programmes with immediate and end-user customers to create or enhance mutual economic value, at reduced cost'. Finally Gummesson (2002) in his book Total Relationship Marketing describes RM as marketing based on interaction within networks of relationships.

All the definitions encounter the words; relationships, cooperation, collaboration, profit, exchange etc. Ultimately the same meaning is communicated. To sum up, RM can be seen as a cross-functional discipline reaching out to coordinate plans and activities with other business functions. Moreover, it comprises the practices that manage the vertical relationships established between companies in a business chain (supply chain), which, in

return, has the potential to increase profit or reduce cost through maximising customer lifetime value. Therefore, RM offers a substantial competitive advantage.

2.2.5.3 Relationship marketing as an evolving marketing perspective

The development of long-term relationships between firms, in an effort to gain quality and efficiency to satisfy customers, is of particular interest to many enterprises (Keller, 2002). Therefore, the key to success in the marketplace is the integration of business functions within the organisation, such as marketing and supply chain, in order to gain a distinctive advantage over competitors (Wheelen and Hunger, 2006).

According to the RM concept, customers represent value to the firm and, thus, their value should be considered as lifetime customer value. It is essential to calculate each customer's lifetime value in order to maximise the long-term benefit to the value chain (Zeithaml *et al*., 2001). Thus, increasing the chance of successful relationships with selected partners is very significant.

Reichheld and Sasser (1990) reported an increase in customer retention at the company used as a case study. The more efficient the RM techniques and instruments fulfilling customers' needs and wants and creating stronger long term relationships with them, the higher the organisation's profitability. Thus, when customer retention increased by 5% in the case study, the increase in the average customer lifetime value scored between 35 and 95% higher which led to extreme improvements in profitability.

Empirical research on the concept of market orientation has long suggested that vertical coordination of relationships is essential in achieving the main goal of marketing- the creation of superior customer value (Kohli and Jaworski, 1990; Jaworski and Kohli, 1993). Relationships are meaningful if they generate collaboration and value. It is crucial to create win-win relationships of mutual benefit with customers as partners.

According to Gummesson (2002) “the core values of relationship marketing are found in its emphasis on collaboration and the creation of mutual value”. This leads to considering members of the value chain or supply chain: suppliers, retailers, customers and others as partners in value creation rather than adversaries.

As mentioned before, the purpose of relationship marketing is to improve long-run profitability by shifting from transaction based marketing, which focuses only on attracting new customers, to customer retention through effective management of customer relationships (Christopher *et al*., 1991). The question is how this shift can be implemented in practice, i.e. how to effectively manage customer relationships in practice. It is suggested that one of the solutions of putting RM into action is the application of Customer Relationship Management (CRM) and its related technologies (Ryals and Knox, 2001).

2.2.6 Customer relationship management

Although there are several definitions and points of view regarding the differences between RM and CRM, there appears to be some agreement on what the two terms refer to. Sometimes RM and CRM are even used as synonyms. After researching literature, it is believed that CRM evolved from RM (Ryals and Knox, 2001; Gummesson, 2002). Nowadays, CRM is the most frequently used term. RM is the broader overriding concept; it can be seen as the philosophy where CRM represents the concept.

Gummesson (2002) claims that CRM is not really concerned with the strategic aspect of building relational networks but rather focuses on the customer – supplier interaction. He describes CRM as “the values and strategies of relationship marketing – with particular emphasis on customer relationships – turned into practical application”.

Moreover, Boulding *et al*. (2005) described CRM as ‘‘the outcome of the continuing evolution and integration of marketing ideas and newly available data, technologies and organisations forms’’. The evolution of the RM techniques changed considerably the way

marketing was understood and executed. There is still more to be explored through research and future approaches to be developed.

CRM complements the relationship marketing perspective as the technological application part. Peppers and Rogers (1995) emphasise a technological part rather than a relational perspective to CRM. Nevertheless, the philosophical roots of CRM remain relationship oriented comprising customer retention and building customer value. Information Technology (IT) represents the operational part that encompasses customer profiling, information management, customer databases, data mining and eases customisation.

Accordingly, the coordination between RM and IT is a must for successful implementation of CRM in order to magnify the return on customer information. In order to do that inter-functional coordination between departments is required. In this manner, CRM enables management to implement RM on a wide scale. However, all CRM activities have to be managed together in coordination so as to reach desirable results. This can be made possible through the recent advances in enterprise software. Sun Microsystems, a leading company in this field, divides customer information technology into three levels (Ryals and Knox, 2001).

The first basic level assembles the reporting tools that link sales staff with other elements of the business. Second, Online Analytical Programming (OLAP) analyses data received and enables users to browse through levels of data to examine exceptions to purchase patterns and to understand trends and anomalies. Third, data mining, which is a sophisticated process, enables obscure correlations to be identified (Ryals and Knox, 2001).

All this effort is put in, in an attempt to coordinate and improve the vertical relationships of the value chain partners and thus enhance performance and in turn render efficiencies and maximise profit. Managing vertical relationships, either with suppliers or with customers, represent the concept of SCM. Vertically integrated relationships that exist in an efficiently managed supply chain, through coordinating marketing and SCM, can lead to building profitable customer relationships (Juettner *et al.*, 2007; Juettner *et al.*, 2010). Therefore, the SCM concept is discussed in the next section.

2.3 Supply chain management

As described earlier the marketing concept has moved away from transactional marketing into RM focusing on internal cross-functional integration and building profitable customer relationships i.e. vertical integration. Vertical relationships can either exist in the upstream channel (i.e. with suppliers) or in the downstream channel (i.e. with customers), which represent the concept of supply chain. Mentzer *et al*. (2001) defined the supply chain as 'a set of three or more entities (organisations or individuals) directly involved in the upstream and downstream flows of products, services, finances, and/or information from a source to a customer'.

Internal cross-functional and vertical integration throughout the supply chain cannot be successfully accomplished unless coordination between the marketing and the SCM disciplines is attained. This part of reviewing literature undertook the relevant theoretical concepts to the purpose of establishing a basic background for understanding by tracking the evolution, definitions and debates related to SCM and its practices.

2.3.1 Development of the SCM concept

The discipline of SCM was first introduced in the literature in the mid-1980s and was widely used in the 1990s (Mentzer *et al*., 2001). Many scholars wrote about the origins of SCM, either as a development of the term Logistics or as an old concept already existing in scholarly work. Cooper *et al*. (1997) and Chopra and Meindl (2013) suggested that it is based upon fundamental assumptions of handling inter-organisational operations, which is decades old and can be referred back to channels and systems integration research in the 1960s and in more recent work on information sharing and overall inventory management.

The origin of the term seems to be a mystery and exact distinction between SCM, and physical distribution and logistics is vigorously debated in the literature. Some scholars claim SCM is not new and they argue it is just a synonym for logistics, as it comprises the same ideas. Others argue the broadness of the concept compared to logistics in terms of the

dynamic factors associated with it and its inter-functional approach, but still claim it has its roots in the past. For example, note that Heskett *et al*. (1964 as cited in Ballou, 2007) stressed that the transfer of goods from one business entity to the next, demands the coordination of demand and supply between different organisations in the channel until the product reaches the ultimate consumer.

They specifically referred to the overall supply chain and suggested inter-organisational cooperation and coordination throughout the channel. These thoughts form the basis of SCM as practised today. Bowersox and Calantone (1998) emphasise that the concept of SCM is not a new one but the main obstacle to realising it was the feasibility of information until recently. Thanks to technology, companies can now get access to information that is accurate, timely and affordable. They also stress that information is the only factor within the supply chain that has become cheaper due to technology advancements (Power, 2005).

Hugos (2003) argues that the practice of SCM is underlined by basic concepts that have not changed much over the decades. Cooper *et al*. (1997) debated that SCM is more than a new name for Logistics; nevertheless, it might be considered an evolution of Logistics. As Lambert and Stock (2000) stated, the Logistics concept was first put into writing in the early 1900s by Borsodi (1927) in his book "The Distribution Age", though as a human activity it is centuries old.

There have been attempts at differentiating logistics from SCM, announcing logistics to be a subset of SCM. The term SCM is taking over the logistics area since it is embraced in scholarly writing by various business fields that seem to believe in its urgency and positive impact. It is not likely anymore to read a periodical related to pure manufacturing, distribution, marketing, customer relationship management, or transportation without finding a link to SCM or its related activities (Mentzer, 2001).

According to Coyle *et al*. (2003), SCM shaped the third stage of an evolution started in the 1960s with development of the physical distribution concept and focused upon the external or outbound side of the firm's logistics system rather than only functions within the firm. El-

Nakib (2008) contributed that a major tool for adopting competitive analysis and strategies was the integration of all the concepts involving costs, inbound, outbound activities and the value chain concept. No competitive advantage would be realised without integrating outbound and inbound logistics, which formed the concept of SCM.

In contrast to the earlier views on logistics, the scope of logistics is being limited to the boundaries of intra-organisational (inbound) functions and is now mainly concerned with specific activities not involving much coordination and planning. Moreover, SCM contains logistics activities in terms of cross-functional (inbound) activities and also management and coordination of inter-organisational (outbound) activities. Even functions like purchasing, production and marketing are now encompassed under the SCM scope (Ballou, 2007; Mentzer *et al*., 2008).

Consequently, SCM became responsible for major firms' functions and thus is judged for the level of performance. Thus, SCM involves a high degree of intra- and inter-organisational integration. As Baker (2004) stated the development of the concept has gone over three main stages, namely, physical distribution integration, internal linkage and then external linkage resulting in the comprehensive integration process.

2.3.2 Definition of SCM

There seems to be a confusion and debate over the definition of SCM (Stevens, 1989; Cooper and Ellram, 1993; La Londe and Masters, 1994; Lambert *et al*., 1998; Mentzer *et al.*, 2001; Chopra and Meindl, 2013).

Jones and Riley (1985) proposed that 'Supply chain management deals with the total flow of materials from suppliers through end users…' By the same token Stevens (1989) added to the previous definition by explaining that there should be synchronisation between the requirements of the customer and the flow of materials from suppliers. He was aiming at creating a balance between high customer service, low inventory management, and low unit cost, which were and are still regularly seen as conflicting goals.

Another definition notes SCM includes: '... two or more firms in a supply chain entering into a long-term agreement; ... the development of trust and commitment to the relationship; ... the integration of logistics activities involving the sharing of demand and sales data; ... the potential for a shift in the locus of control of the logistics process' (La Londe and Masters, 1994).

Cooper *et al*. (1997) described supply chain strategy similarly to Jones and Riley (1985). They presented it as an integrative philosophy where the distribution channel's total flow is managed from supplier to the ultimate user. Monczka *et al*. (1998) suggested SCM's main aim is to supervise the total system that ensures integration is reached across organisational functions and chain members incorporating sourcing, flow, and control of materials. That requires joint relationships with multiple members of the entire channel.

Given these definitions, Mentzer *et al*. (2001) defined SCM as 'the systemic, strategic coordination of the traditional business functions and the tactics across these business functions within a particular company and across businesses within the supply chain, for the purposes of improving the long-term performance of the individual companies and the supply chain as a whole.'

More attention is given to SCM in research as supply chain integration presented a challenge. Most supply chains consist of separate independent members with individual preferences. The body of the supply chain consists of suppliers, manufactures, distributors, wholesalers, retailers and customers. The members are connected through material, financial, information and decisional flows. Normally each entity will strive for the optimisation of its own benefits. A significant number of scholars and organisations support the concept of developing long-term relationships in terms of coordination and cooperation in order to improve supply chains' performance and provide a way to ensure competitive advantage (Fiala, 2005).

The CSCMP attempted to end the debate by publishing a professional unified definition of SCM in 2005 that was slightly updated in 2007:

> ‘Supply chain management encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third-party service providers, and customers. In essence, supply chain management integrates supply and demand management within and across companies’.

The CSCMP (2007) definition incorporates intra- and cross-business functions and processes into a high performing business model, as well as, coordination with other disciplines like marketing, sales, product design, finance and information technology. SCM has evolved over time becoming more multidisciplinary in nature which enabled it to benefit from a number of concepts developed in a variety of disciplines such as marketing, information systems, system dynamics, economics logistics, operations management, and operations research. SCM is being considered as a strategic factor for creating value for customers (Juentter *et al*., 2007). A significant amount of interest for SCM has been generated by managers and researchers.

The argument here, as opposed to the CSCMP definition, is that the coordination and collaboration with channel partners does not solely fall under the spectrum of SCM. Evidently, SCM incorporates many activities and practices common with the concept and practices of marketing and RM. As the CSCMP describes the integration of supply and demand as a fundamental objective for SCM throughout the supply chain (Mentzer and Gundlach, 2010), the demand side in terms of coordination and collaboration with channel partners, in an attempt to create value and customer satisfaction, is believed to be the main domain of RM.

2.4 Marketing/SCM integration perspectives

In the existing highly competitive markets, possessing clear customers' insights and responding effectively to their different needs, through the coordination and integration of marketing and SCM, can be a source of a superior competitive advantage. This literature review aims at facilitating the understanding of the levels of integration between marketing and SCM.

There are a number of papers discussing the integration of marketing and SCM (Lambert and Cooper, 2000; Alvarado and Kotzab, 2001; Flint, 2004; Juettner *et al*., 2007; Juettner *et al*., 2010; Mentzer and Gundlach, 2010; Knoppen *et al*., 2010). Lambert and Cooper (2000) who are major contributors to the marketing/SCM integration perspective, identified two aspects of integration which are the cross-functional aspect and the inter-organisational aspect. This classification has been supported since then by scholars and by the CSCMP. Juettner *et al*. (2010) further divided the current research carried out on the integration into three perspectives, namely, a cross-functional perspective, a process perspective and the perspective of integrating business concepts.

First, the cross-functional perspective mainly started with the close connection between logistics and marketing. SCM has evolved from the logistics concept and logistics was originated as the physical side of distribution, which is a main pillar of the marketing concept. Hence, logistics and marketing are inextricably linked (Alvarado and Kotzab, 2001; Flint, 2004). Within the marketing discipline distribution channels are interchangeably called marketing channels (intermediaries i.e. distributors, wholesalers and retailers), mainly downstream the supply chain, as they are a vital connection between the company and its customers (Kotler and Armstrong, 2014).

Accordingly, logistics helps optimising marketing strategies in terms of transforming the marketing mix (product, price, place and promotion) into value delivered to customers throughout the supply chain. This is realised through effective and efficient logistics management when the products are delivered at the right time, at the right place for the right

price and still in the appropriate condition (Flint, 2004). Therefore, this inter-functional link, particularly delivery, positively affects customer service performance and delivers customer value, thus more satisfied customers. Nevertheless, it does not reflect the overriding level of integration from an inter-organisational perspective; the inter-functional perspective is more of a subset to marketing/SCM interface (Juettner *et al*., 2010).

Second, the process perspective mainly incorporates the coordination of processes that are designed to create value throughout the supply chain (intra and inter-firm processes). From this standpoint the term supply chain may be too limited and a more appropriate term is the value delivery network which contains all channel members who align their activities to improve performance of the overall chain and deliver customer value (Kotler and Armstrong, 2011).

According to Gummesson (2002) "the core values of relationship marketing are found in its emphasis on collaboration and the creation of mutual value". This leads to considering all supply chain members: suppliers, retailers, customers and others as partners in value creation rather than adversaries. Thanks to advancements in Information Technology (IT) and automation, customer value creation will be maximised through the CRM concept which has evolved from RM. CRM comprises a strategic relational aspect as well as operational programmes aiming at turning the values and strategies of RM, with particular emphasis on customer relationships, into practical application (Gummesson, 2002).

Third, although not necessarily always referred to as a part of the marketing/SCM link, integrated business concepts such as quick response, agile SCM and demand chain management, are the most recent trends concerning the integration between marketing and SCM. The integrated business concepts are built to establish solid competitive advantages enhancing performance of supply chain against competing chains (Juettner *et al*., 2010). Zaho *et al*. (2008) emphasised that supply chain partners have to encompass competitive performance advantages such as quality, price, delivery speed, responsiveness, flexibility, and dependability. Moreover, these integrated business concepts aim at closing the gap between SCM and the market (Juettner *et al*., 2010), which is defined by marketing scholars

as a set of actual and potential buyers (Kotler and Armstrong, 2011). Therefore, again the focus has to be put on the market, i.e. the customers, whether by responding quickly to demand changes, improving customer service or shorter delivery cycles.

The classification of Juettner *et al*. (2010) was specifically followed as it adopts the perspective of the integrated business concepts addressing the most recent view of marketing/SCM integration that clearly emphasises the importance of a customer oriented supply chain. Marketing researchers were pioneers in studying critical issues related to what is currently called SCM (Cooper and Lambert, 2000). Thereafter, they suggested that the creation of successful relationships relies, firstly, on customer knowledge, in other words starts from the market, i.e. customer backwards supply chain design rather than the factory outwards supply chain design (Kotler and Armstrong, 2014). Today the integrated business concepts claim the same argument especially when the value creation strategy needs to be directed towards profitable target segments.

From the current body of knowledge, it is obvious that the interface between marketing and SCM, on a cross-functional level or inter-organisational or on the three integration perspectives (Juettner *et al*., 2010), is mainly concerned with market or customer orientation, in terms of building and sustaining customer relationships, creating value and customer satisfaction.

Marketing's domain and strength remain in understanding customers' perceived value (obtaining market and customer knowledge), dividing customers with similar needs and wants into distinct groups (market/customer segmentation), transforming these needs and wants into product and service packages to meeting the different desires (targeted marketing mixes) and marketing channels design (Juettner *et al*., 2007; Haddad and Ren, 2013a; Armstrong and Kotler, 2014). These are the demand-focused activities owned by the marketing side.

On the other hand, SCM is more concerned with efficient supply, and tends to be cost-orientated (Juettner *et al*., 2007). Accordingly, SCM helps optimise marketing strategies in

terms of transforming the marketing mix (product, price, place and promotion) into value delivered to customers throughout the supply chain. This is realised through effective and efficient logistics when the products are delivered at the right time, at the right place for the right price and still in the appropriate condition (Flint, 2004). Therefore, this cross-functional link positively affects customer service performance and creates customer value, thus more satisfied customers (Chen *et al.*, 2009; Juettner *et al*., 2010).

Figure 2.6 illustrates the concepts of intra- and inter-organisational integration between marketing and SCM. These two types or levels of integration are commonly also called internal integration and external integration. Internal integration covers the collaboration and coordination between different departmental units, while the external integration examines the cross-organisational aspect (Chen *et al*., 2007). In this context, internal integration refers to cross-functional areas of the marketing and supply chain departments where they strive to unify strategies and processes. On the other hand external integration relates to crossing organisational boundaries throughout out the supply chain (Gimenez and Ventura, 2005). Knoppen *et al*. (2010) have labelled the integration of industrial marketing and supply management as supply chain relationship referring to the inter-organisational adaptation phenomenon.

Customer value creation will not be achieved unless the internal business units coordinate their efforts in terms of planning and forecasting, strategy formulation and activities execution. Furthermore, it is crucial that the outside parties join the value creation process, thus the external integration extends to cover supplier and customers (Juettner *et al*., 2010). In order to improve the overall performance, companies have to achieve internal integration which might positively impact external integration (Stank *et al*., 2001; Gimenez and Ventura, 2005). In other words both disciplines should be integrated on an inbound and an outbound levels since SCM strategies are concerned with improving intra and inter-organisational performance. Thus, a customer and market oriented supply chain network is developed (Juettner *et al*., 2010).

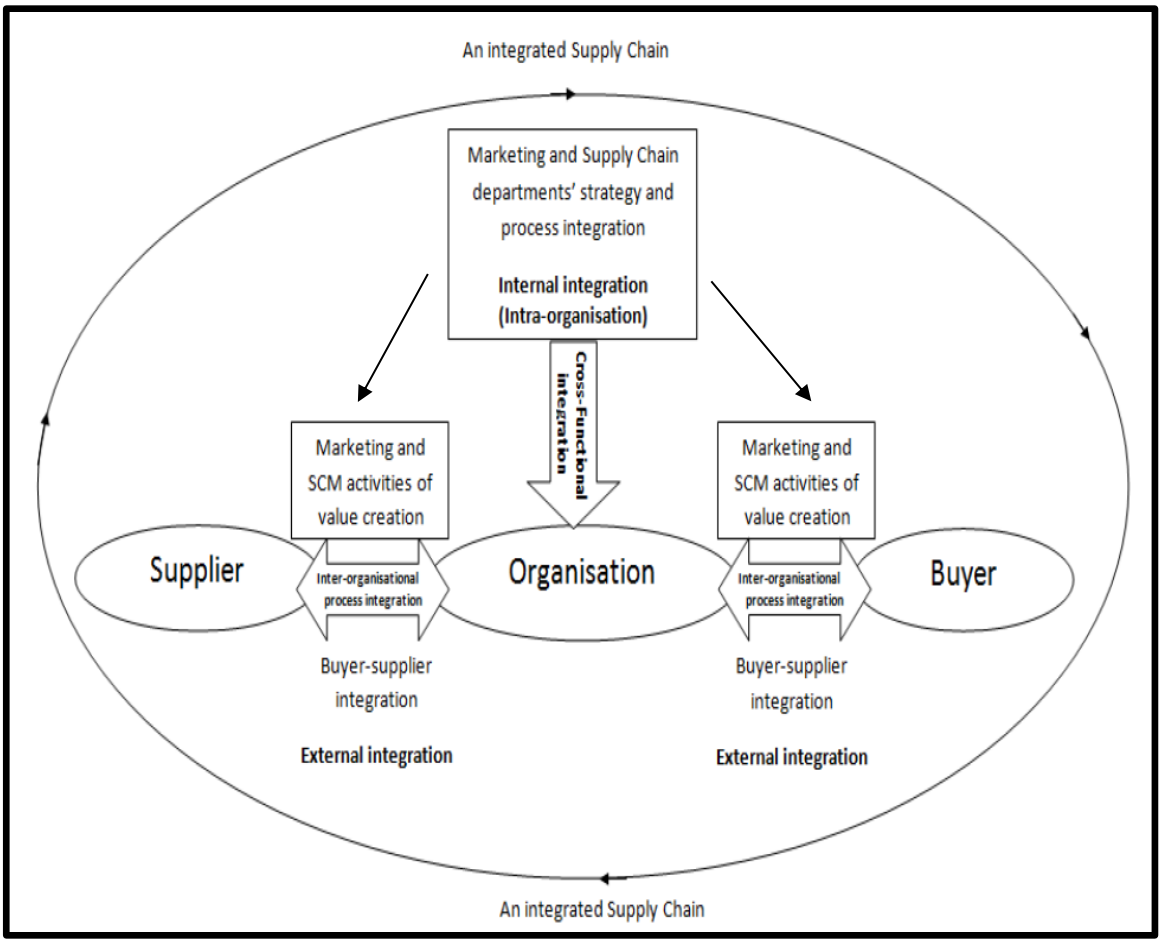


Figure 2.5: Internal and external SCM integration

In order to provide an overview on literature covering marketing/SCM integration Table 2.1 was constructed. It summarises the main publications addressing integration between marketing and SCM and categorises the publications according to their integration focus or perspective i.e. cross-functional process integration, inter-organisational process integration or total SCM integration.

Table 2.1: The main publications on marketing/SCM integration with respect to focus and contribution

No	Author	Year	Focus	Contribution/Approach
1.	Srivastava *et al*.	1999	Cross-functional process integration	Developed a framework for providing a clearer view on marketing integration with business processes and shareholder value. The framework refers to marketing as a cross-functional discipline closely related to product development management, supply chain management, and customer relationship management. The integration of these business processes is considered generating value for customers and thus creating shareholder value.
2.	Stank *et al*.	1999	Cross-functional process integration	Conducted a survey to investigate the association between interdepartmental (marketing/logistics) integration and performance where support for positive associations, between integration and performance relative to competitors, was found.
3.	Ellinger	2000	Cross-functional process integration	Conducted a survey to examine the intra-firm actions that may positively affect collaborative marketing/logistics integration related to big investments. Main focus areas are related to evaluation and reward systems, cross-functional collaboration, effective marketing/logistics interdepartmental integration, and distribution service performance.
4.	Lambert and Cooper	2000	Total SCM integration (cross-functional and inter-organisational)	Presented an SCM framework (based on case studies) that illustrates the marketing/SCM integration using three interconnected elements. The first element is the supply chain network structure which consists of the businesses of the network and the relationship links between these businesses. The second element represents the supply chain business processes which consist of the business activities capable of creating value for customers. The third element encompasses the SCM components which are the managerial variables that integrate and manage the business processes throughout the supply chain.
5.	Alvarado and Kotzab	2001	Inter-organisational process integration	Conducted a case study analysis to support the notion that in order to reach Efficient Consumer Response (ECR) it is fundamental to consider the business network relationships from structure and process perspectives. The study claims that logistics integration into the marketing domain, specifically channel management, is the route to achieve ECR. The research concludes that the effective and efficient

				implementation of this integration into the relationships network will realise the SCM concept from a channel governance perspective.
6.	Lambert and Pohlen	2001	Total SCM integration (SCP measurements)	Developed a conceptual framework that emphasises the relationship between maximising shareholders' value and managing CRM and supplier relationship management interfacing processes throughout the supply chain. The framework suggests that improving up-stream and down-stream supply chain processes results in supplier and customer profitability which offers insights into developing SCP metrics. These designed metrics will be able to highlight opportunities for maximising profits and align objectives across firms throughout the supply chain.
7.	Croxton *et al*.	2002	Demand chain management	Proposed a framework explaining the demand chain management in terms of processes and sub-processes, explaining the processes activities, synchronisation approaches and implementation techniques with in a firm and across businesses in the supply chain.
8.	Lapide	2004	Cross-functional process integration	Presented suitable software technologies to deal with the Sales and Operation Planning (SnOP) cross-functional integration process complex set of needs (demand-side Planning and supply-side planning) that cannot be achieved with manual processes.
9.	Flint	2004	Inter-organisational integration	Identified key challenges facing strategic marketing in global supply chain context while expressing the benefits resulting from integrating marketing and SCM strategies i.e. creating superior customer value that would lead to improved profitability and overall corporate growth.
10.	Rainbird	2004	Demand chain management	Discussed the importance of managing demand chains and supply chains for creating value chains through managing interactive processes to customers' requirements. They supported this notion through a case study.
11.	Wathne and Heide	2004	Inter-organisational integration	Carried out a survey to explore the degree to which a company's strategy in a downstream customer relationship is reliant on governance mechanisms deployed in other inter-firm relationships, mainly in upstream supplier relationships. The results showed positive support to hypotheses which might impact the marketing theory in terms of vertical relationships in supply chain networks.

12.	Lapide	2005	Cross-functional process integration	Proposed a diagnostic tool called the SnOP Maturity Model. The model is designed to help users assess the maturity stage of their cross-functional integration process and the opportunities for improving it in terms of execution and accuracy of their supply-demand plans.
13.	Ellinger *et al*.	2006	Cross-functional integration	Conducted a study to identify behavioural factors that facilitate (or inhibit) collaborative interaction between logistics and marketing. The focus was on social interaction that occurs between logisticians and marketers and how they perceive their professional relationships and respond to each other.
14.	Chen *et al*.	2007	Cross-functional process integration	Conducted a survey to investigate the impact of marketing/logistics collaboration and firm-wide integration on firm performance which resulted in the assumption that marketing/logistics collaboration increases firm performance through the mediation of firm-wide cross-functional integration.
15.	Grimson and Pyke	2007	Cross-functional process integration	Presented a model for S&OP planning process that helps managers evaluated how effective their S&OP processes are and ways to progress to advanced stages. The framework helps managers identify enablers of the SnOP plan integration, cross-functional collaboration and performance measurements.
16.	Juettner *et al*.	2007	Demand chain management	Proposed a conceptual foundation for demand chain management which consists of three aspects. These three aspects involve demand and supply processes integration; structuring the integrated processes to fit customers' segments and coordination and synchronising the working activities and interaction between marketing and SCM.
17.	Mentzer *et al*.	2008	Cross-functional process integration	Developed a conceptual framework to distinguish and comprehend the interrelationships among SCM and logistics, marketing, production and operations management. The aim was to stress the inevitability of cross-functional integration to firm success and to further clarify the boundaries between SCM and the disciplines associated with it.
18.	Zhao *et al*.	2008	Inter-organisational integration	Conducted an empirical study to explore the impact of power and relationship commitment on supply chain integration (SCI). The results reveal that there are different types of customer power with different impacts on manufacturers' relationship commitment.

19.	Daugherty *et al*.	2009	Cross-functional integration	Conducted a survey to explore the outcome of cross-functional collaboration between marketing and logistics and the impact of these collaborations on firm performance. It assumed the integration between these functional areas eases the adequate deployment of firm's resources which increases supply chain responsiveness to the market's needs.
20.	Esper *et al*.	2010	Cross-functional process integration	Developed a conceptual framework illustrating demand and supply integration (DSI). The literature analysis suggests that in order to successfully manage the supply chain it is necessary to achieve the business objective which is creating customer value. This objective can only be realised through cross-functional integration between demand-focused processes and supply-focused processes through intra-organisational knowledge management.
21.	Juettner *et al*.	2010	Total SCM integration (cross-functional and inter-organisational)	Developed a conceptual framework based on a comprehensive review of articles published during the past 30 years. The study mainly reviewed and structured the literature on the integration between marketing and SCM. It divided literature on marketing/SCM integration into three perspectives; namely, the inter-functional perspective, the process perspective and the perspective of integrated business concepts. The framework illustrates the three perspectives from a strategic view.
22.	Knoppen *et al*.	2010	Inter-organisational integration	Offers deeper explanation and linkage on the inter-organisational learning and adaptation concepts building on literature and case studies approach. The study handles the learning and adaptation concepts in a supply chain relationships (SCR) context.
23.	Lainez *et al*.	2010	Cross-functional integration	Presented a mathematical model optimising supply chain marketing strategic decisions to enhance cross-functional integration. The research refers to the demand chain concept as a crucial part for developing competitive business policies.
24.	Oliva and Watson	2011	Cross-functional process integration	Undertook a case study analysis of a supply chain planning process to investigate the efficiency of the SnOP integration process in real context. The study supported the notion that the integration process does act as mediator to improved organisational outcomes.

25.	Vallet-Bellmunt	2011	Critical literature review on inter-organisational integration	Conducted a thorough review to examine published literature between 1997 and 2006 on SCM from a multidisciplinary perspective. Therefore, a content analysis was carried out to analyse major papers on marketing, logistics, management and marketing channels published. The results of the analysis show that there is a significant gap in literature on cross-functional and inter-organisational (supply chain as a network) integration.
26.	Green *et al*.	2012	Inter-organisational integration	Proposed a model incorporating marketing strategy alignment SCP, financial performance and organisational performance. The study claims, based on empirical study, that marketing strategy alignment with partners throughout the supply chain enhances SCP which positively affects organisational marketing performance in turn organisational financial and overall corporate performance.
27.	Adamczak *et al*.	2013	Cross-functional process integration	Conducted a survey to identify ways to implement the process of SnOP planning in small and medium-sized enterprises. It concluded that the usefulness of the SnOP plan depends on the size of the company and its localisation in the supply chain.
28.	Juettner and Christopher	2013	Cross-functional integration	Conceptualised the role of marketing in creating a supply chain orientation within an organisation. The research empirically showed that aligning marketing and SCM strategies yields positive impact on organisations' customer-segment-focused system thinking.
29.	Richard and Robert	2014	Demand Chain Management	Presented demand chain management as a model, brings together the strengths of marketing and SCM and introduces conceptual frameworks and models to facilitate the implementation of demand chain management. The paper highlighted the capability of demand chain management in enhancing customer-value creation that is reflected in Customer Lifetime Value.
30.	Madhani	2015	Inter-organisational integration process	Highlighted the effect of using interactive marketing tools in SnOP processes to improve collaboration among supply chain partners based on a thorough literature review. The outcomes emphasised the effectiveness of the SnOP beyond B2C and into B2B relationships using sophisticated software to integrate different business processes.

2.5 Measuring business performance

The majority of papers on marketing/SCM integration were theoretical, conceptual or subjective i.e. not identifying concrete actions or measurements to direct managerial practice to realising the integration concept and proving its efficacy on business performance. Neely *et al*., (2005) argue that performance measures are often discussed without being defined. In the revolutionary paper 'Performance measurement system design: A literature review and research agenda' (1995); that was reproduced in 2005; Neely *et al*. define performance measures as 'the process of quantifying action, where measurement is the process of quantification and action leads to performance'.

According to Kotler and Keller (2012), from a marketing perspective, organisations' goals are achieved by satisfying customers' needs and wants better than competitors in terms of efficiency and effectiveness. The terms efficiency and effectiveness are used specifically in this framework. Effectiveness, in this sense, is the degree to which customer requirements are delivered. On the other hand, efficiency refers to measuring the balance between the economic levels of utilising the organisations' resources and fulfilling customers' requirements in order to achieve satisfaction.

Neely *et al*. (2005) stressed the urgency of the previous idea as it does identify the two fundamental dimensions of performance. Moreover, they highlighted that there can be intra-organisational reasons and outside causes for conducting specific courses of action. An example related to the quality of performance is product reliability which is illustrated to support the understanding of the previous point. In terms of effectiveness, which refers to doing the right thing, customer satisfaction can be achieved through a higher level of product reliability. Efficiency refers to doing things in the right way, thus, increasing product reliability might reduce the costs generated from field failure and warranty claims.

Efficiency and effectiveness, of the actions undertaken by the organisation, determine the level of organisations' performance. Thus, performance measurement can be defined as 'the process of quantifying the efficiency and effectiveness of action' or as 'a metric used to

quantify the efficiency and/or effectiveness of an action'. In addition, a performance measurement system can be defined as 'the set of metrics used to quantify both the efficiency and effectiveness of actions' (Neely *et al*., 2005).

Neely *et al*. (2005) attempted to sum up the different metrics and approaches scholars designed and used to measure performance. These approaches comprise the balanced scorecard (Kaplan and Norton, 1992); the performance measurement matrix (Keegan *et al*., 1989); performance measurement questionnaires (Dixon *et al*., 1990); criteria for measurement system design (Globerson, 1985); and, computer aided manufacturing approaches Neely *et al*. (1994).

Unfortunately, few measures have been assigned in the literature to assess the impact of the marketing/SCM integration on performance (Stank *et al*., 2001; Shepard and Guenter, 2006; Chen *et al*., 2007; Gunasekaran and Kobu, 2007; Daugherty *et al*., 2009; Haddad and Ren, 2012). Moreover, scant attention has been given to the dilemma on decision making methods in relation to which performance measures to be adopted (Neely, 2005) specifically to reflect marketing/SCM integration.

Marketing and SCM integration is a process of demand creation and fulfilment. Hence, as argued by Haddad and Ren (2013b) customer value creation and improved business performance cannot be achieved unless efforts are integrated from the demand side (marketing) and supply side (SCM). They presented evidence of the positive impact of the successful Demand/Supply integration on business integrative rather than functional KPIs. According to Juettner *et al*. (2007) the functional KPIs appear to be a major barrier to collective integration goals. They argued, based on the empirical study, that functional KPIs prohibit tactical managers from aiming at the overall company goals and narrow their efforts towards functional goals. As an alternative, integrative KPIs are designed to cover a broader set of collective company objectives rather than assessing functions on isolated or conflicting performance measures.

2.6 Literature gap identified

These literature review findings identified a gap in scholarly work related to marketing capabilities affecting SCP attributes and integrative measures capable of evaluating the impact of the integration between marketing and SCM. Throughout the literature scholars identified a range of limitations of existing measurement systems. The limitations cited by Neely and his proponents remain unsolved and problematic in relation to SCP measurement systems. The urgency, of developing new measurement systems and metrics to overcome these deficiencies, is highlighted.

Shepherd and Guenter (2006), based on a thorough study of literature, investigated a number of deficiencies and limitations in research related to SCP measurements, including, factors contributing to successful implementation of performance measurement systems (Bourne *et al*., 2000 and Bourne *et al*., 2002); forces shaping the evolution of performance measurement systems (Waggoner *et al*., 1999; Kennerley and Neely, 2002); and approaches to maintain performance measurement systems dynamic and responsive to environmental changes over time (Bourne *et al*., 2000; Kennerley and Neely, 2003). All of these issues are very relevant to performance measurement in supply chains, nevertheless, given minor interest in research.

Current supply chain measurement systems are claimed to be functional logistics measures; rather than supply chain cross-functional and inter-organisational relational measures; aiming at minimising operational cost at the expense of total cost (Lambert and Pohlen, 2001). Gunasekran and Kobu (2007), based on contemporary literature search, indicated that the majority of performance measurements, proposed in literature, are function based (61% of the KPIs) instead of value-based (42% of the KPIs).

Measures and qualitative metrics of supply chain relationships and customer satisfaction have been given scant attention in literature. Gunasekran and Kobu (2007) statistically illustrated that only 27% of the KPIs related to customer satisfaction in measuring supply chain performance. Researchers have to design metrics incorporating supply chain

relationships and the whole integrated SCM concept, including intra and inter-organisational SCP (Lambert and Pohlen, 2001; Shepard and Gunter, 2006).

This shows the importance of considering RM when developing SCP metrics. Nevertheless, this assumption has neither been given considerable attention in scholarly work nor realised in practice.

2.7 Conclusions

The literature on the marketing and SCM disciplines has been thoroughly reviewed in this chapter. First, definitions and developments were presented, and then integration concepts were intensely elaborated. Afterwards, impact of the integration on business performance was addressed alongside conflict areas that hinder proper integration practices. Finally literature gaps on marketing/SCM integration were identified and summarised as follows:

- A significant number of papers emphasise the enormous need for integrating marketing and SCM processes.

- A significant number of papers written on SCM and SCP measures highlight the need for good coordination of inter-organisational or cross-functional relationships, nevertheless, no identification of specific measures to assess the performance while integrating marketing and SCM plans and activities.

- Only one master paper explicitly addressing the connection between marketing or CRM and SCP from a relational perspective (Lambert and Pohlen, 2001) and was widely referenced by scholars. Nevertheless, it is only presenting guidelines not demonstrating specific metrics to assess the impact of RM on SCP.

- Lambert and Pohlen's (2001) findings and suggestions for future research, regarding designing meaningful relational (marketing/SCM) supply chain

metrics assessing the overall SCP, are still not fulfilled. Nearly the same gaps and findings are identified in recent literature analysis papers such Shepard and Guenter (2006), Gunasekaran and Kobu (2007) and Vallet-Bullmunt *et al*. (2011).

3 MEASURING PERFORMANCE OF A MARKETING/SCM INTEGRATED BUSINESS MODEL: A CONCEPTUAL FRAMEWORK

3.1 Introduction

In the previous chapter, the developments that led to the conceptualisation of SCM were discussed and definitions were presented. These holistic definitions and views, however, might be overpromising. These views explicitly state that SCM aims at ‘‘lowering the total amount of resources required to provide the necessary level of customer service’’ (Jones and Riley, 1985). This might overestimate SCM's boundaries in practice. As literature and empirical studies claim SCM is concerned with the efficient matching of supply and demand. Nevertheless, identifying customers' needs, understanding and realising customers' perception of value in order to translate it into value propositions is out of SCM's territory (Juettner *et al*., 2007). While SCM is mainly concerned with fulfilling demand through efficient cost-oriented supply, marketing focuses on generating revenue through creating demand. Therefore, the integration of both disciplines formulates the firm’s performance. This assumption was strongly emphasised in the literature of marketing and supply chain (Juettner *et al*., 2007).

The literature analysis indicated, however, that the majority of existing research on marketing/SCM integration was theoretical, conceptual or subjective i.e. not identifying concrete actions or measurements to direct managerial practice to realise the integration concept and prove its efficacy on business performance. Moreover, the specific marketing capabilities and functions that impact the individual SCP attributes i.e. RL, AG, RS, CO and AM (Supply-Chain Council, 2008) are not clearly identified in the literature.

Owing to the complexity of the SCM concept and its multidisciplinary nature, the development of SCP metrics is also difficult. Managers need to follow performance metrics to evaluate actions and understand the impact caused by these actions on SCP and firm's

performance (Lambert & Pohlen, 2001). Therefore, in order to practically justify the impact of the marketing capabilities and functions on the SCP attributes after integrating marketing and SCM processes, a relevant measurement matrix has to be developed. Juettner *et al*. (2007) claimed that this integration positively impacts an organisation's performance and profitability.

The objective of this chapter is to conceptualise a measured marketing/SCM relationship through developing a conceptual framework incorporating the marketing capabilities that might impact the SCP attributes. The chapter also aims at highlighting the measurement metrics present in literature that have the potential of assessing this integration's impact on SCP and ultimately business performance. As these different aspects (marketing capabilities and SCP attributes and measurements) are not explicitly linked to each other in literature, it was important to construct a chapter that conceptually connects them and according develops a conceptual framework to visually illustrate the alleged relationship. Thus, for the purpose of developing the framework, the identified marketing capabilities, the SCP attributes and measurement are reviewed together in this chapter.

This chapter is structured as follows: firstly, literature is further reviewed to identify marketing capabilities that have the tendency to impact SCP and business performance. Then, the development of the SCP measurements systems is traced to evaluate the current metrics' usefulness of assessing the marketing/SCM integration impact. Finally, the chapter concludes by developing a conceptual framework; based on the literature analysis; which needs further exploration and validation using empirical study (chapter five and chapter six). A roadmap to the development of a marketing/SCM conceptual business model is illustrated in Figure 3.1.

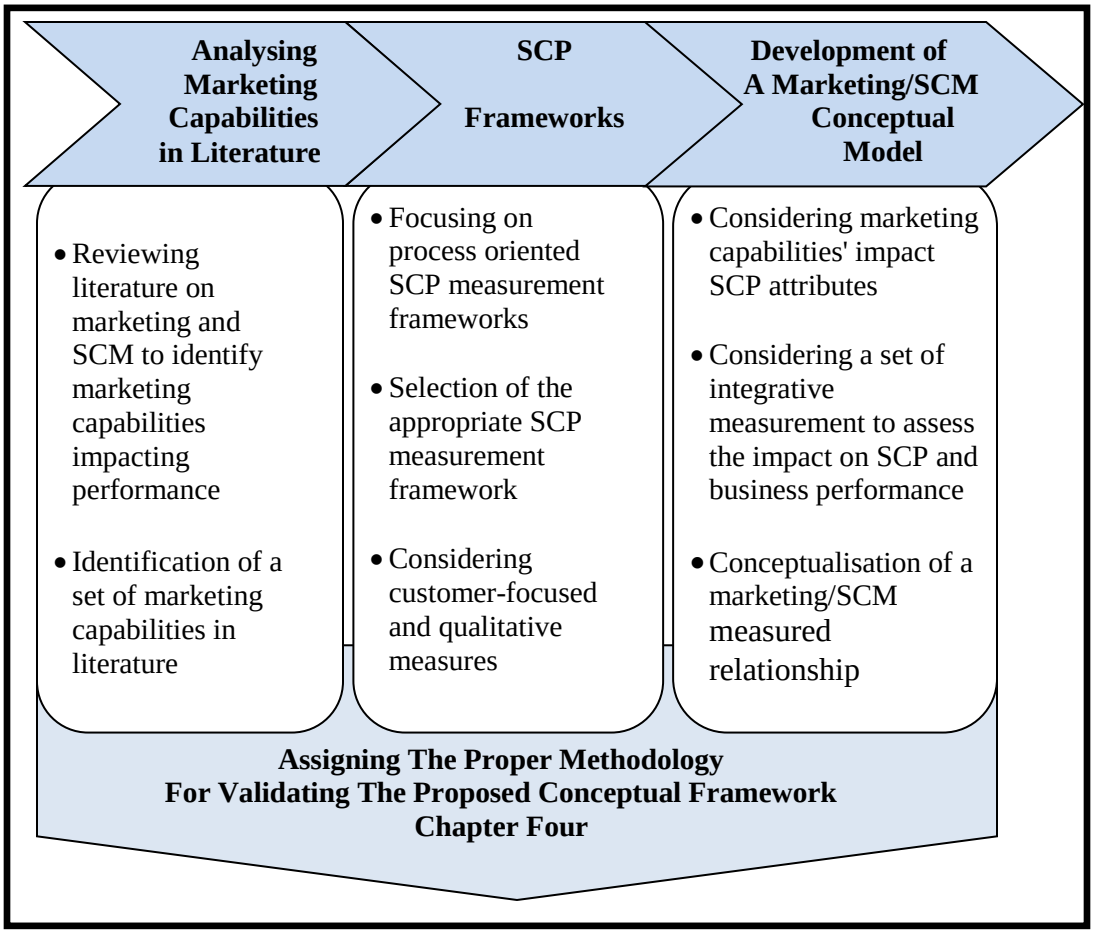


Figure 3.1: Roadmap to a marketing/SCM conceptual business model

3.2 Marketing capabilities/activities creating customers' value

As the notion of identifying marketing capabilities with an impact on SCP and business performance generally is relatively new, relevant marketing capabilities still have to be compiled comprehensively from literature and practice. As a starting point, general marketing and SCM literature are explored. According to Vorhies and Morgan (2005), Morgan *et al*. (2009) and Ngo (2012) very few marketing studies have been carried out on identifying and benchmarking marketing capabilities contributing to improved business performance. Nevertheless, they have been able to link a set of benchmarked marketing capabilities to customer value creation and improved business performance through empirical study. Also, within logistics and SCM literature scant attention has been paid to marketing capabilities, mainly with reference to customer value creation. These contributions

are examined in this section and will be used as a guide for further exploratory empirical study aiming at identifying practical marking capabilities contributing to improved SCP attributes and hence, customer value creation.

Marketing strength remains in its ability to understand and manipulate the factors affecting customers' perception of value. Literature mentions marketing capabilities refer to using the classic marketing mix to convert resources into value outputs and also marketing capabilities that involve developing strategies, obtaining and managing market information and executing plans (Morgan *et al*., 2003; Vorhies and Morgan, 2003; Vorhies and Morgan, 2005; Juettner *et al*., 2007; Morgen *et al*., 2009, Day, 2011; Ngo, 2012). After analysing marketing and SCM literature related to marketing capabilities the following preliminary categories were highlighted.

3.2.1 Segmentation and targeting

Market *segmentation* is generally considered the strategic tool linking the organisation to the market (i.e. customers), guiding market decisions and value creation strategies. Customers are different in many ways and cannot be served equally i.e. different geographic, demographic, psychographic and behavioural traits. Specifically, consumers differ from industrial or business buyers e.g. when business buyers are being segmented according to demographic characteristics marketers examine industries, companies, business size etc. rather than age, gender and family size in the case of segmenting consumers. The business opportunities of the different market segments get revealed when undertaking efficient segmentation techniques (Kotler and Armstrong, 2014).

Through market segmentation, heterogeneous markets can be divided into individual segments in order to serve each segment with value propositions that match its specific needs and wants in an effective and efficient manner. Individual firms have different methods to segment customers by grouping people or businesses with similar characteristics together and develop profiles of the desired segments to be targeted (Kotler and Keller, 2012).

Furthermore, segmentation strategies contribute to the process of strategic customer integration as they underline the factors that disclose value creation opportunities in cooperation with customers. Literature emphasises that the development of segmentation strategies should be seen as a joint responsibility between marketing and SCM. Given this perspective managers from both departments should participate in the customer value creation process starting with segmenting customers and designing separate value propositions using different marketing mixes (Juettner *et al*., 2010). Segmentation is considered the marketing capability receiving the most attention in SCM literature where some studies reflected its effects on SCP (Godsell, 2008; Juettner *et al*., 2010; Godsell *et al*., 2011; Rexhausen *et al*., 2012).

Market *targeting* is the step where the marketer evaluates each market segment in terms of attractiveness (size, profitability and accessibility) and selects the most suitable segment or segments to enter. Thus, a target market is composed of a set of customers with similar needs or traits which are seen by the company as an opportunity to be served. Targeting is carried out on a number of levels (Armstrong and Kotler, 2014). Figure 3.2 shows the strategies marketers can adopt to target the chosen segments. The strategies vary from targeting broadly (undifferentiated marketing) and narrowly (micromarketing).

When executing an undifferentiated marketing (or mass marketing) strategy, segments' differences are ignored and the whole market is targeted with the same marketing offering. On the contrary, when using the micromarketing strategy, products, services and marketing programmes are tailored to suit the preferences of specific individual customers. There are also two strategies in-between, namely, differentiated and concentrated marketing strategies. When the differentiated (segmented) marketing strategy is used multiple segments are targeted at the same time with different value propositions and marketing mixes for each. Lastly, the concentrated marketing (niche marketing) strategy holds targeting a relatively small or niche segment with special needs and wants (Armstrong and Kotler, 2014).

Based on the targeting strategy decided upon by the marketers, the value proposition is developed. This step is a joint effort undertaken by the marketing and the SCM department

as they have to create differentiated value offering in the form of marketing mixes for the targeted segments.

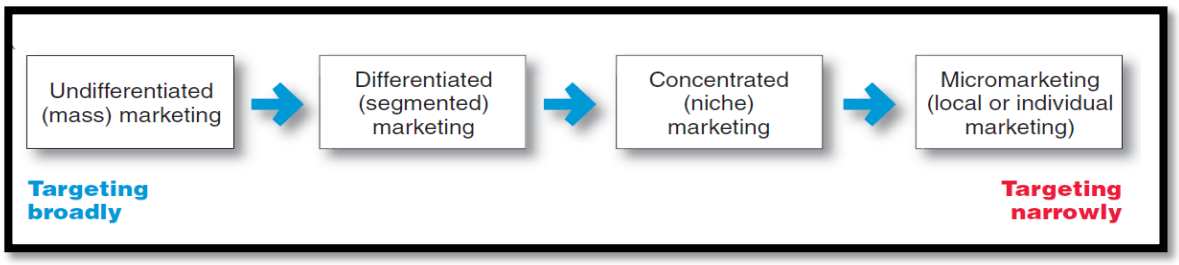


Figure 3.2: Targeting strategies
Source: Kotler and Armstrong (2014)

3.2.2 Market forecasts and planning

Market forecast is also called demand forecast or sales forecast. Marketers need market information to estimate the amount of demand that is going to be created in a specific period of time in the future, in order to plan accordingly. Market information management is a vital part of the forecasting process where companies learn more about their customers and markets and optimise the usage of this knowledge (Menon and Varadarajan, 1992; Day, 1994; Vorhies and Morgan, 2005; Morgan *et al*., 2009; Day, 2011). In other words, demand forecasting is needed for designing marketing, sales and manufacturing plans for the incoming period based on historical data and information collected from customers (O'Leary-Kelly and Flores, 2002; Adamczak *et al*., 2013). Thus, marketing planning is considered the task of developing marketing strategies that improve the match between the organisation's resources and the needs of the marketplace (Morgan *et al*., 2009).

Moreover, the forecasting process should be followed by a compile of measurement for the firm needs to evaluate how well the task is reflecting actual demand (Lapide, 2007). In the past demand forecasting was only the marketing and sales departments' job but recently organisations started accepting the idea that forecasting and planning is a joint task of marketing and SCM (Esper *et al*., 2010).

3.2.3 Product development

The product is the first and most fundamental element of the marketing mix. Products are not just tangible objects but also include services, experience, ideas, place etc. anything that can be included in a market offering for consumption, use or acquisition to satisfy customers' needs and wants (Kotler and Armstrong, 2014). This marketing capability mainly addresses the processes of creating and managing product offerings (Dutta *et al*., 1999; Vorhies and Morgan, 2005; Morgan *et al*., 2009).

Thus, product development covers developing new products, as well as, modifying existing ones e.g. re-launching current products. Marketing/sales planning decisions are concerned with anticipating, managing and satisfying demand through efficient forecasting practices, setting sales targets and designing product/sales promotions. On the other hand, decisions related to capacity planning and production scheduling fall under the spectrum of SCM operations and manufacturing planning. These decisions affect the marketing's ability to implement their plans (O'Leary-Kelly and Flores, 2002).

Therefore, product development decisions have to result from an integrated cross-functional decision making process between marketing and SCM as they often place special requirements on the capabilities of organisations' production systems (O'Leary-Kelly and Flores, 2002). If marketers do not consult the SCM department, specifically manufacturing and operations, before taking these decisions they might be faced by production constraints which can lead to the failure of the marketing programme. As such, if efforts are not integrated, marketing and SCM departments might face conflicts when the supply chain resources are incapable of generating "supply" to satisfy marketing's created "demand" (Tang, 2010).

Marketing-mix planning is originally about building profitable customer relationships through offering value to target segments. This value is composed of the offering the company is bringing to customers, which is beyond just offering products but rather offering

a total experience that exceeds customer's expectations. This goal can hardly be achieved if cross-functional coordination, between marketing and SCM departments, is not foreseen.

3.2.4 Pricing

Pricing represents the marketing capability that extracts the best possible revenue from the customer (Dutta *et al*., 2003; Vorhies and Morgen, 2005, Morgen *et al*., 2009) which is the reason for the existence for profitable businesses. Pricing is an indicator of cost incurred from producing the product, part of which is the cost of the logistics activities related to the product and thus, impacting the price. Price is also an indicator of value given up by a customer to obtain a desired object. Organisations creating value for customers must capture value in return through the money earned during the sales transactions (price) (Mentzer *et al*., 2008; Kotler and Keller, 2012).

While all other marketing mix elements (product, promotion, place) represent cost to firms, price is the only marketing mix element that represents revenue, it is considered the harvest after all undertaken efforts. Traditionally, buyer's demand and choice has been attached to price although recently, and with the fierce competition non-price factors have been gaining importance. The non-price factors are related to marketing and SCM coordinated decisions such as the quality of the product and places where the product is make available (Juettner *et al.*, 2006). Nevertheless, price is a major factor in determining the organisation's profitability and stream of demand. In comparison with the other marketing mix elements like product features and channel arrangements (place), price is considered the most flexible element as it can be alerted rapidly. On the other hand, it is a dangerous tool which creates problems and has to be handled carefully (Kotler and Armstrong, 2014).

Successful firms consider pricing strategies as a key tool for creating value and capturing value in return. Although marketers formulate pricing strategies, inputs about cost have to be communicated by the supply chain department. Moreover, prices affect the bottom line directly as a slight increase in price can generate a boost in profitability (Armstrong and Kotler, 2014).

Furthermore, confident marketers undertake effective pricing strategies that correspond to the needs and wants of their target markets. In addition, they use the pricing strategies to rapidly respond to changes in the market place, are aware of competitors' pricing tactics and monitor competitors' pricing strategies changes in the marketplace (Vorhies and Morgan, 2005). Thus, pricing strategy is a tool that heavily contributes in the firm's value proposition and in building relationships with customers.

3.2.5 Marketing communications

This marketing capability is also referred to as marketing promotion, which represents the 3rd P in the marketing mix. Through marketing communication the organisation strives to manage customers' perceptions of value (McKee *et al*. 1992; Fill; 2002, Vorhies and Morgan, 2005). It is not enough to create value if the customer is not aware about it. Thus, firms have to communicate this value through promotion to persuasively convince customers with this value. The value promised is a result of coordinated efforts all business functions including SCM (Mentzer *et al*., 2008). The relationship of marketing communication as a marketing capability and SCM is not addressed in literature, nevertheless, the impact of such a demand generating capability on SCP has to be further investigated (see section 5.4.3).

An organisation's promotion mix, also called integrated marketing communication, is a mixture of tools rather than a single one. Under the spectrum of integrated marketing communications, promotional tools have to be integrated and coordinated in order to generate and deliver an obvious, consistent, and persuasive message about the firm and its brands (Kitchen and Burgmann, 2010; Kotler and Armstrong, 2014).

The promotional mix (the marketing communication mix) tools consist of advertising, personal selling, public relations, sales promotion, personal selling and also direct marketing. These tools are used to compellingly communicate value and establish a relationship with customers who are the supply chain partners. These definite promotional tools do not represent the whole concept of marketing communication solely as the other marketing mix

elements help in communicating value to customers as well, e.g. through a product's design, packaging, price, shape etc. Also channel partners and stores that vend the product help deliver the firm's message to customers. Thus, all marketing mix elements have to be coordinated to generate the best communication impact (Kotler and Keller, 2012; Egan, 2015).

Marketing communication mix is illustrated in Figure 3.3 where the promotional tools are coordinated to deliver a consistent unified message to the customers.

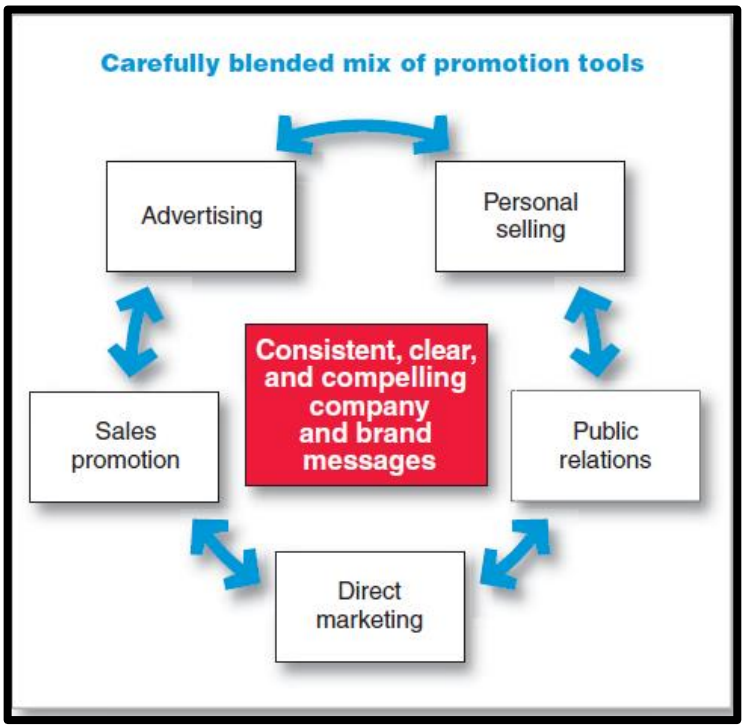


Figure 3.3: Communication mix
Source: Kotler and Armstrong (2014)

3.2.6 Managing marketing channels

Marketing channels are also called channel management, distribution or as the marketing mix element 'place'. As described in chapter two, the logistics concept emerged from the concept of physical distribution which is a main element of the marketing mix and represents the classical integration axis between marketing and SCM. Thus, this capability signifies the

company's ability to develop and maintain the appropriate distribution channels in an attempt to deliver customer value effectively and efficiently (Weitz and Jap, 1995; Vorhies and Morgan, 2005; Ngo, 2013).

It is uncommon that companies work alone to create and deliver value and build relationships with customers. Manufacturers rarely sell their products directly to end consumers; instead, they use middlemen (intermediaries) to reach the market. Hence, they usually establish a marketing channel or distribution channel through collaboration with a chain of interdependent organizations that ease the access for the company's products to consumer or business markets (Kotler and Keller, 2012).

Thus, an organisation's success depends on the performance of the entire marketing channels competing with other channels rather than the organisation's individual performance. Consequently, strong relationships have to be built with partners throughout the supply chain, namely with upstream and downstream partners. Upstream partners are the organisation's suppliers that provide the raw materials, information, parts and components, funds, etc. On the other hand, the downstream partners, who are the main focus of the marketing department, are distributors and resellers (wholesalers and retailers). They are business customers who help in making the products available to other customers and end consumers and thus, are called the marketing channels or distribution channels (Rosenbloom, 2013). Different models of consumer and business marketing channels are illustrated in Figure 3.4.

As repeatedly stated, businesses exist to make profit through building strong relationships with customers in the downstream marketing channel. With rising marketing complexity, fierce competition and advancement in technology, more complex relationships with channel partners are required. Individual companies cannot create and deliver customers' value on their own, thus, they engage in building strong relationships with partners (business customers) to forge a value delivery network to enhance the overall system's performance (Kotler and Armstrong, 2014). The terminology "value delivery network" is much broader than supply chain, demand chain and marketing channel as it reflects the cross-functional and inter-organisational integration phenomenon between marketing and SCM.

Accordingly, the integration between marketing and SCM would help optimizing marketing strategies in terms of transforming the marketing mix (product, price, place and promotion) into value delivered to customers throughout the value (supply) chain. This is realised when the products are delivered at the right time, at the right place for the right price through the marketing channels (Flint, 2004).

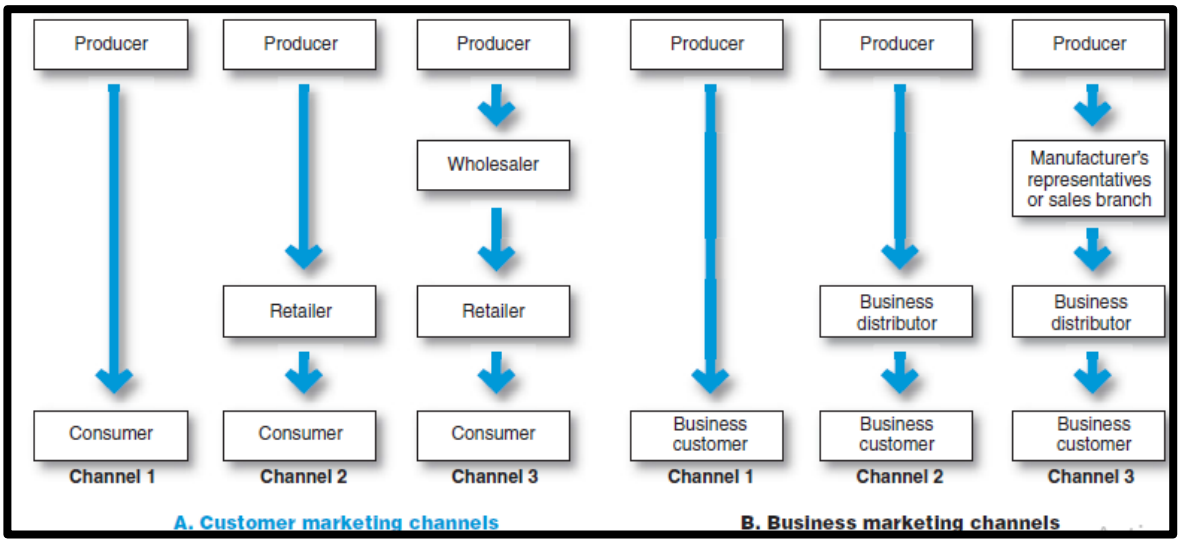


Figure 3.4: Consumer and business marketing channels
Source: Kotler and Armstrong (2014)

3.2.7 Customer relationship management

This marketing capability was extracted from literature to cover more than one aspect, namely, customer relationship and IT application in the marketing context. As covered in chapter two section 2.2.6, usually RM and CRM are interchangeably used as the CRM concept evolved from RM. CRM is the commonly used term nowadays. Zablah *et al*. (2004) stated that CRM is a macro-level process ‘‘that involves the development and leveraging of market intelligence for the purpose of building and maintaining a profit-maximising portfolio of customer relationships’’. Thus, this capability is considered a key component to the current conceptualisations of the strategic role of marketing. The two aspects of CRM are also described by Gummesson (2002) where CRM represents the values and strategies of RM in a modern practical manner in handling customer relationships through IT application.

As the marketers are responsible for identifying customers' needs and wants in order to satisfy them accordingly, so what is a better way to that than engaging customers in the value creation process. The RM paradigms emphasise the urgency of engaging customers into the marketing process which is called value co-creation (Lamberti *et al*., 2010). This arrangement helps the company keep and maintain profitable customers through making them feel appreciated and involved which develops trust and loyalty (Srivastava *et al*., 1998). Maintaining customer relationships is a joint responsibility of the marketing, sales and SCM functions as sales and SCM are indirect contact with the channel members (distributors, wholesalers and retailers) who represent the customers and customers' customers (Reinartz *et al.*, 2004; Ryals, 2005).

The view of creating value jointly with customers i.e. engaging them in the marketing value creating processes and activities was first introduced by the service dominant logic. It focuses on the customer as the core of all the marketing and SCM activities and emphasises that successful companies have to consider customers opinions, input and feedback in order to make useful value propositions (Juettner *et al*., 2007; Lush *et al*., 2007; Groenroos, 2011).

In order to increase the customers' ability of value creation they should be granted access to resources and information in order to develop the appropriate level of knowledge to participate effectively (Normann, 2001; Groenroos, 2011). The marketers and SCM have to develop specific value creation processes that enhance the customers' ability to share in the creation of value through helping them utilize the company's resources in a convenient efficient manner (Juettner *et al*., 2007). Thus, CRM strategies are formulated best by engaging customers in the value creation process.

3.2.8 Selling activities

Selling is considered the marketing activity that is in direct contact and interface with the customer. It is the process realising the exchange concept of marketing in practice through acquiring customers' orders (Shapiro *et al*., 1997; Vorhies and Morgan, 2005). Sales and

marketing deploy the sales force according to the organisation's market shares, marketing offerings, cost and budget (Lainez *et al*., 2010). The sales force is the representative of the company with its marketing channel members (customers). The sales people introduce and convince the channel members of the company's products, innovations and strategies and prepare them to act as promoters of the company.

Moreover, decisions related to type and level of communication of the sales force depend on the channel members' needs in terms of training, motivation, persuasion and support. Furthermore, the sales activities include assessing the channel members' capability to market the product and position it in the mind of the customer and hence, help the marketers take a decision on launching products (Vorhies and Morgan, 2005; Morgan *et al*., 2009).

Thus, marketing has a cross-boundary task which links the selling organization to its customers in a marketing channel. In order to function effectively marketing has to coordinate its activities with other functional departments in the company like sales and SCM. Nevertheless, in many cases decisions regarding marketing activities, like pricing and promotion, are made by the marketing and sales departments disregarding the impact of these decisions on SCP (Lainez *et al*., 2010).

3.3 Supply chain performance

A major barrier to marketing/SCM cooperation is the conflicting functional measurements and KPIs. As illustrated in Figure 3.5 even if the functional departments, namely marketing and SCM, attempt to integrate their efforts and activities they face conflicting functional KPIs. A favourable impact of this cross-functional integration will not be realised unless integrative KPIs and metrics are identified and assigned. Some measurements are reported as marketing KPIs, others as supply chain KPIs but each set is really only reflecting the efforts of its functional area. As suggested by Juettner *et al*. (2007) a way to solve this dilemma might be reducing the number of the functional KPIs and considering the overall impact on performance rather than the functional areas. Moreover, they suggest that managers allow their metrics to reflect market forces. A means to reach that can be through

the identification of integrative metrics that reflect the cooperative efforts of both sides on SCP and ultimately business performance.

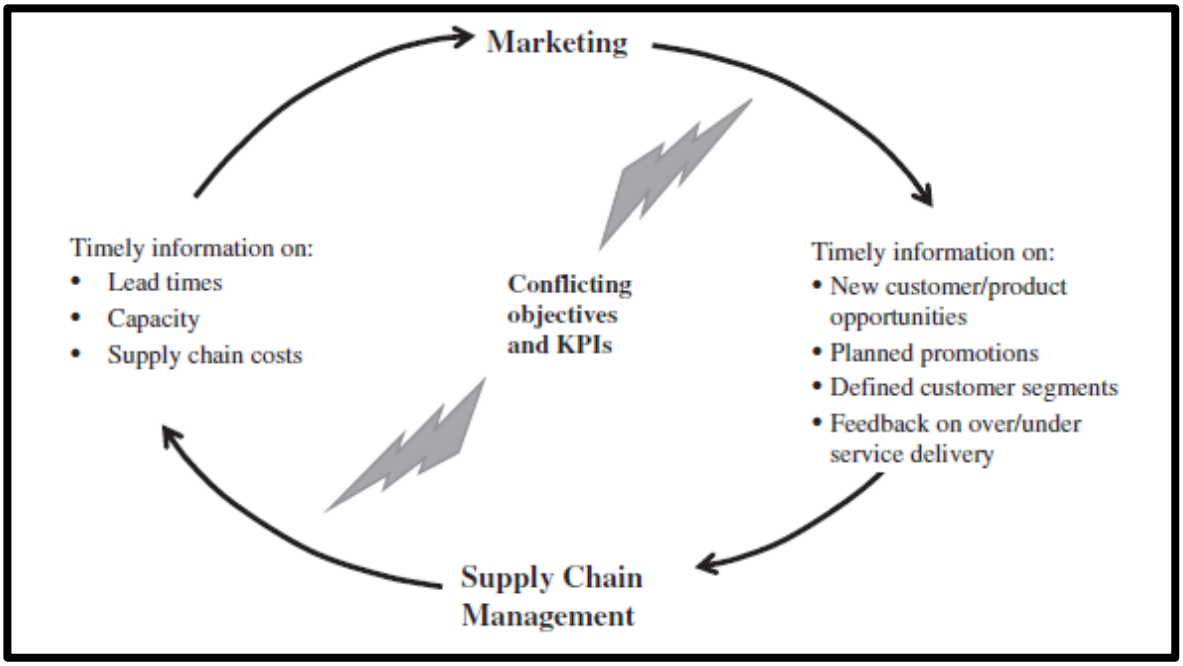


Figure 3.5: The working relationship between marketing and SCM
Source: Juettner *et al*. (2007)

Since the SCM concept has evolved and become more multidisciplinary (as discussed in chapter two) covering and embracing a number of concepts developed in a variety of disciplines as marketing, information systems, system dynamics, logistics, operations management, operations research etc., it is being considered as a strategic factor for creating value for customers (Juentter *et al.*, 2007). Therefore, it is vital at this stage to examine SCP measurement covering the different processes and incorporating various disciplines. Hence, after identifying these preliminary marketing capabilities that might have the potential to affect SCP, the next section will explore literature to trace the development of SCP metrics in an attempt to explore whether these metrics are capable of assessing the impact of these capabilities on SCP.

3.3.1 Supply chain performance measurement

The significance of performance measurement has been notably recognised during the past two decades. Businesses have come to understand that observing and comprehending an organisations' performance is essential to survive in competitive dynamic environments (Taticchi *et al*., 2010). Moreover, an organisation has to measure its performance to evaluate the level of its operations in order to highlight problems and bottlenecks, decide on essential improvements and ensure the execution of these improvement plans (Parker, 2000).

At the beginning of the 19th century it was realised that profit was not only an outcome of accounting practices but rather the efficient handling of the cost stream throughout the supply chain (Drucker, 1995). Scholars and practitioners have recognized a number of benefits associated with SCM, such as, lower costs, improved sales and profit, increased market share through gaining a loyal customer base (Ferguson, 2000). In order to provide evidence to the previous statement, SCP has to be measured. As stated by Kaplan (1990), 'No measures, no improvement', it is very important to measure certain attributes relating to performance to justify the benefit of accommodating SCM.

Consequently, huge interest has been created in the subject area by researchers, nevertheless, significant gaps remain in the literature and further investigation is still needed regarding SCP measures framework development (Shepherd and Gunter, 2006; Gunasekaran and Kobu, 2007; Akyuz and Erkan, 2010). Chen and Paulraj (2004) supposed that better understanding of the supply chain, its benefits and the enhancement of the overall SCP can be realised if supply chain processes are accurately measured.

In order to achieve efficient implementation of SCM practices, it is crucial to develop SCP measurement systems (Cagnazzo *et al*., 2010). These measurement systems must be able to reflect actual SCP (Azevedo *et al*., 2011). Although, a number of researches have been conducted on design and implementation of SCP measurements, it is a complicated task to develop an appropriate SCP matrix (Beamon, 1999; Gunasekaran *et al*., 2001). The

generalisation of a single optimal measurement matrix or tool is not possible as different sets of measures can be chosen for different reasons and different situations (Tangen, 2005).

The SCP measurement systems have multiple benefits such as acting as the means of monitoring supply chain operations' performance in order to evaluate the corporate strategies' effectiveness. Furthermore, through SCP measurements systems practitioners are provided with a tool to analyse bottlenecks and problems and to identify successful practices (Ramaa *et al*., 2009).

3.3.2 Development of process-oriented supply chain performance measurement frameworks

One of the first SCP measurement systems was developed by Christopher (1992). It was function oriented rather than process oriented. This function-based measurement system (FBMS) included various sets of performance measures appropriate for assessing different functions and process in the supply chain. Elgazzar (2013) claimed that despite being convenient to implement by functional departments, the FBMS does not cover strategic integrative measures that are capable of reflecting the whole supply chain.

The absence of strategic integrative measures does not allow top level management to realise the link between SCM and the corporate strategy. Thus, the focus started to shift towards process-oriented measurement systems and many studies suggested considering SCM from a business process perspective rather than a function based perspective (Cooper *et al*., 1997; Srivastava *et al*., 1999; Bowersox *et al*., 1999; Mentzer, 2001; Morgan, 2007; Agami *et al*., 2012).

Five SCM frameworks were highlighted by Lambert *et al*. (2005) covering the supply chain business process aspect on an intra-organisational cross-functional level and inter-organisational level. Different process-oriented SCP measurement systems are incorporated in these five frameworks. The first framework was developed in 1996 by the Global Supply Chain Forum (GSCF) and named after it (Lambert and Cooper, 2000). The second framework

is the Supply Chain Operations Reference (SCOR) model which was developed by the Supply Chain Council in 1996. Later on, Srivastava *et al*. (1999) developed the third framework which consists of three main processes, namely, CRM, product development management and SCM.

Meanwhile Bowersox *et al*. (1999) developed the fourth framework. This SCM concentrated on the operational context, the planning and control context and the behavioural context. The fifth is a comprehensive SCM framework incorporating a cross-functional intra-organisation perspective and an inter-organisational perspective (Mentzer *et al*., 2001). The frameworks that are described thoroughly in literature are only the GSCF and SCOR frameworks (Lambert *et al*., 2005).

The GSCF framework comprises three main elements, namely, the supply chain business processes, the supply chain network structure, and the management components (Cooper *et al*., 1997). The first element, which covers the supply chain business processes, is comprised of eight processes that are sought to create customer value. The processes are customer relationship management, customer service management, demand management, order fulfilment, manufacturing flow management, supplier relationship management, product development and commercialisation and returns channel.

The second element is represented by the supply chain network structure that encompasses all supply chain members and activities from point of origin to point of consumption. Furthermore, the third element consists of the management components. The management and structure of the business processes are determined through the management components. In order to support the business process Lambert *et al*. (1998) highlighted ten management components of the GSCF framework. These processes are planning and control, work structure, management methods, organisation structure, information flow, power and leadership structure, risk and reward structure, product flow facility structure and culture and attitude.

On the other hand, The SCOR model comprises five core processes, namely, plan, source, make, deliver and return. Moreover, this measurement framework identifies measures for mainly three process levels which are top level, configuration level and process element level (Supply-Chain Council, 2008). As the SCOR model integrates major concepts like benchmarking, business process reengineering, best practice analysis and process measurement. Huang *et al*. (2005) argued that it allows managers to focus on main processes and measures with major influence on SCP. They claimed that the comprehensive approach of the SCOR model enables top level managers to connect strategy to measurements.

Table 3.1 demonstrates the main difference between the SCOR model and the GSCF model. It highlights that the SCOR model has a more practical orientation than the GSCP model where the GSCP is wider in scope incorporating elements such as supply chain network structure and management components. Meanwhile, the SCOR model is considered the only SCP framework with standardised SCP metrics assessing specific performance attributes for different supply chain processes.

Table 3.1: The main differences between the SCOR model and the GSCF model

	SCOR model	**GSCF model**
Orientation	SCM oriented processes	Alignment of supply chain business processes, supply chain network structure and management components
Processes driver	Practical SCM processes derived from business operations strategy	Conceptual supply chain business processes aligned with organisational strategy focusing on supplier and customer relationships
Scope	Limited SCM scope with specific standardised processes and measurements	Wide scope covering all aspects of the business. No measurement identified to specific processes
Aim	Evaluate SCM processes based on practical process matching measurement incorporating best practices and benchmarking techniques	Conceptualise the SCM spectrum comprising three main elements, the supply chain business processes, the supply chain network structure, and the management components

Source: adapted from Lambert et al. (2005)

The Supply Chain Council (2008) introduced a standardised set of performance attributes in the SCOR model which act as performance evaluation tools of a supply chain against other competing supply chains. These standardised attributes are reliability, agility, responsiveness, cost and asset management as described in Table 3.2. In order to describe SCP, standard characteristics are needed, as comparing the competency of individual organisations with different performance focus (e.g. cost versus reliability) is extremely difficult without the standard attributes.

Table 3.2: Performance attributes

Performance attribute	Performance attribute definition
Supply Chain Reliability (RL)	The performance of the supply chain in delivering: the correct product, to the correct place, at the correct time, in the correct condition and packaging, in the correct quantity, with the correct documentation, to the correct customer.
Supply Chain Responsiveness (RS)	The speed at which a supply chain provides products to the customer.
Supply Chain Agility (Flexibility) (AG)	The agility of a supply chain in responding to marketplace changes to gain or maintain competitive advantage.
Supply Chain Costs (CO)	The costs associated with operating the supply chain.
Supply Chain Asset Management (AM)	The effectiveness of an organisation in managing assets to support demand satisfaction. This includes the management of all assets: fixed and working capital.

Source: adapted from SCOR Model - Version 9, Supply Chain Council (2008)

3.3.3 Discussion on supply chain performance measurements

In order to further investigate the current status of SCP frameworks and metrics it was beneficial to use the major critical reviews conducted on SCP measurement. A main criterion for selecting these reviews was to contain specific SCP measures or metrics that were covered in literature excluding papers with general methodologies of SCP design and strategies etc. Moreover, the search also aimed at reviewing papers that cover SCP measures and frameworks from a process-oriented perspective as the impact of integrating marketing and SCM would be assessed by process-based measurements rather than functional measurements.

While the first search attempt was directed at journals in the field of SCM and logistics, an important observation was made. The majority of the pioneering research work and pragmatic papers on SCP measures are not published in SCM and logistics related journals. On the contrary, a number of substantive papers on SCP measures were published in other fields' journals such as the International Journal of Productivity and Performance Management (e.g. Sheppard and Guenter, 2006), Business Process Management Journal (e.g. Morgen, 2004), Computers & Industrial Engineering (e.g. Bahgawat and Sharma, 2007) and International Journal of Operations & Production Management (e.g. Gunasekaran *et al.*, 2001 and Gunasekaran and Kobu, 2007).

These papers resulting from the search (Table 3.2) contain different SCP measurement metrics and followed a variety of classifications for SCP measures. The majority of these publications divided measures into strategic, operational and tactical categories (e.g. Gunasekaran *et al*., 2001, Bahgwat and Sharma, 2007). Others used the SCOR model to measure SCP at different stages (plan, source, make, deliver and return) (e.g. Huang *et al*., 2004; Lockamy and McCormack, 2004; Li *et al*., 2006).

Beamon (1999) and Chan (2003) classified measures into qualitative and quantitative, while Gunasekaran (2001) categorized SCP measures into financial and non-financial measures. SCP measures were further classified according to competitive performance attributes such as quality, cost, delivery, flexibility, resource utilization, trust, innovativeness and so on (Beamon, 1999). Furthermore, special attention was given to Chan and Qi (2003) and Morgan (2004) in this study as the former presented metrics for measuring supply chain processes including marketing and the latter focuses on performance measures assessing collaboration and coordination efficiency within the supply chain.

Three papers were paradigmatic to this research in terms of analysing publications on SCP over a long spectrum of time and/or summarising and identifying specific SCP measures. These papers are namely, Shepard and Guenter (2006), Gunasekaran and Kobu (2007) and Akyuz and Erkan (2010).

Shepherd and Guenter (2006) conducted a thorough review on papers published between 1990 and 2005 on SCP metrics and systems. The critical literature review paper of Shepherd and Guenter (2006) presented taxonomy of measures compiling SCP measures on three different classifications, namely, processes of the SCOR model, the five competitive SCP attributes that the proposed measures can assess**,** and whether they are considered quantitative or qualitative performance measures.

The SCP measurement systems designed during the review spectrum were also critically evaluated. The studies were classified into three categories: operational, design or strategy focused. The first categories of operational studies are mainly concerned with developing mathematical models for enhancing SCP. Furthermore, design studies aim at optimizing performance through redesigning the supply chain. The third category of strategy studies focus on the alignment of the supply chain strategy to the corporate strategy and objectives.

Gunasekaran and Kobu (2007) critically reviewed articles published on SCP measures and metrics between 1995 and 2004. After analysing these papers, Gunasekaran and Kobu (2007) discovered over 80 performance measures. These measures were ordered alphabetically and major overlaps of measures were found. They compiled a list of 27 SCM KPIs after taking out the repeated and overlapped measures. These measures were categorised under eight aspects as they were presented in literature by several mentioned authors. The balanced score card was considered as the first category with its four perspectives (financial, internal process, innovation and improvement, customer). Then, the authors covered performance components or attributes (time, resource utilization, output and flexibility measures) as the second measures' category.

The third category focused on the location of the measures in the supply chain links such as Planning and Product Design, Supplier, Production, Delivery and Customer. Moreover, the fourth level was mainly concerned with Decision-making levels, thus, categorised performance measures as Strategic, Tactical and Operational. Financial and non-financial measures were the core of the fifth category as measures were categorised according to their nature while at the next level the performance measures were classified as quantitative and

non-quantitative. Finally the eighth category categorised the measures as traditional (function-based measure) versus modern measures (value-based). This paper revealed that the majority of reviewed performance measurements are traditional function-based (61% of the KPIs). Moreover, only 27% of the key performance measures are related to customer satisfaction in measuring SCP.

Akyuz and Erkan (2010) critically reviewed and analysed SCP measurements in literature. Still in 2010 their review revealed similar results to comparable previous studies, that is, the research area of SCP measurement needs further investigation and research in terms of systems and frameworks developments. They claimed that SCP measurement frameworks developed in previous studies were constantly lacking the full integration aspect. Furthermore, the usefulness of the SCOR model and the balanced scorecard to further research is the area of SCP measurement, was emphasised and stressed.

This critical literature review study revealed the importance of developing SCP measurement frameworks that reflect all the criteria mentioned in previous literature but in one integrated framework. In other words, this framework has to reflect corporate strategy and objectives, comply with overall targets and reproduce a balance of financial and non-financial measures.

It also has to be related to decision making and control levels, be decided on by all involved stakeholders and enable quick feedback for immediate proactive actions and improvements. In addition, its reliability, validity and ease to use are a must. It also has to be compared to current and alike used measures in order to enable smooth integration and to avoid overlaps. Finally, it has to enable aggregation and prioritisation and to reflect ratio not with fixed numbers.

Table 3.3 summarises the main research studies on process-oriented SCP measurement and lists critical SCP reviews with respect to their contributions.

Table 3.3: Research studies on process-oriented SCP measurement and critical SCP reviews

No.	Author	Year	Contribution/Approach
1	Christopher	1992	Constructed an FBMS compiled of a number of performance measurements related to the various supply chain processes and functions.
2	Supply-Chain Council (SCC)	1996	Developed the SCOR which comprises five core processes, namely, plan, source, make, deliver and return. It integrates major concepts like benchmarking, business process re-engineering, best practice analysis and process measurement. The SCOR model presents an SCP framework with standardised performance measurement metrics.
3	The Global Supply Chain Forum (GSCF)	1996	Presented the GSCF framework which comprises three main elements: the supply chain business processes, the supply chain network structure, and the management components.
4	Beamon	1999	Developed an integrated framework to evaluate SCP. The framework classifies performance measures in three categories: resource, flexibility and output.
5	Srivastava *et al*.	1999	Introduced a process-oriented SCP measurement framework that comprises three business processes, namely, CRM, product development management and SCM.
6	Bowersox *et al*.	1999	Presented a process-oriented SCP measurement framework that assembles three perspectives: operational, planning and control and behavioural.
7	Gunasekaran *et al*.	2001	Developed a framework presenting a list of performance measurements classified into strategic, tactical, and operational measure. The measurements are also divided into financial and non-financial.
8	Mentzer *et al*.	2001	Established a process-oriented SCP measurement framework that focuses on cross-functional and inter-organisational cooperation and integration.
10	Chan and Qi	2003	Introduced a process-oriented model compiled of six core business processes that were designed for analysing and managing the supply chain. The model indicates a way to measure the SCP.
11	Morgan	2004	Discussed performance measures assessing collaboration and coordination efficiency within an organisation leading to some preconditions for effective SCP measurement development.
12	Lambert *et al*.	2005	Conducted a critical literature review on SCP measurements and indentified five SCM frameworks covering the supply chain business processes aspect on an intra-organisational cross-functional level and inter-organisational level.
13	Shepherd and Guenter	2006	Conducted a thorough review on papers published between 1990 and 2005 on SCP metrics and systems. The critical literature review presented taxonomy of measures

			compiling SCP measures on three different classifications, namely, processes of the SCOR model, the five SCP attributes and quantitative versus qualitative performance measures.
14	Bhagwat and Sharma	2007	Developed an SCP framework based on a balanced scorecard for measuring and evaluating daily business operations based on the balanced scorecard four perspectives, namely, finance, customer, internal business process, and learning and growth.
15	Gunasekaran and Kobu	2007	Critically reviewed articles published on SCP measures and metrics between 1995 and 2004. The paper classified measurements introduced in reviewed articles in seven categories. This review also introduced a list compiled of 27 SCM KPIs after taking out the repeated and overlapped measures.
16	Akyuz and Erkan	2010	Carried out a critical review and analysis of SCP measurements in literature revealing that the research area of SCP measurement still needs further investigation and research concerning systems and frameworks' developments. Furthermore, the study stressed on the usefulness of the SCOR model and the balanced scorecard to further research is the area of SCP measurement.
17	Gopal and Thakkar	2012	Conducted a comprehensive review of articles published between 2000 and 2011 on supply chain performance measures and metrics. The review studied 28 key articles reported in the domain of supply chain performance measurement through classifying them on the basis of three phases of the performance measurement system process: designing of measures, implementing of measures and monitoring of measures.
18	Hassini *et al*.	2012	Reviewed literature published during last decade (2000-2010) on sustainable supply chains and analysed it from different perspectives. The review proposed frameworks for sustainable supply chain management and performance measures, then provided a case study of sustainable supply chain performance indicators in the energy sector.

3.4 Selection of the appropriate supply chain performance framework

In order to develop an appropriate and effective SCP measurement framework, the main priority is to ensure reliability, provision of measurement scope and reveal feasibility of strategies (Gunasekaran *et al*., 2001). Different supply chain systems need different measurements' characteristics. Throughout literature and practice a number of SCP measurement frameworks have be developed for different performance systems in attempts to ease the process of analysing and evaluating SCP (Beamon, 1999).

The most widely applied frameworks are GSCF and the SCOR model (Johnson and Mena, 2008). Both frameworks reflect the integrated business processes aspect of SCM. These two frameworks represent two different approaches of implementing standard cross-functional integrated business processes in the context of SCM. Unfortunately, the GSCF framework offers mainly a conceptual illustration of the cross-functional and inter-organisational SCM perspective without identifying specific SCP attributes and measures to be used.

On the other hand, the SCOR model is the first and only SCP framework that represents both intra and inter-organisational aspects with a standardised detailed description of the five major supply chain processes (plan, source, make, deliver and return) and the relationship among them which provides the supply chain members with a unified tool of communication, understanding and measurement of their processes (Elgazzar, 2013). Moreover, it identifies five major performance attributes with a standardised performance metrics related to each attributes which can be transformed into KPIs to evaluate different individual companies' practices and the performance of their subset partners or whole supply chain performance.

Figure 3.6 demonstrates a supply chain which is evolved around a focal company, two tiers of suppliers and two tiers of customers. It also illustrates the five core standardised supply chain processes (plan, source, make, deliver and return) presented by the SCOR model and their workflows within the individual supply chain members and throughout the entire supply chain.

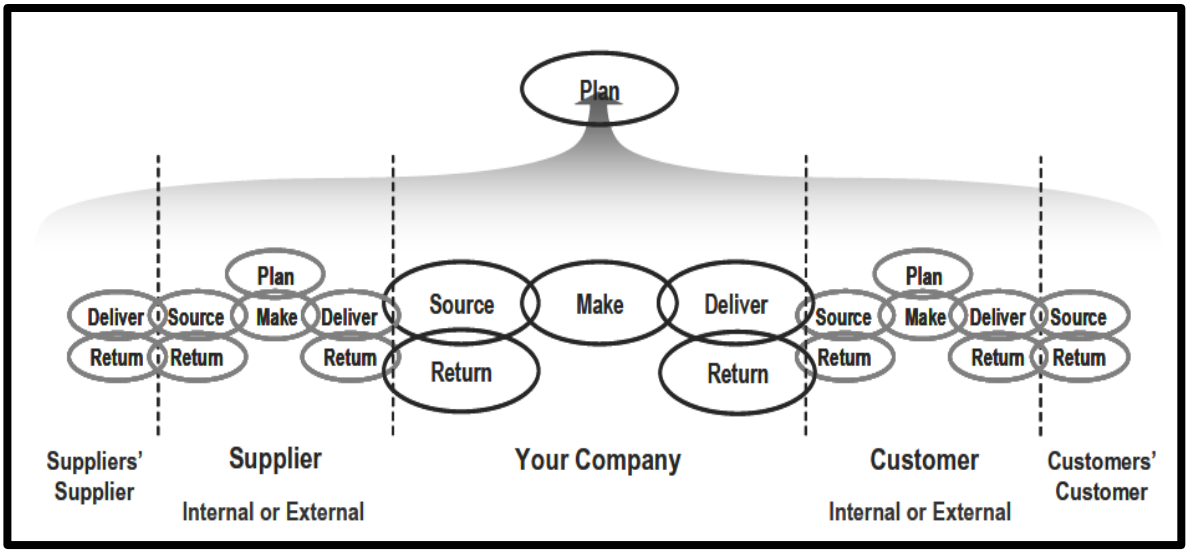


Figure 3.6: SCOR is organised around five major management processes
Source: SCOR Model - Version 9, Supply Chain Council (2008)

The SCOR model metrics already engage and reflect the performance of SCM functional areas i.e. logistics, production and purchasing functions which makes the framework an enabler of transactional efficiency and suitable for achieving the required state of cross-functional business processes integration within the company and across the supply chain.

The Supply Chain Council (2008) indicated that despite the council members' recognition of the importance for marketing and sales functions and activities, they are not reflected in the SCOR model metrics and are out of its scope. Nevertheless, mapping the five major supply chain processes facilitates intra-organisational cross-functional integration through which integration of business functions such as marketing, sales, finance and Research and Development (R&D) can be achieved.

Mapping the whole supply chain processes according to the SCOR model's standard processes and their descriptions provides a unified standard measurement system for individual organisations and acts as a tool of SCM integration throughout the entire supply chain. Thus, the SCOR model can be considered a solution to the main challenge, faced by supply chain partners, which is miscommunication and misunderstanding due to the presence

of different terminologies and descriptions for supply chain processes, numbers, levels etc. This might impact the efficiency of inter-organisational integration. Therefore, by providing a standardised description of integrated business processes, the SCOR model attempts to overcome this barrier facing SCM integration across the supply chain (Elgazzar, 2013).

Another challenge presented by Lambert and Cooper (2000), which the SCOR model framework can be of help to overcome, is the formulation of different strategic objectives and performance priorities by different members of the same supply chain, thus, different business processes to integration intra-organisational and throughout the supply chain. In order to develop effective integration of supply chain business processes across the whole chain, a precondition is to reach intra-organisational cross-functional business processes integration (Lambert and Cooper, 2000; Kocaoˇglu *et al*., 2013) which can be accomplished through applying the SCOR model.

This research focuses on cross-functional integration between marketing and SCM and this integration's impact on SCP. Thus, the SCOR framework can be employed to measure this intra-organisational cross-functional marketing/SCM integration, which might lead to improvement in inter-organisational customer-facing measures as well. As stated in chapter two the main reason for the integration of these disciples is to create value and according to the marketing/SCM integration perspectives presented by Juettner *et al*. (2010) this integration has to reflect a market and customer oriented system.

A main point to be taken into consideration is the formulation of corporate and supply chain strategies while focusing on customer satisfaction and market place understanding (Christopher and Towill, 2001). Again as previously stated the core values of the marketing concept evolve around creating customer value and satisfaction. Unfortunately, the SCOR framework integrates supply chain functions i.e. logistics, purchasing and operations into its core five SCM processes but does not integrate other organisational functions, such as sales and marketing which reflect the customer aspect, and are the main focus of this research. This might facilitate the implementation but presents a limitation to the framework as the

SCOR model is concerned with transactional efficiency more than relationships with customers (Lambert, 2005).

The review revealed that the marketing/SCM integration is argued to improve SCP (Lambert and Cooper, 2000; Alvarado and Kotzab, 2001; Flint, 2004; Juettner *et al*., 2007; Juettner *et al*., 2010; Mentzer and Gundlach, 2010; Knoppen *et al*., 2010) but in order to develop an effective and efficient supply chain, the performance of SCM should be assessed (Gunasekaran *et al*., 2001). There is no trace in literature of the development of measurement metrics to assess marketing/SCM relationship's impact on SCP and as this integration is process-based, on both intra and inter-organisational levels, the SCOR model provides an appropriate tool to encourage and assess the impact of this integration.

The nature of this integration, however, is not only aiming at improving quantitative KPIs but more importantly customer-oriented and qualitative measurements which are out of the SCOR model's scope. Therefore, the next section will address the issue of adding marketing customer-focused and qualitative performance measurement to the SCOR model to enable the development of an integrative comprehensive marketing/SCM performance measurement framework. The higher the level of marketing/SCM integration reflected by the framework, the better evaluation of successful SCM the system can provide.

- **Adding customer-focused and qualitative performance measurements**

If a link is created between certain marketing capabilities and SCP, this will present an opportunity for organisations to develop integrative performance metrics combining quantitative and qualitative measurements to evaluate the impact of the integration on performance.

The SCOR model has been initially chosen from literature to measure the impact of marketing/SCM quantitatively as it mainly focuses on improving efficiency through cost reductions and enhanced efficiency which makes the framework efficiency-focused rather than relationship-focused (Lambert, 2005; Elgazzar, 2013). It also does not directly engage

marketing, into its metrics, which is the main interest of this research and that is basically concerned with customer-focused relational measures such as customer satisfaction, customer service, relationships, customer value creation, customer life time value etc. (Woodburn, 2004; Juettner *et al*., 2007; Lamberti and Noci, 2010; Haddad *et al*., 2012).

As the SCM concept is multidisciplinary by nature, some typical marketing measures fall under its scope, either quantitative or qualitative, thus, the SCP papers listed in Table 3.2 and other marketing performance measurement papers (e.g. Morgan *et al*., 2003; Vorhies and Morgan, 2003; Woodburn, 2004; Vorhies and Morgan, 2005; Ryals, 2008; Morgan *et al*., 2009; Lamberti and Noci, 2010; Haddad *et al*., 2012) were reviewed to include customer-focused marketing/SCM performance measurement. At this stage the search targeted qualitative and customer-oriented measures.

In the domain of SCM again the focus was given to papers identifying specific SCP measurements rather than articles addressing different research approaches or analysing methodologies of developing performance measurements. Thus, as previously stated in section 3.3.2 Gunasekaran *et al*. (2001), Sephard and Guenter (2006) and Gunasekaran and Kobu (2007) were mainly referred to.

The work produced by Gunasekaran *et al*. (2001) has been mainly chosen as it identifies specific SCP measurement and puts emphasis on SCP related to delivery performance, inventory and logistics costs and customer-service in a SCM which attempted to be aligned to customer satisfaction in the developed performance metrics. Moreover, Shepherd and Guenter (2006) also developed a precise measurement taxonomy based on a thorough review of papers published between 1990 and 2005 on SCP metrics and systems and divided them into three categories: processes of the SCOR model, the five Standardised SCOR performance attributes and qualitative versus quantitative nature. It includes a set of quantitative and qualitative measures related to customer satisfaction.

In addition, the search included the critical literature review paper by Gunasekaran and Kobu (2007) who reviewed articles published on SCP measures and metrics between 1995 and

2004 and identified 27 KPIs after phasing out obsolete and redundant measurements. They also gave special attention to qualitative and customer satisfaction measures reporting that quantitative measures outnumber qualitative ones and measures reflecting customer satisfaction are relatively few.

The marketing paradigms and the new views of marketing are all about creating value for customers and building strong customer relationships in order to acquire and retain profitable customers (Lamberti and Noci, 2010; Kotler and Armstrong, 2014). As a number of papers on marketing performance measurements were reviewed as well, an important observation was made regarding customer-oriented measures in both disciplines. Since the new views on both disciplines aim at creating value and as SCM is of a multidisciplinary nature (explained in chapter two), a major overlap exists between marketing and SCM customer-oriented performance measurements such as customer satisfaction, customer lifetime value, level of customer perceived value, order lead time, rate of customer complaints etc.

A significant number of marketing authors acknowledge the importance of the relationship between marketing and SCM confirming that marketing can lead to improved SCP through the capability of managing supplier and customer relationships throughout the marketing channel and the supply chain (Webster, 1992; Lambert and Cooper, 2000; Gentile *et al*., 2006; Lamberti and Noci, 2010). Furthermore, Lamberti and Noci (2010) highlight the overlap between marketing and SCM performance metrics as they state that measures such as lead time, service level, percentage of turnover generated by products co-created with supply chain partners etc. have been analysed in the literature of both domains.

These overlapping measurements, resulting from the customer-oriented business perspective, are rather advantageous for the integration between marketing and supply chain as the major barriers to this integration are conflicting KPIs as shown by the empirical study done by Juettner *et al*. (2007). They held a workshop involving representatives from eight large organisations who work in supply and demand functional areas, namely, sales, marketing and SCM.

The delegates indicated that functional KPIs have been increasing in numbers due to the encouraging of the organisation's policies towards functional excellence. They added that the integration and coordination between demand side (marketing) and supply side (SCM) would always be at risk particularly if the reward system continues to be strongly linked to the conflicting KPIs. Consequently, major solutions, to achieve cross-functional integration, were suggested in this workshop such as reducing the number of KPIs, developing KPIs that reflect the overall business performance and also constructing adaptive responsive KPIs that react to the changing market environment.

3.5 Developing the appropriate marketing/SCM framework

Developing on the current body of knowledge**,** it is logical to summarise that the interface between marketing and SCM, on an inter-functional level or cross-organisational level is mainly concerned with value creation. While this concept is clearly sound on the theoretical level the actual implementation is inherently very difficult and hardly realised in practice (Mentzer and Gundluch, 2010)

In order to conceptualise the impact of this integration on SCP, specific marketing capabilities/activities had to be identified to better understand how they can influence SCP. Unfortunately, literature does not highlight concrete marketing capabilities/activities that have been verified to influence SCP. Moreover, there are no specific measures assigned in the literature to assess the impact of the marketing/SCM integration on performance.

3.5.1 Marketing capabilities/activities impact supply chain performance

The part that also remains under-researched in the literature is the impact of the marketing capabilities/activities on the five major SCP attributes RL, FL, RS, CO and AM (Supply-Chain Council, 2008). Moreover, scant attention has been given to the dilemma on decision making methods in relation to which performance measures are to be adopted (Neely, 2005) specifically to reflect marketing/SCM integration on performance. Thus, literature in both disciplines was analysed and a preliminary list of marketing capabilities, that might create

impact on SCP attributes, was compiled (see section 3.2). Moreover, an initial SCP matrix was suggested which is argued to have to potential to evaluate the marketing/SCM integration impact on SCP. The matrix is compiled of SCOR model measures and other customer-oriented and qualitative measurements from major literature analytical reviews on the topic of performance measurements.

In order to conceptualise the relationship between the marketing capabilities/activities and SCP the conceptual framework in Figure 3.7 was developed.

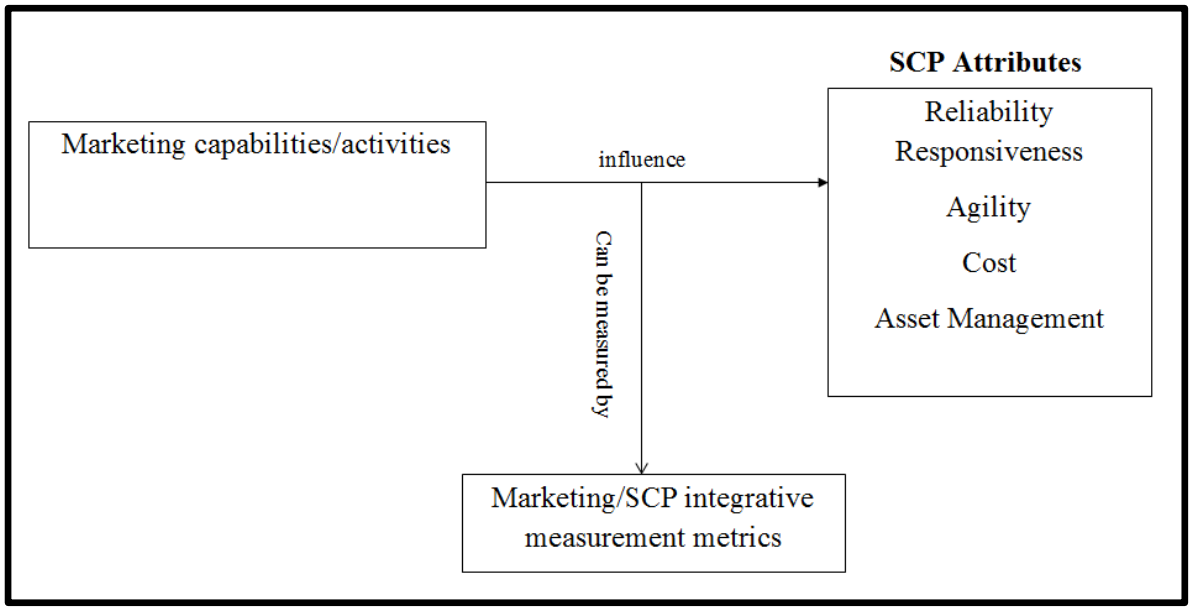


Figure 3.7: Conceptual framework of a measured marketing/SCM relationship

The conceptual model illustrates that marketing capabilities can influence the SCP attributes, namely, RL, RS, AG, CO and AM and that this impact can be evaluated and measured by marketing/SCP integrative measurement metrics. The preliminary capabilities, explored in literature, that are claimed to impact SCP and the suggested matrix that can assess this relationship, are not specifically included in Figure 3.7 as they are not yet validated by an exploratory empirical study. As mentioned before, this detailed aspect of marketing and SCM relationship and the impact on SCP is not covered in literature in such depth. This Figure needs further investigation and validation based on a field study to verify the variables that

will be included under the marketing capabilities and the final list of measures that will be included in the integrative matrix.

3.5.2 Marketing/SCM integration impacts business performance

SCM has become a key strategic aspect for enhancing corporate effectiveness through formulating market reflective organisational goals in terms of improved competitiveness, high standard customer service and maximised profitability (Gunasekaran *et al*., 2001). The existing research does not offer a clear methodology for evaluating and analysing supply chains.

Literature is still short on comprehensive methods for linking SCP measures to organisational performance especially related to the difficulties of unifying SCM performance measures and overall organisational performance measures into one context (Deshpande, 2012). Nevertheless, it was argued that strategic SCM enhances the design and execution of processes and therefore, enhances performance in the long-run (Harrison and Hoek, 2005). A number of researches have documented SCM with a positive association to improved competitiveness and business performance (e.g. Li *et al*., 2006; Ballou, 2007; Mentzer *et al*., 2008).

On the marketing side, the notion of identifying marketing capabilities with a distinct impact on SCP and generally business performance is relatively new. However, few radical studies on marketing capabilities provided evidence, through empirical study, linking these capabilities to enhanced value creation and improved business performance (Vorhies and Morgan, 2005). Consequently, the integration between both disciplines would yield even better performance outcomes. Scholars such as Juettner *et al*. (2007), Daugherty *et al*. (2009) and Oliva and Watson (2011) claimed that this integration positively impacts an organisation's performance and profitability.

The previous conceptual framework has been evolved into a more holistic aspect illustrating that integrated marketing capabilities/activities can impact the SCP attributes which can be

measured by a developed integrative measurement metrics and that this process will eventually improve business performance (Figure 3.8).

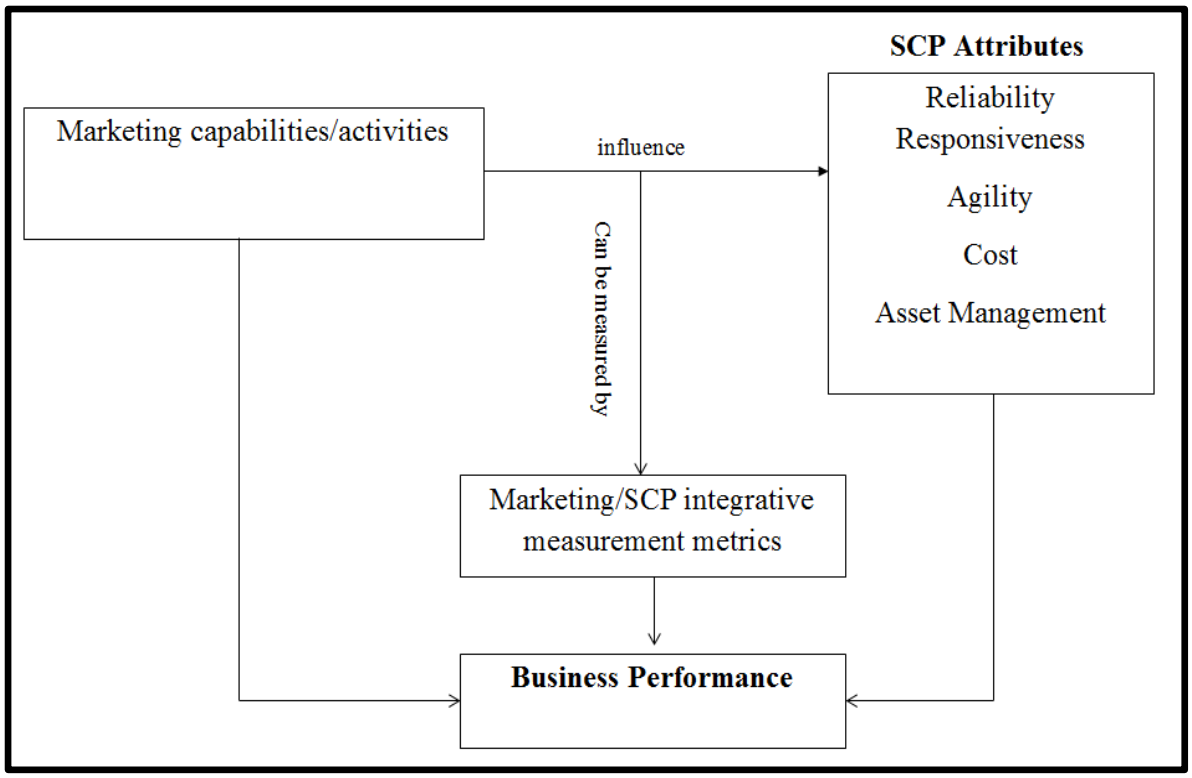


Figure 3.8: Conceptual framework for a measured marketing/SCM integration business model

Figure 3.8 demonstrates that if the marketing and SCM departments integrate their activities and coordinate their efforts when formulating marketing and SCM strategies, thus, agreeing on marketing capabilities/activities strategies and objectives, the SCP attributes can be positively influenced. Moreover, if the functional measures are transformed into integrative measures capable of evaluating the practices undertaken to reach this integration, business performance can be improved.

3.6 Conclusion

To summarise the literature analysis on marketing and SCM integration, it is resonable to conclude that the interface between both disciplines, on the intra- or inter-organisational level, is mainly concerned with value creation. In practice managers need to witness proof of this assumption but while this concept makes perfect sense on the conceptual level, the actual implementation is difficult and hardly realised in practice. The main reason is that managers need to follow performance metrics to evaluate actions and understand the impact caused by these actions on SCP and the firm's performance (Lambert and Pohlen, 2001); however, there are no unique performance measures in the literature assigned to assess the impact of the marketing/SCM integration on performance.

In order to trace the impact of this integration on SCP, specific marketing capabilities/activities had to be identified to generate a better understanding on how they influence SCP. Unfortunately, literature does not highlight concrete marketing capabilities/activities that have been linked to influence SCP. Thus, the marketing and SCM literature were explored to highlight marketing capabilities with a potential to impact SCP. While reviewing and analysing literature a major barrier to marketing/SCM cooperation was noted. The barrier is represented in conflicting functional measurements and KPIs. Juettner *et al*. (2007) explicitly stated that a positive impact of such a cross-functional integration will not be realised even if the functional departments attempt to integrate their efforts and activities unless integrative KPIs are identified.

This review disclosed that performance metrics should be used as a strategic tool allowing organisations to evaluate, assess and constantly control the entire SCM operations to reach their objectives and act in line with the corporate strategy. Various SCP measures and metrics have been proposed, however, a constant observation has and is being made by scholars for over a decade regarding the need to further developed SCP metrics and frameworks to become more comprehensive and integrated to fit different organisations' needs.

In order to practically justify the impact of the marketing capabilities on the SCP attributes after coordinating marketing and SCM processes, a reflective integrative

measurement matrix should be established. Traditional functional performance measurements cannot be used as they are not appropriate for the integration perspective. The new business environments with the current views, on cross-functional and inter-organisational integration perspectives, require performance measurements that incorporate process-oriented, integrative, quantitative and qualitative, and customer-oriented measures.

This research focuses on investigating the impact of a coordinated and integrated relationship between marketing and SCM on SCP. Thus, SCOR framework can be employed to evaluate and assess the impact of this integration. The SCOR model is the only current process-oriented SCP framework with standardised SCM processes and standardised SCP metrics assigned to five different SCP attributes. It is argued that the SCOR model is a tool to achieve cross-functional integration of functional areas such as R&D, purchasing, production, marketing & sales, logistics and finance.

This study, however, does not solely aim at examining quantitative measurements but also customer-oriented and qualitative measurements which are out of the SCOR model's scope. The nature of this integration, which has been repeatedly correlated with customer value creation, has to be evaluated with customer-focused and qualitative performance measurement in line with the SCOR model. This design methodology will enable the development of an integrative comprehensive marketing/SCM performance measurement framework. The higher the level of marketing/SCM integration reflected by the framework, the better evaluation of successful SCM the system can provide.

Business processes will be improved if performance measurement systems are well designed. This chapter concludes with a conceptual framework demonstrating that integrated marketing capabilities have the potential to impact SCP attributes (RL, RS, AG, CO and AM) and that this influence can be assessed by a marketing/SCP integrative matrix. Then, a further developed conceptual framework is illustrated. This framework assumes that the previously mentioned process of integration happens and the functional measures are transformed into integrative measures capable of evaluating the undertaken practices to reach this integration, thus, business performance can be improved.

A few studies highlighted the significant relationship between marketing, SCM and SCP; however, no studies have been conducted to investigate the links between marketing capabilities and SCP improvements after cross-functional integration. Although, various scholars debated the positive impact of marketing and SCM integration on an organisation's performance, empirical studies evidence needed for the development of a theoretical base is yet lacking.

Exploratory case-based studies, to evaluate and analyse the influence of the marketing/SCM integration on SCP and to validate the developed conceptual framework, are worth investigation.

4 RESEARCH METHODOLOGY

4.1 Introduction

The review and theoretical discussions, that were carried out in the previous chapter directed the selection of the appropriate methodology to validate and further develop the framework of this study. The purpose of this chapter is to present the research methods used to investigate the alleged marketing/SCM positive relationships on SCP and assign the appropriate measurements to assess these relationships. Given the novelty of the relationships in the proposed framework, the need to use the case study approach arose to understand this complex social phenomenon. The case study approach was chosen to help the researcher retain a holistic view of this real-life situation.

This chapter starts by presenting the scope of research that highlights the background, importance and aim of this study. Afterwards, the research philosophy, approach and strategies are discussed and selected. The research undertakes an inductive research approach both quantitative and qualitative research methodologies to achieve triangulation. The chapter, then, thoroughly examines the case study research stages namely, case design, data collection, data analysis and report writing. Meanwhile, the case study moves through an exploratory phase, an explanatory phase and a descriptive phase. Each stage is described in detail along with the methods of application in this study. Finally the methodological approach is summarised and conclusions are drawn. Figure 4.1 illustrates the structure of the research methodology.

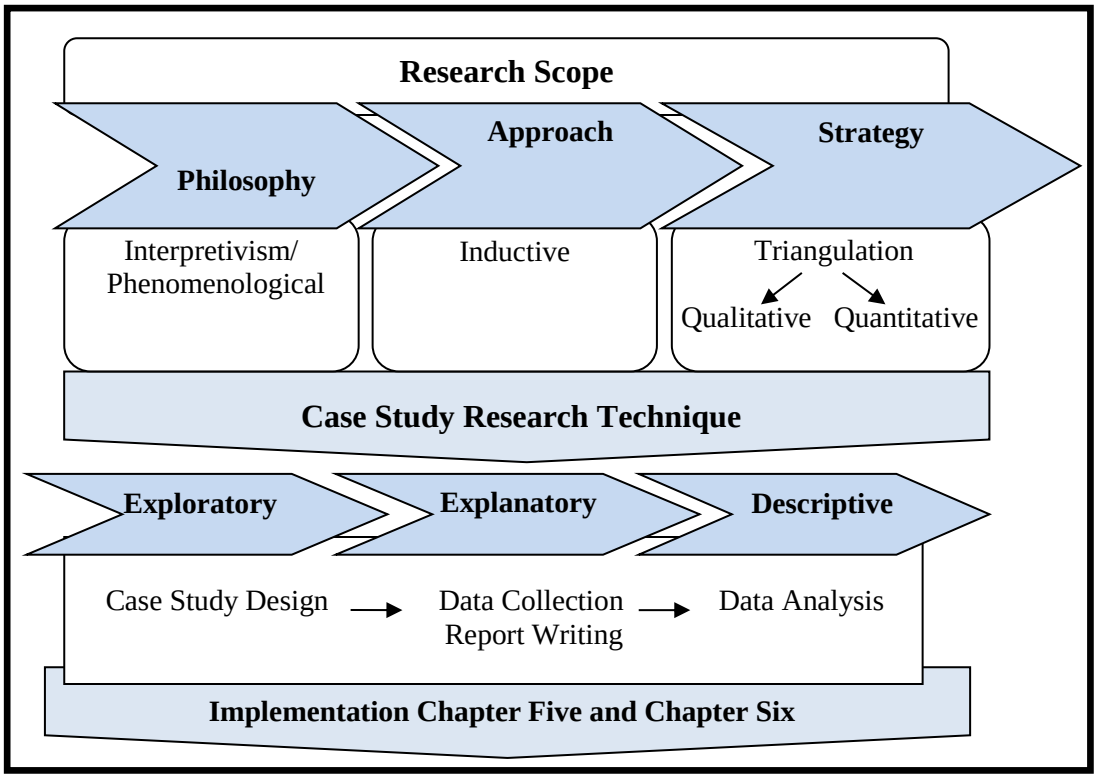


Figure 4.1: A roadmap to the research methodology

4.2 Scope of research

Organisations compete through the resilience, strength and flexibility of their integrated supply chains (Groznik and Maslaric, 2010). Although there has been a continuous development and maturation of the SCM discipline since its foundation in the beginning of the 1980s, some aspects of SCM remain under-researched.

Literature does not report any research that investigated specific marketing capabilities influencing SCP attributes, nevertheless, a considerable number of studies were found to investigate the marketing/SCM integration either on a cross-functional or an inter-organisational level. The studies conducted covered a wide range of industries. Moreover, these publications were vague on how to achieve the alleged positive impact through integrating marketing and SCM activities. This status of research on the integration between marketing and SCM consequently presents the need for an investigation to identify influential marketing capabilities on SCP, assess the level of this impact, explore

SCP measurement to measure this relationship, and highlight the cross-functional integration process leading to the claimed positive impact on performance.

SCM is mainly a concept that is implemented at the inter-organisational level; however, several authors stress the role and importance of intra-organisational implementation of SCM (Kotzab *et al*. 2011). They claim that SCM has to start within the firm's boundaries in order to collectively undertake the implementation of SCM in the supply chain (Mentzer *et al*. 2001). In other words, in order to manage a supply chain, individual organisations are required to implement and adopt the SCM philosophy internally first (Kotzab *et al*. 2011; Juettner and Christopher, 2013). The concept of implementing SCM as a philosophy inside individual partner organisations in the supply chain is referred to as supply chain orientation (SCO) (Min and Mentzer 2004; Juettner and Christopher, 2013). Juettner and Christopher (2013) provided evidence that marketing has an influential role in creating SCO inside individual firms.

According to Mentzer *et al*. (2001) SCM philosophy is comprised of three main characteristics. The first characteristic is a systems approach to look at the entire supply chain. The second characteristic is the cross-functional perspective which leads to an intra- and inter-organisational strategic coordination of business functions. The third characteristic is customer focus (Mentzer *et al*., 2001). These characteristics show the overlap of the SCO philosophy and the marketing concept or more specifically market orientation i.e. putting the marketing concept to practice (Min *et al*., 2007). Marketing and SCO share the same principles when it comes to cross-functional coordination and customer focus i.e. creating a value proposition to gain customers' satisfaction. Thus, generally the concept of SCO represents an internal alignment between the marketing and the SCM philosophies (Juettner and Christopher, 2013).

A body of literature, nevertheless, shows that a number of organisations were either unsuccessful in implementing the alignment (Deloitte Research 2002; Godsell *et al*. 2004) or they were unable to justify the impact as there were no appropriate measures assigned to assess the impact of such alignment (Juettner *et al*., 2007). Thus, it seems reasonable to analyse measurement that might be capable of assessing such alignment.

At the beginning of the 21st century researchers started paying attention to SCP. In order to improve performance, philosophies have to be translated into actions and operations. Therefore, evaluation of the SCP operations can help to assess current performance to identify competent operations from incompetent ones that need improvement (Chan and Qi, 2003; Charan *et al*., 2008). It has been evidenced in a number of studies that SCM efficient practices have a considerable impact on organisations' performance, thus, comprehending supply chain cross-functional relationships presents a major factor of organisations' performance (Kannan and Tan, 2005).

The challenge presented to many organisations is that the alignment of performance measurements between SCM and marketing functions and activities is still immature. Still when functional departments attempt to align their efforts and activities they will not recognise the impact on performance unless they specify integrative KPIs and agree on joint metrics. The majority of existing functional measures are conflicting in nature (Juettner *et al*., 2007). A means to overcome this paradox might be decreasing the number of the functional KPIs and considering the overall impact on performance rather than the functional areas (Juettner *et al*., 2007).

This thesis suggests a measured framework to operationalise the role of marketing/SCM integration in SCM oriented companies. It will also highlight an intra-organisational cross-functional integration process leading to the claimed positive impact on performance. A framework will be developed to:

- Propose influential marketing capabilities that can impact SCP attributes.
- Develop an SCP measurement matrix to assess the impact of integrating marketing and SCM strategies and operations.

The framework will propose marketing capabilities that can influence the SCP attributes, namely, RL, RS, AG, CO and AM. Moreover, a measurement matrix, which is comprised of marketing/SCP integrative measures, will be developed to evaluate and measure the impact of the integration on SCP and business performance. Through developing this framework, companies can evaluate the effectiveness of their marketing/SCM cross-functional integration in order to optimise SCP and overall business performance.

4.3 Research philosophy, approach and strategy

Philosophical issues and approaches are very important to understand as they enable researchers to comprehend research designs. Moreover, good knowledge of philosophy helps scholars identify the appropriate research designs in terms of data collection and interpretation. Furthermore, it helps researchers recognise and adapt research designs if there are constraints of diverse knowledge structures (Easterby-Smith *et al*., 2002). According to Pathirage *et al*. (2008) valuable insights on theory development can be provided through good knowledge of research philosophy and approaches which is often implied during the research design phase.

4.3.1 Research philosophy

The two known research philosophies in literature are positivism and interpretivism or phenomenology (Creswell, 2003; Saunders *et al*., 2007). The approach of developing knowledge through research differs with these two philosophies. Creswell (2003) explains that the positivist philosophy is mainly concerned with identifying hypotheses regarding variables' relationships. The identification of variables following the positivist philosophy is essential theories. These hypotheses are subsequently tested through gathering data on the studied variables whose relationships are then validated by using statistical tests. Moreover, the positivist philosophy regards the research phenomena to be objectively established and the researcher to have minimal contact with the research participants thus the researcher should be independent and detached. The analysis of observations and results are usually quantitative as it follows rigid guidelines when conducting empirical research (Creswell, 2003).

On the contrary, following the interpretivist philosophy (also known as phenomenological philosophy) the researcher is actively interacting and /or participating in the research as the main purpose is to investigate subjective and qualitative phenomena (Wilson, 2010). Phenomenology intends to understand human behaviour from the participants' perspective (Robson, 2002). Furthermore, researchers aim to understand context and meaning. Thus, ideas are developed based on inductive reasoning (Easterby-Smith *et al.*, 2002).

The two philosophies differ mainly regarding their aim. Positivism aims at generalising a sample of a population while interpretivism aims at generating theories and exploring new initiatives and ideas (Creswell, 2003). Indentifying the appropriate research philosophy to be used is generally related to the research question(s) that need to be answered throughout the research (Collins and Hussey, 2009). Table 4.1 illustrates the key aspects of the positivist versus the interpretivist/ phenomenological philosophies.

Table 4.1: Methodologies used in the positivist and phenomenological philosophies

Positivist	Phenomenological
• Cross-sectional studies • Experimental studies • Longitudinal studies • Surveys • Models and simulation	• Action research • Case studies • Ethnography • Construct elicitation • Grounded theory • Hermeneutics • Participative enquiry

Source: Collins and Hussey (2009)

4.3.2 Research approach

Positivist and interpretivist / phenomenological philosophies are distinguished through their implications on the adopted research approach i.e. deductive or inductive. According to Easterby-Smith *et al*. (2002) there are three reasons highlighting the importance of determining the research approach to be adopted. Firstly, specifying the research approach allows researchers to take a more knowledgeable decision about the research design in terms of data sources and types and methods of analysis. Secondly, adopting the appropriate research approach is strongly related to answering the research question(s). Thirdly, the familiarity of the research approaches helps researchers to cater for any constraints by altering the research design.

The positivist philosophy is typically built on a deductive approach. Meanwhile, the interpretivist philosophy is generally performed based on an inductive approach (Young, 2007). The inductive approach is followed in a situation where the theoretical base is absent, thus, this approach is applied as a theory building process relying on the collected empirical data. It usually begins by observing and investigating a real life phenomenon

based on which generalisations are established and theories are constructed. In addition, this approach is usually linked to qualitative research techniques.

In contrast, the deductive approach starts with developing hypotheses based on existing theories, thus, it is referred to as a theory testing process. The developed hypotheses are then checked against quantitative collected data to test whether the theory applies to particular situations. This approach is mainly related to quantitative research techniques (Hyde, 2000; Young, 2007; Pathirage *et al*., 2008).

Figure 4.2 demonstrates what role the theory plays in each approach. An inductive approach moves from observation, data collection and analysis to theory building. On the contrary, the deductive approach moves from developing theoretical hypotheses to designing research strategies to test them (Wilson, 2010).

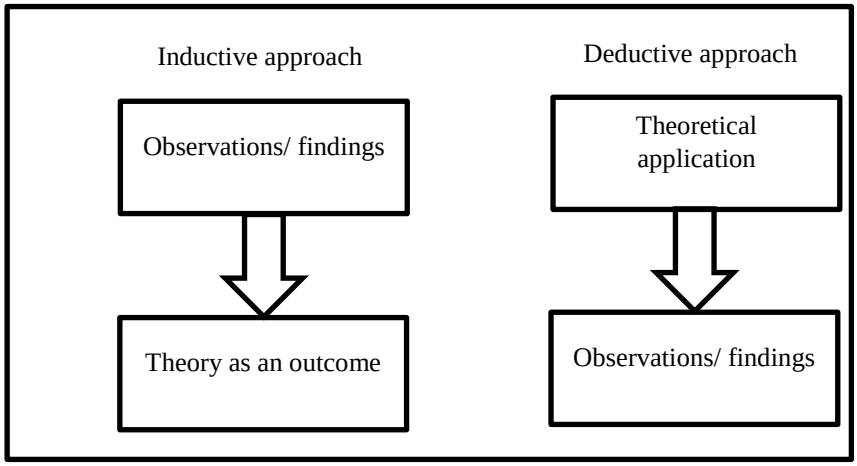


Figure 4.2: The role of theory in inductive and deductive research
Source: Wilson (2010)

Saunders *et al*. (2007) summarised the main differences between the two research approaches (Table 4.2).

Table 4.2: Major differences between deductive and inductive research approaches

Deduction emphasises	Induction emphasises
• Scientific principles • Moving from theory to data • The need to explain causal relationships between variables • The collection of quantitative data • The application of controls to ensure validity of data • The operationalisation of concepts to ensure clarity of definition • A highly structured approach • Researcher independence of what is being searched • The necessity to select samples of sufficient size in order to generalise conclusions	• Gaining an understanding of the meanings humans attach to events • A close understanding of the research context • The collection of qualitative data • A more flexible structure to permit changes of research emphasis as the research progresses • A realisation that the researcher is part of the research process • Less concern with the need to generalise

Source: Saunders *et al*. (2007)

4.3.3 Research strategy

Logistics and SCM research is interdisciplinary in nature, therefore, various quantitative and qualitative methods are used in these disciplines such as mathematical modelling, simulation, surveys, focus groups, interviews, case studies etc. (Kovács and Spens, 2005). The comparison between the inductive and deductive approaches in Table 4.3 raises the issue of suitability of qualitative versus quantitative research strategies as the qualitative strategy is often related to an inductive approach, whereas the quantitative strategy is mainly related to a deductive approach. The data collection methods following qualitative strategies are often generating non-numerical data. Therefore, interviews, focus groups, case studies etc. are usually referred to as qualitative data gathering techniques. On the other hand, the data collection methods referred to as quantitative strategies are for example questionnaires, surveys, mathematical modelling etc. as these techniques generate numerical data (Saunders *et al*., 2007).

The quantitative research is mainly concerned with specific facts or correlations between facts and that is why it examines numerical data. The goal of quantitative research is primarily to construct generalisation concerning the whole population and this is enabled as research is conducted on a broad scale where statistical analysis is basically used. Qualitative strategies are used for a different research goal which is to investigate an

extensive range of aspects associated with a certain topic in great depth and thus it studies narrative data. Qualitative research explores the research subject more intensively than quantitative research. Meanwhile, quantitative research enjoys more generalisation in comparison to qualitative research (Young, 2007; Wilson, 2010).

No research methodology is being considered universally superior to the other as each strategy has its advantages and disadvantages. Quantitative and qualitative strategies are used according to circumstances and the aim of the research, meanwhile combing the both research strategies is common and encouraged (Kiridena and Fitzgerald, 2006; Wilson, 2010). Liouka (2007) summarised the main differences between quantitative and qualitative research strategies as shown in Table 4.3.

Table 4.3: Qualitative versus quantitative research methods

	Qualitative Methods	**Quantitative Methods**
Basic beliefs about the nature of reality	• There are multiple realities; reality is not purely objective, and does not exist independent of the people who interpret it	• There is one objective reality that is not dependent on human interpretation
Main paradigms	• Interpretivism	• Positivism
Common research methods	• Grounded theory • Action research • Ethnography • Case study	• Experiment • Survey
Quality assurance	• Construct validity, confirmability, internal validity/credibility, external validity/transferability, reliability/dependability • Sampling: purposeful	• Reliability: internal and external • Validity: construct, context • Sampling: random and deliberate
Key differentiating characteristics	• Primarily inductive process used to formulate theory	• Primarily deductive process used to test pre-specified concepts, constructs, and hypotheses
	• More subjective: describes a problem or condition from the point of view of those experiencing it	• More objective: provides observed effects (interpreted by researchers) of a problem or condition
	• Text-based	• Number-based
	• In-depth information on a few cases	• Less in-depth but more breadth of information across a large number of cases
	• Unstructured or semi-structured response options	• Fixed response options
	• No statistical tests	• Statistical tests used for analysis

	• Can be valid and reliable: largely depends on skill and rigour of the researcher	• Can be valid and reliable: largely depends on the measurement device or instrument used
	• Less generalisable	• More generalisable

Source: (Liouka, 2007)

In the previous sections the relationship between research philosophy, approach and strategy was discussed. Theoretically a positivist philosophy is often based on a deductive research approach where the study is then conducted using quantitative methods. Meanwhile, interpretivist philosophy is typically based on an inductive research approach and conducted using qualitative research methods. This relationship is correctly described in theory and is meant to guide researchers to the appropriate research direction; nevertheless, in practice the distinction is not as clear as it is in theory. The research topic can lead to the use of a mixture of methods and approaches which is the case of this research. Thus, deductive approaches may engage qualitative methods and vice versa inductive approaches may engage quantitative methods (Hyde, 2000; Knox, 2004; Wilson, 2010).

As a matter of fact combining research methods and using triangulation techniques is encouraged. Amaratunga *et al*. (2002) explain that Triangulation is about combing several methods (e.g. qualitative and quantitative) in the study of a specific subject. Triangulation is mainly used to overcome the drawbacks of using only one method, thus, the usefulness of triangulation is that the deficiencies of one method are compensated by the strengths of another method (Jick, 1979; Patton, 2002).

4.4 Proposed research design

SCM research has often been criticized for following the positivist approaches, while qualitative and interpretative research is rather scarce. Researchers in the SCM and logistics field are encouraged to implement tools and methods that provide common ground between both philosophies (Kotzab, 2000; Naeslund, 2002; Mangan *et al*., 2004). SCM and logistics research is interdisciplinary in nature and thus, various quantitative and qualitative methods should be applied, nevertheless, many researchers argued that SCM researchers still mainly rely on quantitative methods when conducting their empirical study focusing heavily on methods such as statistical testing and simulation

models (Kovács and Spens, 2005). Therefore, Mangan *et al*. (2004) and Elzarka (2010) suggested the use of triangulation, in other words combining qualitative and quantitative methodologies in order to develop SCM and logistics research and to provide an in-depth view from different dimensions.

This study is implementing a hybrid of methods as described in the research design Figure 4.3. The research design is considered as the general and strategic plan that relates the conceptual research problem to the appropriate empirical research approach. This allows realising the objectives of the study within the existing constraints (Ghauri *et al*., 1995; Cooper and Schindler, 2014).

The nature of the research presented here entails the need for intensive literature investigations regarding concepts, theories, and possible practices involving cross-functional integration between SCM and marketing as an in-depth investigation is rather scarce in scholarly work. Furthermore, collecting appropriate data can support the developed framework. Consequently, the study will employ an inductive approach where observations and facts will be clustered together and analysed to formulate a theory.

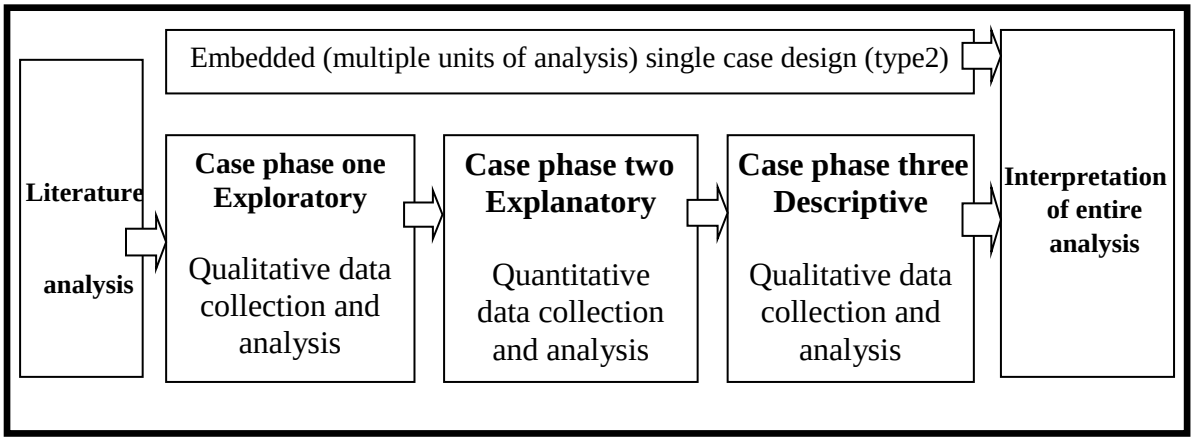


Figure 4.3: The research design of the study

Based on current literature in both disciplines and observations, the conceptual framework in Chapter three was developed to investigate and explore the truthfulness of the alleged impact of marketing/SCM integration on performance. In order to validate and further develop the conceptual framework, the study will follow an inductive research approach where qualitative and quantitative methodologies are employed.

The empirical validation of the proposition and the research framework is conducted based on multiple case studies. The case study technique was chosen as "*the case is an empirical enquiry that investigates a contemporary phenomenon within its real life context especially when the boundaries between phenomenon and context are not clearly evident*" (Yin, 2003). In other words, case studies are carried out when more in-depth investigation is required to enhance the understanding of the research phenomenon in real life situations. Based on these thorough investigations, theories can be further developed. In this study an in-depth investigation with practitioners and experts in the field is highly required as there is a big gap in practice between leaders of industry and the rest of small and medium companies on the level of implementing integrative cross-functional processes.

The case study research is a comprehensive research strategy as Yin (2009) called it an all-encompassing method because it covers every step starting from the logic of design to data analysis including different data collection techniques. Thus, as shown in Figure 4.3, after conducting a thorough literature analysis (based on which the conceptual framework was developed) the research continues based on three phases within multiple case studies using the same design for all.

The first phase will be exploratory and qualitative in nature using semi-structured interviews where the researcher explores the current status of cross-functional integration within the organisations chosen for the study and investigates the currently used performance measures. Furthermore, in order get an initial idea on the level of acceptance of the foundation of the conceptual framework the opinions, of relevant managing positions within multinational FMCG organisations (units of analysis), were acquired. They were asked to examine the preliminary framework; specifically to determine what marketing capabilities and SCP measures they consider as relevant to assess the impact of the marketing/SCM integration practices.

The second phase of the empirical case study will follow more structured tools and is divided into two parts. This phase is explanatory and quantitative. During this phase, part one, a structured interview will be constructed to illustrate the impact of the different proposed marketing capabilities to the five major SCP attributes (RL, FL, RS, CS and

AM) (Supply-Chain Council, 2008). Furthermore, part two will result in the construction of a marketing/SCM measurement taxonomy. During these structured interviews, phase one results will be presented to the managers and they are supposed to decide on a five to one scale whether they consider the proposed measurements relevant to assess the impact of each marketing capability on each of the five SCP attributes.

The analysis of these structured interviews aims at testing the significance of the impact of the marketing capabilities on the SCP attributes and then identifying and prioritising the major SCP measurements capable of assessing this impact. This ranking will help develop a measurement matrix to be used by organisations to assess the impact of integration on performance.

Phase three is a descriptive analysis depending on the qualitative data gathered throughout the research. Moreover, more in-depth unstructured interviews were conducted with the one core case study that agreed to disclose more information to the researcher. The aim of this phase is to describe how the integration process takes place in top multinational FMCGs and to link the process to the measurement taxonomy developed in phase two.

Throughout the entire study evidence was collected from multiple sources such as observations, companies' records, archives and the in-depth single and group interviews. At the end, the interpretation of the whole analysis is undertaken to validate and further develop the framework and the measurement taxonomy in addition to mapping the integration process that they can be used by other organisations to implement integration and improve performance.

The next section provides a more detailed insight on the design, data collection, analysis and report writing of the case study research method.

4.5 Case study research method

Many scholars defined case studies, nevertheless, all definitions share common factors. No matter whether the case study is applied to different units of analysis i.e. organisation, group, community or an individual, it provides an in-depth understanding of a real life dilemma in a real context where it occurs (Cooper and Morgan, 2008). According to Rowley (2002) the strength that distinguishes case studies from other research methods is that the researcher is able to examine the phenomenon in its real life context and does not need to replicate it on other simulated contexts such as experimental settings and laboratories. Thus, the researcher acquires a holistic view of the research phenomenon in real life situations which enables the researcher to develop relevant and practical grounded theories.

Three authors in particular have investigated case study research method in depth, Yin (1994), Stake (1995) and Merriam (1998) (Myers, 2007; Brown, 2008). Stake (1995) highlighted interpretation as the most distinguishing trait of qualitative investigation. He differentiated between three types of case studies base on research purposes: intrinsic, instrumental and collective case studies. Intrinsic case study research is referred to when the researcher needs to closely study a particular given case not to just gain general understanding of general occurrences. Instrumental case study research is used to comprehend something new. The researcher requires general comprehension of a research question as insights into the question are gained by studying this particular case. In the third type collective case study research, multiple cases are selected and coordinated to achieve some kind of representation.

Merriam (1998) adopted a qualitative practical approach to address the case study applications in education. In the education domain, she classified qualitative case studies as particularistic, heuristic or descriptive. Particularistic case study concentrates on specific occurrences, events or programmes. Heuristic case studies allow the reader to comprehend the case study through confirming his understanding, extending his experience, or realising new meanings. Descriptive case study research offers a thorough description of the phenomenon addressed based on information gathered from a varied sources and perspectives.

To summarise, Stake (1995) concentrated on "qualitative interpretation" of a case study phenomenon via integrating researchers' observations and experiences. Meanwhile, Merriam (1998) focused mainly on applying case study research in domain of education. Yin, on the other hand, provided a comprehensive and very detailed methodological approach to case studies explaining in great depth the principles and designs of case study research (Myers, 2007; Brown, 2008). Yin's (1994) case study research method is the most relevant methodology to reflect the framework associated with this research. Thus, the research presented here will be conducted based on Yin's (1994; 2003; 2009; 2012) methodology following his four stages on design and implementation of case study research, namely: case design, data collection, analysis of case study evidence and writing the case study report.

As previously mentioned, the study follows an inductive qualitative case study methods to test the validity of the research proposition and further develop the proposed conceptual framework in a real life setting. Data will be gathered through both qualitative and quantitative tools.

4.5.1 Case design

Research design is considered an overall action plan through which the researcher can draw conclusions to the preliminary research questions based on the collected data. It provides a clear perspective on the purpose of the case study. In order to realise this, the basic elements of investigation have to be defined, namely, the research questions and propositions, the units of analysis, the logic linking the data to the propositions and the criteria for interpreting findings (Rowley, 2002; Yin, 2009).

According to Yin (2009) three factors have to be determined in order to choose the appropriate research strategy, namely, form of research question, the degree of control of behavioural events and type of focus on events i.e. contemporary or historical as illustrated in Table 4.4 regarding different research strategies. Generally, a case study method is most appropriate when "how" or "why" questions are being asked about a real life contemporary situation over which the researcher has no control.

Table 4.4: Relevant situations for different research strategies

Strategy	Form of research questions	Requires control of behavioural events?	Focuses on contemporary events?
Experiment	how, why?	Yes	Yes
Survey	who, what, where, how many, how much?	No	Yes
Archival records	who, what, where, how many, how much?	No	Yes/No
History	how, why?	No	No
Case study	how, why?	No	Yes

Source: (Yin, 2003)

Usually the research propositions are developed based on the research questions, nevertheless, not all cases need to start with a proposition as there are three different types of case studies, namely, exploratory, explanatory and descriptive. The exploratory case study is conducted to achieve setting a precise research; therefore, data is collected before formulating the study questions and propositions. The other two types i.e. descriptive and explanatory case studies start with defining questions and translating them into research propositions before the data collection process takes place where data is collected and analysed in order to either accept or reject the propositions. When causal relationships between events need to be further investigated and explained, explanatory case studies are most appropriate. While descriptive case studies are conducted when different characteristics of the research phenomenon need to be precisely described (Yin, 2003).

As illustrated in Figure 4.3 and the previous section, this study goes through the three stages of research starting from exploratory stage to explanatory then descriptive, thus, the study's proposition was developed after conducting the first phase (exploratory). Depending on the research theoretical background, aim, preliminary research questions and units of analysis are selected. The unit of analysis to be investigated as a case study can be a specific group of people, an individual, an event, a company or a whole country. Sometimes accessibility of information, time constraints and availability of resources may affect case study selection. The units of analysis of this research are five FMCG multinational companies, selected carefully to match the purpose of the study.

There are four types of case study designs depending on the number of units to be studied (single or multiple) and whether the researcher uses a single or multiple case designs. Types 1 and 3 are used when the researcher is conducting a holistic study with a single unit of analysis where type 1 is following a single case design and type 3 a multiple case design as shown in Table 4.5. Meanwhile, types 2 and 4 are embedded cases or multiple units of analysis with either a single case design (type 2) or multiple case designs (type 4). This approach provides an overview of the case study design but it might not be sufficient as it does not reflect any changes that can occur in the unit of analysis which might affect the original research design (Rowley, 2002; Yin, 2003).

As highlighted in Table 4.5 this research is conducting type 2 as there are multiple units of analysis (five multinational FMCGs companies) investigated with a single case design in order to fulfil the purpose of the study. Conducting embedded case studies supports the generalisability of the results as if two or more cases are in favour the same theory replication can be argued. Lastly, when the process of selecting the unit of analysis is finalised the appropriate data sources and data collection techniques should be determined as a final step in the research design.

Table 4.5: Case study designs

	Single case designs	**Multiple-case designs**
Holistic (single unit of analysis)	Type 1	Type 3
Embedded (multiple units of analysis)	Type 2	Type 4

Source: Yin (2003)

Case studies differ from other research methods when judging the quality of the research design. Yin (2003, 2009, and 2012) identified four specific quality tests of case study design, namely, construct validity, internal validity, external validity and reliability.

Firstly, construct validity is achieved when the correct operational measures of the concept studied are well established. When the operational measures are correctly established, subjectivity can be reduced through forming a link between the data collection questions and the research questions and proposition. Secondly, internal

validity is mainly applicable to explanatory studies as it refers to investigation of causal relationships among events where a certain condition leads to another. It is therefore not applicable to descriptive or exploratory studies.

Thirdly, external validity tests are mainly considered with the generalisability of the research's findings. In case studies, generalising the findings is not about statistical generalisation but rather analytical generalisation as past theories are compared to the current studies' empirical results. This process increases the rigour of the study.

Fourthly, reliability shows that the same study operations and procedures (e.g. data collection procedures) can be carried out by other researchers and still yield the similar results which can be achieved through detailed documentation of procedures and thorough record keeping. However, in reality, it is not easy to achieve similar results as people and circumstances might change and be different from one event to another.

The approaches, used to achieve validity and reliability when conducting a case study, are shown in Table 4.6. Analysis and data collection tactics can be utilized to ensure the case encompasses construct validity, internal validity and reliability. Meanwhile, external validity can be ensured through the replication logic of multiple cases to achieve analytical generalisation of results. Table 4.6 also demonstrates the approaches used in this study at each phase of research to satisfy the four quality tests as this case study moves through three phases, namely, exploratory, explanatory and descriptive. These approaches and tactics are examined in more detail in the next sections and implementation is demonstrated in chapter five and chapter six covering the case studies' analysis.

Table 4.6: Case study tactics for four designs tests

Tests	Case study tactics	Phase of research in which tactic occurs	Case study phase		
			1)Exploratory	2)Explanatory	3)Descriptive
Construct validity	• use multiple sources of evidence • establish chain of evidence • have key informants review draft case study report	Data collection Data collection Composition	√ √ √	√ √ √	√ √ √
Internal validity	• do pattern-matching • do explanation-building • address rival explanations • use logic models	Data analysis Data analysis Data analysis Data analysis		√	
External validity	• use theory in single-case studies • use replication logic in multiple-case studies	Research design Research design	√	√	√
Reliability	• use case study protocol • develop case study database	Data collection Data collection	√ √	√ √	√ √

Source: author based on Yin (2009)

4.5.2 Data collection

Data collection tactics are used to ensure construct validity and reliability, in this study the same procedures of data collection were employed with the multiple cases investigated throughout the different case study phases. When conducting case studies, the researcher is an active mediator in the process as the evidence has to be defined during the collection process unlike other self-administrated data collection techniques e.g. questionnaires. In other words, the investigator gathering data has to possess the ability to ask good questions, listen attentively and interpret the answers. Moreover, this depends on the appropriate formulation of questions and propositions of the case und the ability

of the researcher to separate himself/herself from the events, to be unbiased (Rowely, 2002).

To further ensure reliability the data collection process has to be guided by a case study protocol. The protocol enhances reliability as it assists the researcher to identify the relevant types of evidence. In addition, it could be used to guide on the types of participants to be interviewed and other evidence to be collected and analysed. It assures that the same procedures are being followed in different cases (Yin, 1994). The following are the components of a case study protocol (Rowely, 2002; Yin, 2003, 2009, 2012) see Appendix I for the detailed protocol of this study:

- The case study overview.
- Field procedures (e.g. interviews' and observation arrangements, sources of information and plan to access these sources).
- Questions of the case study that the researcher needs to keep in perspective throughout all phases to realise the purpose of the study. Based on these questions data is gathered from interviews, documents, informants and direct observations.

Yin (2012) revealed that whatever the sources of information to be used there are three key principles that should be considered during the data collection process so that quality is ensured. These three principles are: triangulation, case study database and chain of evidence.

- Triangulation of evidence is basically about relying on multiple sources of evidence rather than one, to corroborate the same finding and to establish construct validity of the case study research design. Triangulation of evidence would be strengthened by using triangulation of methods, in other words, the different sources of data can be reached using both quantitative and qualitative approaches.

- As demonstrated in Table 4.6 a well-developed database of evidence gathered enhances the reliability of the case study design. Moreover, a well organised database of collected evidence supports the repeatability of the research and constructs transparency of the outcomes. The data base may contain notes by the researcher,

recordings and notes collected during interviews, documents gathered to support findings and analysis of the evidence.

- Maintaining a chain of evidence is a key principal that ensures construct validity of the case study. Based on this principle all gathered sources should be present in the study's database and cited appropriately throughout the case study report. Moreover, maintaining a chain of evidence supports the researcher to trace evidence from the initial research questions to conclusions (Yin, 2012).

There are various sources of evidence to be collected based on the data collection technique. Yin (2009) specified the most common sources used in case studies, namely, documentation, archival records, interviews, direct observations, participants' observation and physical artifacts. Each source requires a different approach to handle and acquire different perspectives on the case. As shown in Table 4.7 below each source has certain strengths and weakness, therefore it is wise to use multiple source of evidence (triangulation).

Table 4.7: Sources of evidence

Source of Evidence	Description	Strengths	Weaknesses
Documentation	• Relevant to every case study topic • can take many forms such as: letters, e-mails, memoranda, written reports of events, formal studies, administrative documents, mass media documents, websites etc.	• corroborates and augments evidence from other sources • can be reviewed repeatedly • unobtrusive - exist prior to case study • contains exact information-names, references, titles etc. • has broad coverage-long span of time	• difficult retrievability • biased selectivity • reporting bias - reflects author bias • access - may be blocked
Archival Records	• often taking form of computer files and records • they could be: service records, organisational records, maps and charts, lists of names , survey data, personal records (diaries-calendars-telephone listings)	• same as above for documentation • precise and quantitative	• same as above for documentation • difficult accessibility due to privacy reasons

Interviews	• essential sources of case study information • usually they take one of three main types: 1- Unstructured interview (open-ended nature): to ask the interviewee to express his opinion without following a certain set of questions. 2- Semi structured interview (focused interview): respondent interviewed for a short period of time and it takes conversational manner, but follows certain set of questions derived from a case study protocol. 3- Structured interview (survey): entails more structured questions.	• targeted - focuses on case study topic • insightful - provides perceived causal inferences	• bias due to poorly constructed questions • inaccurate due to response bias, poor recall, and poor or inaccurate articulation • reflexivity - interviewee gives what interviewer wants to hear
Direct Observation	• making field visit to the site to observe behaviours or environmental conditions • it can range from formal to casual data collection activities	• reality - covers events in real time • contextual - covers event context	• time and cost consuming • selectivity - might miss events unless broad coverage • reflexivity – event may proceed differently because it is being observed
Participant Observation	• special type of observation in which observer may participate in the events being studied	• Same as above for direct observations • insightful into interpersonal behaviour	• Same as above for direct observations • bias due to investigator's manipulation of events
Physical Artifacts	• physical evidence such as: technological device, tool or instrument, work of art etc. • may be collected or observed as part of field visit	• insightful into cultural features and technical operations	• selectivity • availability

Source: Yin (2009) and Elgazzar (2013)

When the data collection process is finalised and evidence has been gathered from all relevant sources the informant has to validate the accuracy of the data acquired. Having an informant enhances construct validity of the case research design and guides the investigator to the relevant sources of evidence. Most importantly, even if the informants have a disagreement with the investigator's interpretations of the case study they still have to guarantee that the researcher was not biased while presenting facts (Yin, 2012).

In this study informants were assigned in the five units of analysis starting from the exploratory phase as they helped identify the relevant sources of evidence and the appropriate participants for the interviews. Table 4.8 demonstrates the sources of evidence used in this study during the different case study phases with multiple units of analysis.

Table 4.8: Sources of evidence used during the different case phases

Source of Evidence	**Case study phase**		
	1)Exploratory	**2)Explanatory**	**3)Descriptive**
Documentation	√	√	√
Archival Records	√	√	√
Interviews	√	√	√
Direct Observation	√		√
Participant Observation			
Physical Artifacts		√	√

Some organisations provided more evidence than others as it was a matter of confidentiality. As explained before the study is inductive qualitative in nature and needs to acquire an extensive understanding of the study topic from experts in the field. Therefore, the research relied mainly on individual and group interviews with the multinational tactical and top managers of SCM and marketing. King (1994) argued that interviews are an appropriate tool if the researcher needs to grasp a thorough insight from the interviewees' perspective in order to understand how and why they came to this interpretation. The interviews were supplemented by thorough reviews of archival records e.g. computer files, slides and worksheets. Therefore, direct observations were

also acquired during cross-functional departmental meeting for the descriptive analysis of the process. The researcher was allowed to observe but not to tape the meetings.

As the study proceeded from the exploratory to explanatory phase, the interviews' format changed from a semi-structured format yielding qualitative information to a structured format yielding quantitative results. As a result, a balanced approach of triangulation is achieved. Interviews can yield both qualitative and quantitative data. All structured and semi-structured interviews were conducted by the researcher face to face with the participants. At the initial exploratory phase, where semi-structured interviews were conducted, the researcher was able to gain more insight on the situation.

Semi-structured interviews are guided, intense, focused, but at the same time open-ended communication shared between the interviewer and interviewee. The questions and probes are flexibly set in a form of an interview guide or schedule. This type requires developed skills. Moreover, semi-structured interviews are in-depth/focused interviews administered to explore a specific topic intensively (Crabtree and Miller, 1999).

A more structured format that was followed during the explanatory phase where a fixed of standardised questions were composed (mostly closed-ended). These questions were formulated based on the outcomes of the previous exploratory phase. Many field surveys are carried out via structured interviews. While administering structured interviews, it is crucial for the investigator to make sure the participant comprehends the questions and answers reliably (Seidman, 2006). During this phase of the study the interviewees' responses were taped while some notes were written down, and all participants were asked the same questions in the same manner.

4.5.3 Data analysis

Case study analysis is considered rather an uneasy task to accomplish. Unfortunately, literature does not specify precise procedures to be followed during this phase. Yin (2009) has contributed three general analytical strategies to help guide and ease the difficulty of this stage. These three strategies are: relying on theoretical propositions, thinking about rival explanations and developing a case description. Relying on a theoretical proposition means developing a proposition that reflects the research questions and the literature review conducted as well as the new hypotheses or propositions. Based on these propositions the initial purpose, case design and data collection processes are planned and carried out.

Thinking about rival explanations, the second strategy is appropriate when evaluating cases based on competition while the third strategy, developing a case description, is mainly concerned with descriptive cases where the development of a descriptive framework is essential. Meanwhile there are five other analytical techniques suggested by Yin (2003) to be used according to case study type as they contribute to enhancing internal validity of the case study design. These techniques are: pattern matching, explanation building, time-series, logic models and cross case synthesis:

- Pattern Matching: is undertaken when the researcher tends to compare the study's empirical results to a prediction. If the patterns match, internal validity is improved. This technique will be used in this study as the researcher designed a conceptual framework suggesting a certain pattern of events prior to primary data collection that was further developed at the exploratory phase study. This framework and the generated proposition will then be validated at the explanatory phase of the case study (see Table 4.6). Thus, a comparison between a prediction and the results of the empirical study will be obtained. If the empirical data gathering and analysis support the framework, internal validity will be achieved.

- Explanation building: it is a type of pattern matching but concentrates on independent variables. It examines closely the level at which the observed pattern coincides with the previous prediction.

- Time-series analysis: there are different types of time series analysis depending on the nature of the case. This technique usually drives the case study to the conclusion. Time series analysis tends to answer the case study's how and why questions over time.

- Logic model: demonstrates a complex sequence of events over a period of time of causal relationships' pattern. It can be counted as a type of pattern matching as the empirical pattern of events matches the theoretically predicted events. When this technique is used the logic model is developed first, then the data collected and analysed to validated the model through comparing whether the data collected support it or not.

- Cross-case synthesis: as obvious from its name this technique is conducted when multiple units of analysis are studied (at least two). All other techniques can be implemented for single or multiple case studies. Following this technique each individual case is handled as a unique study but at the end the results are aggregated across the separate studies.

According to Rowely (2002) exploratory case studies usually do not begin with propositions, therefore, another analytic approach is to establish a conceptual descriptive framework to organise the case study. This study starts by developing a conceptual framework based on literature interpretations to be initially tested during the exploratory phase. Then, based on the outcomes of this phase a proposition is drawn to be tested at the second explanatory phase using the pattern matching technique. At this stage the results of the empirical study are compared to the initial patterns predicted in the framework and updated after the exploratory phase.

4.5.4 Writing the case study report

The key point to writing the case study report is the sections the report should be comprised of. Again there is no specific guide on case study report writing, nevertheless, Yin (2009) identified three steps that should be implemented, namely, identifying the audience for the report, setting the compositional structure and following certain procedures. The report should reflect all tasks carried out to realise the purpose and objective of the study. The researcher should carefully compose the report in the manner (structure and content) that properly matches the needs and interests of the events' audience as audiences vary from case to case.

4.6 Conclusion

In this chapter the scope of research was reviewed and the different research philosophies, research approaches and strategies were presented. Furthermore, based on the research design the appropriate methodologies for this study were identified. As concluded from the undertaken critical literature analysis on the research topic, the integration between marketing and SCM and its impact on SCP and business performance, is an area of research clearly understudied. The researcher attempts to investigate this impact on performance using a set of performance measurements developed based on the study. Therefore, the study will follow an inductive approach where triangulation of methods will be carried out. In other words, both qualitative and quantitative methods will be used to increase the rigour of the study and achieve more representative results.

The case study research method will be adopted as more in-depth investigation is required to improve the understanding of the research phenomenon in a real life situation. In this study an in-depth investigation with practitioners and experts in the field is highly required. Furthermore, this case study will move through three phases of case study research, namely, exploratory, explanatory and descriptive.

The developed conceptual framework in chapter three will be initially tested during the exploratory phase using multiple sources of qualitative evidence, and then based on the outcomes of this phase a proposition will be drawn to be validated alongside the

framework at the second explanatory phase using the pattern matching technique. The second stage is mainly relying on quantitative data gathering approaches. Lastly a descriptive process of cross-functional integration will be mapped according to the qualitative data collected.

The process of implementing case studies was discussed in detail. First, all aspects of case study design were presented, then the preparation and collection of data were examined and the techniques fulfilling the needs of this study were argued. Afterwards, the techniques of analysing case study evidence were presented and the relevant techniques for this study were chosen. Finally, the basic aspects of report writing were discussed. The details of the conducted case study procedures will be presented in detail in the next chapter.

Drawbacks, to this methodological approach, such as using purposive sampling of five main MNCs to serve as the studied cases, are discussed in the limitation of the study in section 7.4. Moreover, suggestions to overcome such limitations are demonstrated in section 7.5.

5 CASE STUDIES AND ANALYSIS: THE EXPLORATORY PHASE

5.1 Introduction

Given that the SCM concept is multidisciplinary, the notion has been repeatedly presented that it is difficult to develop performance metrics to evaluate the impact of marketing/SCM integration on SCP and a firm's performance. This present lack in the literature of solid procedures and measurements realising the alleged positive impact on SCP and business performance, was clearly highlighted in Chapters two and three. Therefore, this study attempts to develop a cross-functional integration framework with a relevant marketing/SCM measurement matrix and a precise cross-functional integration process.

The methodology of developing the framework with the measurement matrix through the case study approach was outlined in chapter four. A detailed overview of the case study research design and implementation was presented along with a comprehensive process beginning with methods of designing a case study to writing up the case study report. In this chapter, the suggested the conceptual framework is verified by five real FMCG case studies, while the application procedures are provided and discussed in the next chapter.

In this research the five case studies move through three research phases, namely, exploratory, explanatory and descriptive. This chapter demonstrates the in-depth investigation carried out by the researcher during the first case study phase, the exploratory phase. At this phase a set of influential marketing capabilities on SCP attributes are proposed. Moreover, preliminary performance measurements are suggested to assess this relationship. Therefore, the role of marketing/SCM integration in SCM oriented companies is exemplified in this chapter.

Hence, the chapter is structured as follows. First the Egyptian FMCG industry is analysed demonstrating reasons for choosing this industry. Then, major sectors in the Egyptian FMCG industry are reviewed and main industry players are screened in order to choose the most appropriate companies to be selected as cases in this research. Afterwards, five

FMCG MNCs operating in the Egyptian market are selected and the case study protocol is developed. Then, the exploratory empirical study steps are illustrated by describing the qualitative research techniques (semi-structured interviews and observations) undertaken with expert strategic and tactical managers.

The supply chain structure and its position for the various case studies are examined, alongside SCM boundaries and strategy. Subsequently, the cross-functional integration status between marketing/sales and SCM for the five cases is investigated. Furthermore, a set of marketing capabilities that are claimed to impact SCP is developed alongside a set of practical measures considered as reflective of cross-functional integration impact on SCP. Later, the outcomes of this phase are exemplified and the proposed integration framework in chapter three is further developed. Based on the outcomes of this phase a proposition is derived to be validated at the next research phase (chapter six). Lastly, some conclusions on this are drawn. The exploratory analysis roadmap is illustrated in Figure 5.1.

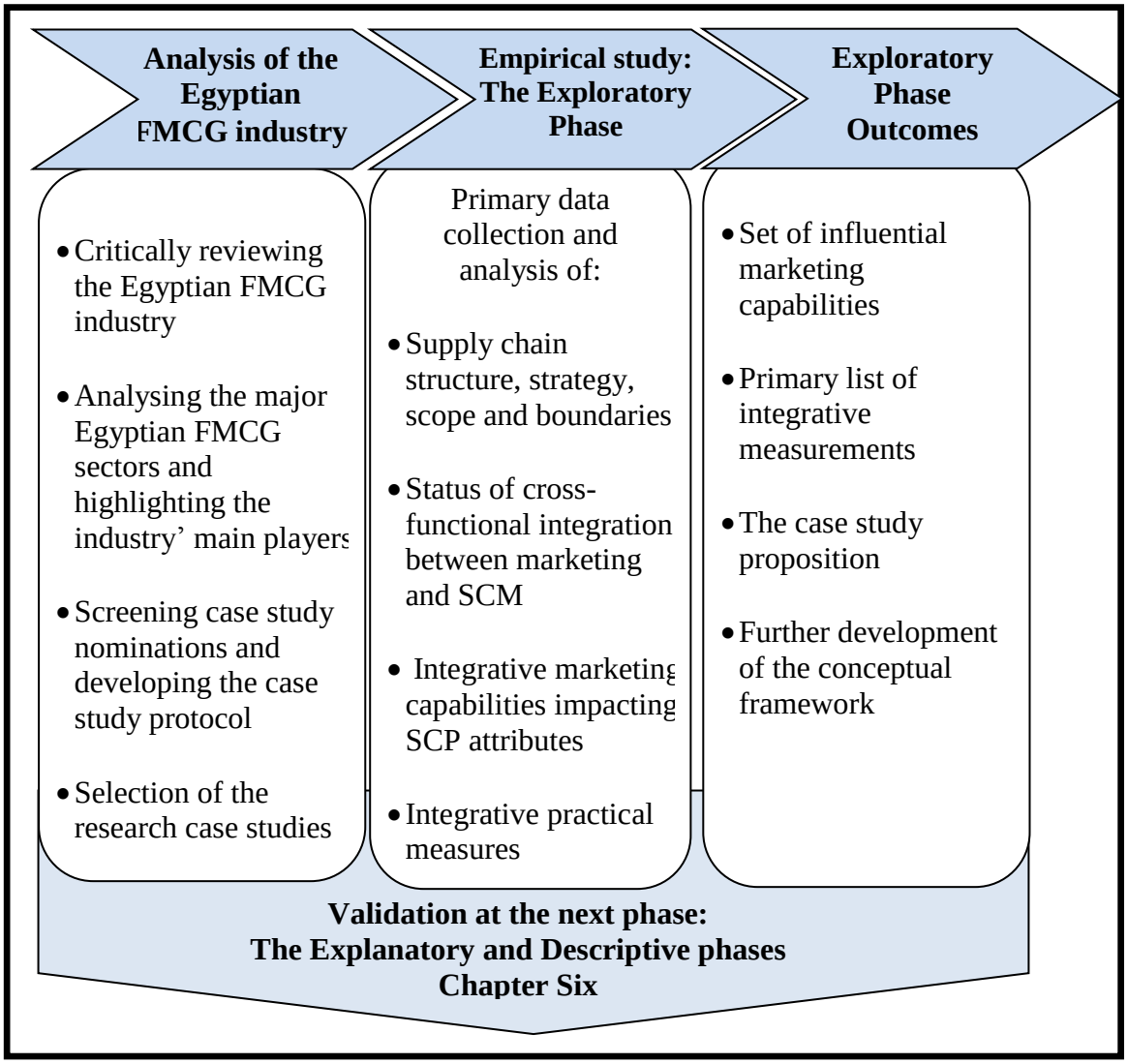


Figure 5.1: Exploratory analysis roadmap

5.2 Case design and preparation for data collection: the introductory phase

In this section, the case design and the preparation for data collection are presented as the first phase of the case study where the Egyptian FMCG industry is chosen to apply the proposed case study methodology. The Egyptian market is eligible for a number of reasons listed in the next section but above all, it is a developing fast growing market, which attracted a number of MNCs that are willing to participate in novel research topics and to grant access to their business operations. This fact encourages researchers to apply their studies to this market.

Hence, in the next section the Egyptian FMCG sector is illustrated, analysed and screened to identify the most appropriate FMCG companies to be selected as cases upon which to develop and conduct the case study protocol.

5.2.1 The Egyptian FMCG industry analysis

FMCG are also referred to as Consumer Packaged Goods (CPG), these goods are described as low priced commercial packaged products that are consumed frequently (De Kok *et al*., 2008; Baron *et al*., 1991). They are composed of non-durable end consumer items such as pre-packaged food and drinks, toiletries, teeth cleaning products, soap, shaving products, cosmetics, detergents, household cleaning products, glassware, bulbs, batteries, paper products, alcohol, health and beauty items, tobacco products, animal care products, and certain pharmaceuticals. In brief any non-durable products that can be easily bought off the counter for the daily usage (Huang and Chang, 2010; Kunc, 2005).

The FMCG sector growth rate increases steadily and does not get considerably affected by recessions or economic disruptions in comparison to other sectors such as automobiles, electronics and airlines (World Bank, 2011). Moreover, FMCG are relatively tiny items that are traded in large quantitative, thus, the profit in this sector can be significant (IGD, 2004). Nevertheless, these products can be easily replicated by competitors. In other words, the competition is severe which presents a challenge for organisations operating in this industry to build a competitive advantage based on low cost or differentiation strategies. Consequently, firms need to continuously stay ahead of competitors through ensuring that their innovations are always distinguishable and unique (Kunc, 2005).

The Egyptian FMCG market is an essential market for numerous investors as Egypt's economy is ranked the third biggest economy in the Arab world following Saudi Arabia and the United Arab Emirates (BMI research, 2015a). Owing to the Egyptian revolution of 2011 (British Broadcasting Corporation, 2011), the economy was in recession but since then the economic and political conditions have improved considerably. The real GDP growth has been vigorous over 2014-2015 and is expected to stay on track if the political conditions remain stable (BMI research, 2015a).

It is expected that the increase in output will be translated in improved employment rates, better wages and increasing household incomes. This will form considerable growth opportunities for FMCG companies and retailers in the largest market of the Arab World (BMI research, 2015b). Egypt's GDP in 2015 grew by around $31 billion more than it had in 2012. Nevertheless, Egypt's population reached 88 million, with a GDP of $286.4 billion or $ 943.1 billion if adjusted for purchasing power parity and thus, only $10,900 GDP per capita (CIA Fact Book, 2015).

In other words, the average individual income is still relatively low. This fact points out that a large portion of the Egyptian consumers are seeking relatively low priced goods and that is a characteristic of a lot of FMCG. Moreover, in such a price sensitive demanding market the competition is aggressive and favours consumers through continuous innovations, promotions and price reductions to win more consumers (Awni, 2014).

The FMCG sector is considered the fifth biggest industry sector of the Egyptian economy (CAPMAS, 2014). Thus, this sector became a major economic segment that attracts important investments, and is characterised by continuous developments (GAFI, 2014). The Egyptian FMCG industry has dramatically grown over the past few years as a number of international chains expanded in the Egyptian market. Furthermore, a large variety of products became available to the consumers, the level of income increased and brand advertising boosted (Mansour, 2009; Negm *et al*., 2012).

Although this industry's growth rate slowed down after the Egyptian revolution in 2011, the Egyptian FMCG industry continues to enjoy solid multinationals' presence, a well-established distribution network, low operational cost and is characterised by severe competition between the planned/controlled segments and unplanned segments. In addition, accessibility of raw materials, inexpensive workforce and existence throughout the Egyptian value chain creates a competitive advantage (Negm *et al*., 2012).

The rapidly growing population offers an opportunity for investors to take advantage of potential demand. Recently the retail sector in Egypt has witnessed major developments towards technological innovation by leading FMCG organisations. Especially the food

retail sector has undergone a revolution in buying and supply chain management which resulted in a range of benefits to customers in terms of service and a re-evaluation of marketing campaigns and advertising strategies (Euromonitor International, 2015h).

The food and non-alcoholic drinks retail sub sector is expected to become the largest retail sub-sector in the Egyptian economy as an average Egyptian household total spending allocates around 37.9% to groceries. Moreover, the total household spending is expected to reach $101 billion in 2015 (CAPMAS, 2014; BMI research, 2015a). As the household expenditure on foods and beverages is expected to rise, the Egyptian FMCG has an opportunity for growth. The main driver for Egyptian consumer to buy FMCG is low prices (Matarid *et al*., 2014).

The large share of FMCG in total household spending along with the large and growing population are factors that position Egypt as one of the largest FMCG markets in Africa and the Middle East region (BMI research, 2015b). This was demonstrated by the considerable boost in retail sales over the last ten years. Currently the Egyptian food and beverages retail sector progresses its speedy development with the expansion of retail outlets of national/local and multinational firms such as Metro, Carrefour (France), and MACRO Cash and Carry (Egypt) (Euromonitor International, 2015h).

Accordingly, the following reasons summarise and justify the selection of the Egyptian FMCG industry in this study:

- Egypt is the third biggest economy in the Arab world following Saudi Arabia and the United Arab Emirates (BMI research, 2015a).

- The Egyptian FMCG market is huge and considered one of the largest FMCG markets in Africa and the Middle East region (BMI research, 2015b).

- The FMCG sector is the fifth biggest industry sector of the Egyptian economy attracting important investments (CAPMAS, 2014; GAFI, 2014).

- The constantly growing demand of the Egyptian low income consumers for low priced FMCG (CAPMAS, 2014).

- The Egyptian FMCG industry is mature and enjoys solid multinationals' presence, a well-established distribution network, low operational cost and is characterised by severe competition between the planned/controlled segments and unplanned segments (Negm *et al*., 2012).

Based on the previous industry analysis Table 5.1 is compiled to illustrate the strengths, weaknesses, opportunities and threats of the Egyptian FMCG industry:

Table 5.1: Egyptian FMCG SWOT analysis

STRENGTH	**WEAKNESSES**
• Third biggest economy in the Arab world • One of the largest FMCG markets in Africa and the Middle East region • Mature industry • Solid multinationals' presence • A well-established distribution network • Low operational cost	• Fluctuating exchange rates • High unemployment rate • Low purchasing power • Low GDP per capita
OPPORTUNITIES	**THREATS**
• Attractive investment opportunities • Growing population • Growing industry • Increasing demand for FMCG • 40% of the household spending on food and beverages	• Political instability • Economic turbulence

Given the strengths points listed in the SWOT analysis Table 5.1 the Egyptian FMCG market is one of the largest markets in the Arab world, Africa and the Middle East. It enjoys a mature industry, solid multinationals' presence, a well-established distribution network and low operational cost, which makes it eligible for this research purposes. Moreover, this market presents a number of opportunities for investments and business growth such as a growing population, a growing industry, increasing demand and household spending on consumer products. These opportunities present a healthy

business environment and thus, case studies that represent effective and efficient practices exist in such a market (Negm *et al*., 2012; CAPMAS, 2014; GAFI, 2014; BMI research, 2015b).

Some weakness and threats exist in the Egyptian FMCG market as well such as fluctuating exchange rates, high unemployment rate, low purchasing power and low GDP per capita. In addition, political instability and economic turbulence reflect threats in this market. Nevertheless, organisations that function in the Egyptian FMCG market formulated strategies to deal with these weakness and threats as discussed in the next section. Multinational and local organisations see the potential of the Egyptian FMCG market and thus, invest, operate and formulate long term strategies to remain competitive in this market (BMI research, 2015b; Euromonitor International, 2015h).

5.2.2 Examination of some major Egyptian FMCG sectors and highlighting the industry's main players

A detailed examination of the major Egyptian FMCG industry sectors is presented in this section. This thorough examination begins by presenting the major sectors of the Egyptian FMCG industry and highlights the market's major players. As information on the Egyptian FMCG market is rather scarce, the researcher relied mainly on the Euromonitor International comprehensive market research reports as a reliable source of information for this section. After investigating the different Egyptian FMCG sectors, the case study nominations are screened and the case study protocol is developed.

When investigating the Egyptian FMCG industry, packaged food (sweet and savoury snacks, chocolate confectionery, biscuits, snack bars) and beverages (hot and soft drinks) appeared to be the largest and/or the fastest growing segments in this sector alongside other segments such as beauty and personal care and home care. Thus, a review of these segments is presented in the following section.

5.2.2.1 Packaged food

During 2013 and 2014 sales value of packaged food increased by 3% and 2% respectively. The market growth rate of packaged food in Egypt is mainly driven by sales of packaged bread with 29% value share of the total sales of packaged food in 2014, followed by dairy with a 13% value share. It is worth mentioning that the wealthier consumers will increase their consumption of packaged food (Euromonitor International, 2015f).

The depreciation of the currency by 1% in 2013 influenced the cost of imported raw materials, this raised prices to final consumers which resulted in favour of Egyptian products and foreign products produced in Egypt. Therefore, various foreign companies started manufacturing in Egypt in order to be able to sell their foreign brands at lower prices to Egyptian price sensitive consumers. For the same reason FMCG companies developed new product ranges at lower prices in terms of smaller and more affordable packs (Euromonitor International, 2015f).

- **Sweet and savoury snacks**

Snacking has been considered an Egyptian habit, nevertheless, the consumption of snacks like chips and crisps has dramatically grown recently especially with the increased number of working women. Chips and crisps are the fastest growing snacks in Egypt as they are popular, widely distributed across all distribution channels all over Egypt and their producers target all social groups using mass marketing. Market leaders such as Chipsy For Food Industries and Egypt Food Co strive to keep developing new types and flavours at constant prices (Euromonitor International, 2015j).

The competition in the snacks sector will become fierce among the various producers in terms of variety, development of products and flavours. It is expected that due to the current economic conditions, sweet and savoury snacks especially chips and crisps will become the main mature category witnessing substantial growth in the Egyptian FMCG market and will not be affected by any possible deterioration in economic conditions. Sweet and savoury snacks grew by 5% in volume and 20% in value terms to reach a total

of 61,250 tonnes and 2.4 billion Egyptian pounds of sales in 2014 (See Table 5.2) (Euromonitor International, 2015j).

Table 5.2: Sales value growth of impulse and indulgence products by category

% Current Value Growth	2013/14	2009-14 Total
Confectionery	10.4	56.9
Pastries	12.4	70.8
Cakes	12.5	102.7
Biscuits	9.6	73.0
Ice Cream	10.2	74.3
Sweet and Savoury Snacks	20.1	134.1
Snack Bars	6.1	40.9
Impulse and Indulgence Products	11.4	75.3

Source: Euromonitor International (2015j)

This sharp increase in volume, and especially in value, resulted from compensating the rising production costs by raising unit prices of the original sweet and savoury snack Stock Keeping Units (SKUs) and therefore, smaller packs and new product developments were introduced to consumers with lower more affordable prices. Chips and extruded snacks remain number one in the sweet and savoury snacks market as they accounted for 95% of the market's volume and value sales in 2014. Moreover, Chips witnessed the largest growth with 22% increase in value terms in 2014 (Table 5.3). It is obvious that this category dealt well with economic turbulence by launching cheaper more affordable pack sizes (Euromonitor International, 2015j).

Table 5.3: Sales value growth of sweet and savoury snacks by category

% Current Value Growth	2013/14	2009-14 Total
Chips/Crisps	22.2	147.8
Extruded Snacks	18.3	123.2
Nuts	12.6	73.3
Popcorn	7.7	69.3
Tortilla/Corn Chips	8.4	85.0

Source: Euromonitor International (2015j)

The company that continues to dominate the sweet and savoury snacks market in Egypt is Chipsy for Food Industries. It held a value share of 56% in 2014. The company has a wide range of product and flavours and it owns Chipsy the most popular brand in the sweet and savoury market sector as its market share accounts for 34% of the market value

sales. The second leading brand Crunch is also owned by Chipsy for Food Industries but there is a big value share gap between Chipsy and Crunch. The company dominated the chips and tortilla chips market in 2014 with the biggest value sales. It also recorded an increase of 1% in its market value share to remain the leader of this category (Euromonitor International, 2015j).

The company that recorded the second most important rise in sales value in 2014 was Kellogg Egypt with a 23% increase. It raised the unit prices of its Pringles product range as it is imported and faced the problem of deteriorating exchange rates meanwhile cheaper items were introduced to compensate the price increases. Thus, again concentration on price proceeds to prove a successful strategy used by multinational companies operating in the Egyptian sweet and savoury snacks market as consumers remain extremely price sensitive (Euromonitor International, 2015j).

- **Chocolate confectionery, biscuits and sweet snack bars**

Chocolate confectionery sales value and volume increased by 18% and 7% respectively in 2015 (Table 5.4), as was the case with sweet and savoury snacks the difference comes from the raising of unit prices especially in the middle priced products (Euromonitor International, 2015c).

Table 5.4: Sales of chocolate confectionery by category % value growth

% Current Value Growth	2014/15	2010-15 Total
Bagged Selflines/Softlines	16.4	85.9
Boxed Assortments	15.6	80.7
- Standard Boxed Assortments	15.6	80.3
-Twist Wrapped Miniatures	17.5	89.9
Chocolate with Toys	14.0	66.3
Countlines	19.1	108.8
Tablets	17.6	94.5
Other Chocolate Confectionery	18.0	101.7
Chocolate Confectionery	18.1	99.5

Source: Euromonitor International (2015c)

In Egypt the confectionery industry is dominated by multinational companies, such as Cadbury Egypt, owned by Mondelez International, Mars and Nestlé. Cadbury by

Mondelez remains the market leader as it accumulates different segments by offering a wide range of products with different prices, thus satisfying different socio-economic classes. In 2015 Cadbury was the leading player in the chocolate confectionery market with a 47% value share. Mars and Nestle followed Cadbury with a 26% and 8% value shares respectively. However, the company that experienced the strongest increase in its value share by one percentage point in 2015 is Mars. The company started in 2013 manufacturing its Twix brand in Egypt as this enabled the Mars to sell it at a much lower price than when it was imported (Euromonitor International, 2015c).

In Egypt chocolate confectionery is available everywhere and this is a characteristic of this sector as chocolate is sold at traditional groceries, hypermarkets, kiosks etc. Strong competition was witnessed in 2015 among the leading players as the market experienced a lot of new product developments such as new flavours and totally new concepts. Moreover, the market leaders i.e. Cadbury and Mars, intensified their marketing programmes, in terms of TV advertising campaigns during 2015 (Euromonitor International, 2015c).

Like chocolate confectionery, biscuit and snack bar sales grew in 2015. The growth was represented in 14% value and 10% volume sales (Table 5.5). The main factor of this category growth is that the number of brands sold grew and there is a large range of local biscuits producers which makes the prices is this category affordable. Thus, the category is attractive to all income segments. Products in this sector are categorised by extensive distribution and can be bought easily all over the country. Biscuits appeal to both Egyptian adults and children as they are more filling and economic in comparison to chocolates (Euromonitor International, 2015b).

Table 5.5: Sales of biscuits and snack bars by category % value growth

% Current Value Growth	2014/15	2010-15 Total
Biscuits	13.0	84.0
Savoury Biscuits	15.4	104.3
Sweet Biscuits	12.9	83.6
Chocolate Coated Biscuits	11.6	73.0
Cookies	7.8	45.3
Filled Biscuits	25.8	215.2
Plain Biscuits	8.3	48.9
Sandwich Biscuits	9.9	60.4
Wafers	25.3	208.7
Snack Bars	6.9	39.5
Breakfast Bars	7.9	46.1
Fruit Bars	12.5	28.7
Granola Bars	9.8	30.1
Biscuits and Snack Bars	14.3	83.9

Source: Euromonitor International (2015b)

5.2.2.2 Beverages

- **Hot drinks**

Tea has for a long time been considered the national Egyptian traditional drink and it is very important to the daily routine of many Egyptians. Nevertheless, coffee is also getting increasingly popular and this is especially driven by the introduction of many Western coffee brands in Egypt. Thus, similar volume growth was recorded by tea and coffee in 2014, however, innovations and new product launches in coffee continue to supersede tea (Euromonitor International, 2015e).

Instant coffee mixes were driving the growth trends of coffee in Egypt during 2013 and 2014, with a growth rate between 20% and 30%. Nevertheless, standard instant coffee still occupied 76% in 2014 and its sales continued to increase. Hot drinks grew by 1% in 2014 and are expected to exceed this growth rate in the coming years in both off-trade and on-trade channels due to the stronger economic growth in the country and the further normalisation of daily life (Euromonitor International, 2015e).

- **Soft drinks**

Soft drinks returned to positive growth in 2014 after facing some drawbacks between 2011 and 2013 owing to the political situation in Egypt. Thus, soft drinks recorded 2% sales volume growth and 11% sales value growth in 2014 (Table 5.6). Especially the off-trade channel derived growth through intensive advertising among the major players in order to grow consumers' base. The major players are Coca Cola and PepsiCo. PepsiCo Egypt led with 28.4% sales value share, followed by Coca Cola Egypt with 21.6% sales value share in 2014, due to the companies' dominance of carbonates. The sales increased again in 2014 particularly in Ramadan due to strong promotions tailored for the occasion by the market leaders (Euromonitor International, 2015i).

PepsiCo and Coca Cola decided to invest for further expansion in Egypt. Soft drinks witnessed new product developments in 2014 that are represented mainly in new flavours. Soft drinks are expected grow stronger in the upcoming years (Euromonitor International, 2015i).

Table 5.6: Off-trade vs on-trade sales of soft drinks by channel % value growth

% Current Value Growth	2013/14	2009-14 Total
Off-trade	13.7	75.1
On-trade	9.6	18.7
Total	11.0	33.9

Source: Euromonitor International (2015i)

5.2.2.3 Beauty and personal care

The beauty and personal care market in Egypt does not seem very promising currently as consumers tend to be reluctant to spend on luxurious products rather than essentials due to the limited purchasing power, thus, some segments in this category might see a decline. It is likely that in the near future Egyptians will continue to be more economically conscious than previous years and concentrate their spending on essential products, such as food and drinks especially as the prices of these essentials continue to rise. The sales value share of beauty and personal care sector, however, recorded 10.2% growth in 2014 (Table 5.7) (Euromonitor International, 2015a).

Table 5.7: Sales of beauty and personal care by category % value growth

% Current Value Growth	2013/14	2009-14 Total
Baby and Child-specific Products	11.4	73.8
Baby and Shower	7.5	53.8
Colour Cosmetics	10.2	70.7
Deodorants	11.9	80.0
Depilatories	12.6	93.1
Fragrances	13.0	79.2
Hair Care	13.1	110.7
Men's and Grooming	8.7	61.1
Oral Care	11.2	82.8
Oral Care Excl Power Toothbrushes	11.2	82.8
Skin Care	11.2	71.2
Sun Care	11.1	69.7
Sets/Kits	12.2	77.8
Premium Beauty and Personal Care	11.5	65.3
Mass Beauty and Personal Care	10.1	53.1
Beauty and Personal Care	10.2	69.5

Source: Euromonitor International (2015a)

The beauty and personal care market is expected to grow steadily but not substantially. Locally produced brands have a better chance to grow as consumers continue to prefer purchasing low priced products and are looking for promotions. Foreign branded products that have local manufacturing facilities have also sustained growth, but it is claimed that this is a result of increased promotions (Euromonitor International, 2015a).

The categories that are growing briskly in this channel are hair care and men's shaving products as they offer continuous promotions. Gillette, for example, is a foreign brand name that tends to sell better when the company offers discounts and promotions. This supports the theory that these types of products tend to be more successful in channels that can manage to discount certain product categories (Euromonitor International, 2015a).

5.2.2.4 Home care

The number of outlets of supermarkets and hypermarkets is expanding as the economy begins to recover from the recession. This is a result of the increased price promotions offered by producers as demanded by consumers to limit the daily expenditure. As a result of the incresed price promotions and the introduction of a larger variety of home care

brands and products, sales grew and consequently, value sales of the home care category increased by 13.8% in 2014 (Table 5.8). Sales of new more premium home care products such as automatic detergents were encouraged too, especially among higher-income consumers (Euromonitor International, 2015d).

Table 5.8: Sales of home care by category % value growth

% Current Value Growth	2013/14	2009-14 Total
Air Care	2.6	19.3
Bleach	10.8	43.6
Dishwashing	16.2	73.8
Home Insecticides	12.8	54.2
Laundry Care	13.9	94.3
Polishes	13.9	49.6
Surface Care	15.4	83.8
Toilet Care	4.2	22.0
Home Care	13.8	79.1

Source: Euromonitor International (2015d)

The leading companies operating in the Egyptian home care market in 2014 were Port-Said Detergents, Procter & Gamble, and Henkel with 55% as a joint retail value share. Egyptian consumers tend to demonstrate strong brand loyalty for these companies as they enjoy global presence and offer competitive pricing. This enabled these companies to benefit from repeated purchasing trends by Egyptian consumers. As with other companies in the FMCG industry, the companies in the home care sector started offering aggressive price promotions to maintain their sales among middle and lower income consumers who are affected by rising daily costs (Euromonitor International, 2015d).

Section 5.2.2 and its subsections summarised the status of the Egyptian FMCG major sectors during the last few years, alongside their expansions and major players' shares in each sector. After investigating the Egyptian FMCG market; the packaged food sector, the beverages sector, the beauty and personal care sector and the homecare sector were selected due their size and growth rate to the be screened for potential case studies nominations. The criteria of selection of the potential case studies that are relevant to the research purpose are described in the next section.

5.2.3 Criteria for case studies' selection and developing the case study protocol

The Egyptian FMCG market was studied in order to screen case study nominations from this market and select the most eligible cases to be conducted. So criteria were set to ensure that the chosen companies are qualified to serve as the case studies in the application phase of this research:

- The candidates should be adopting the demand driven SCM concept and implementing cross-functional (marketing-sales-supply chain departments) integration processes to be considered eligible case studies for this research.

- It is preferable that the candidates are MNC operating in many markets around the world with large market coverage.

- The candidates should have been operating in the Egyptian FMCG market for at least five years.

- The candidates should be possess reasonable value and volume market shares worldwide and in Egypt.

- The candidates should reputable companies complying with the country's rules and regulations.

- The candidates should be working with a comprehensive and accurate system in order to keep data on all activities. This ensures accuracy and eases the data collection process during the research phases.

- The candidates should be willing to grant access to the researcher during the different research phases.

5.2.4 Case studies' selection and identification

According to the set criteria in section 5.2.3, five MNCs, out of eight screened potential candidates operating in Egypt, were selected to serve as case studies for this research (Table 5.9). Eight MNCs companies were selected as potential candidates but only the five companies presented here showed interest in the research topic and were willing to grant access to the researcher. These MNCs are considered leaders in the FMCG industry in Egypt and worldwide. They enjoy a large global coverage, are reputable companies and are willing to grant access to the researcher. According to pilot interviews, the companies confirmed to be adopting demand driven SCM and always developing new processes to improve cross-functional integration.

Four of these five MNCs are listed in the Gartner top 25 professional annual research that identifies global supply chain leaders and announces their best practices. A major factor that contributes to establishing the ranking of the Supply Chain Top 25 is the company's demonstration of demand-driven leadership and a compilation of financial metrics namely, revenue growth, return on assets (ROA) and inventory. Also peers' opinions and Gartner supply chain analysts opinions are another key factor in the ranking (Gartner Inc, 2015a).

The companies in the top 25 demonstrate internally focused supply management functions and entire supply chains that achieve a profitable reaction to demand. Gartner research highlights best practices in order raise the benchmark of performance for the rest of the industry. Gartner's analysis of these top companies can to be used to develop and operate more integrated and demand-driven supply chain strategies (Gartner Inc, 2015a).

A number of these companies are insisting on building foundational components of an integrated end to end supply chain among partners, while concentrating on enhancing core supply chain functions, and developing processes and systems that are more common across all supply chain partners. These foundational components include end-to-end supply chain segmentation, cost-to-serve analytics, simplification and supply network optimization (Gartner Inc, 2015a).

Gartner was used as a tool to identify MNCs that are eligible for the purpose of this research especially because this research has a similar goal which is to use the practices of industry leaders to generate and benchmark a new tool for cross-functional integration between marketing and supply chain in order to improve performance.

The top five companies in Gartner's top 25 for 2015 include Unilever and Procter & Gamble (P&G) which are two major candidates participating in this study. P&G is one of the two inaugural companies to join a new Masters category for 2015 that recognizes companies' sustaining leadership over the last 10 years.

The three other companies decided not to declare their names, thus, the names of the companies will not be used for confidentiality purposes. These participating companies will be referred to as "the Soft Drinks Company", "the Sweet and Savoury Snacks Company" and "the Chocolate Confectionery and Biscuits Company" in this research. They are all MNCs operating in Egypt for more than 10 years, enjoy global presence and fulfil all previously set criteria. Table 5.9 summarizes the characteristics of the candidates that make them eligible for this study and Table 5.10 highlights the Egyptian FMCG sectors (analysed in the previous section) that the candidates operate in.

Table 5.9: FMCGs' companies covered in this study

Company	**Global coverage and scale 2015**	**FMCG sectors and Egyptian market value shares 2014**	**The Gartner Supply Chain Top 25 for 2015**
Unilever Mashreq	Multinational operating in 150 countries, brands are being sold in 190 countries	Hot drinks 27.1% Beauty and personal care 9.4% Powder soup 27.8	Global ranking: 3rd place in the top 25 rankings and 1rd FMCG
Proctor and Gamble Egypt	Multinational operating in around 75 countries, brands are being sold in 180 countries	Home care 25.6 % Beauty and personal care 9.4%	Global ranking: masters place in the top 25 rankings
The Soft Drinks Company	Multinational company operating and brands being sold in around 200 countries	Soft drinks more than 28%	Listed in the top 15 ranking of Gartner
The Sweet and Savoury Snacks Company	Multinational company operating and brands being sold in around 200 countries	Sweet and savoury snacks more than 50%	Listed in the top 15 ranking of Gartner
The Chocolate Confectionery and Biscuits Company (Chocolate Confectionery, biscuits and ice cream)	Multinational company operating in around 73 countries	Confectionery more than 11% Ice cream more than 2%	Not listed on the Gartner Supply Chain Top 25 for 2015

Source: Compiled by author based on Euromonitor International (2015k); AC Nielson (2015); Gartner Inc. (2015a,b); Unilever (2016a,c) and P&G (2015a,b)

Table 5.10: Egyptian FMCG sectors case studies operations

Company / FMCG sector	Unilever Mashreq	P&G Egypt	The soft drinks company	The sweet and savoury snacks company	The chocolate confectionery and biscuits company
Packaged food	√			√	√
Beverages	√		√		
Beauty and personal care	√	√			
Home care	√	√			

As Unilever and P&G are the two major case studies that agreed to reveal their participation in this research, the following section will briefly highlight their global and Egyptian history and market presence.

5.2.4.1 Proctor and Gamble

Their headquarters is located in in Cincinnati, USA. The P&G Co. is considered one of the leading FMCG companies in the world. In 1837 it was founded as a soap and candle maker and evolved to become a giant packaged consumer goods company with nearly US$80 billion in annual revenue (Euromonitor International, 2015g).

P&G is a very large producer in four consumer-facing industries, namely, health and wellbeing, beauty and personal care, tissue and hygiene and home care. It used to produce pet care products but decisions were recently made to divest brands in this category, also packaged food brands were downsized (Figure 5.2). Beauty and personal care have generated $51.4 billion in retail value sales in 2014, while the company's tissue and hygiene portfolio and home care portfolio generated $30 billion each. P&G's tissue and hygiene products include sanitary protection, kitchen towels and nappies/diapers, whereas home care products are comprised of dishwashing and laundry detergent brands (Euromonitor International, 2015g).

During the last three decades P&G undertook a number of acquisitions, most importantly the acquisition in 2005 with $53.4 billion purchase price when it took over Gillette. Since then P&G has turned into one of the world's leading FMCG companies. P&G generated $117.4 million retail value sales globally with 95% generated by beauty and personal care, home care and tissue and hygiene products (Figure 5.3).

In mid-2014 P&G divested around 100 brands from its broad portfolio as it started concentrating on 70-80 core brands that generate the majority the company's revenues and profit (Euromonitor International, 2015g).

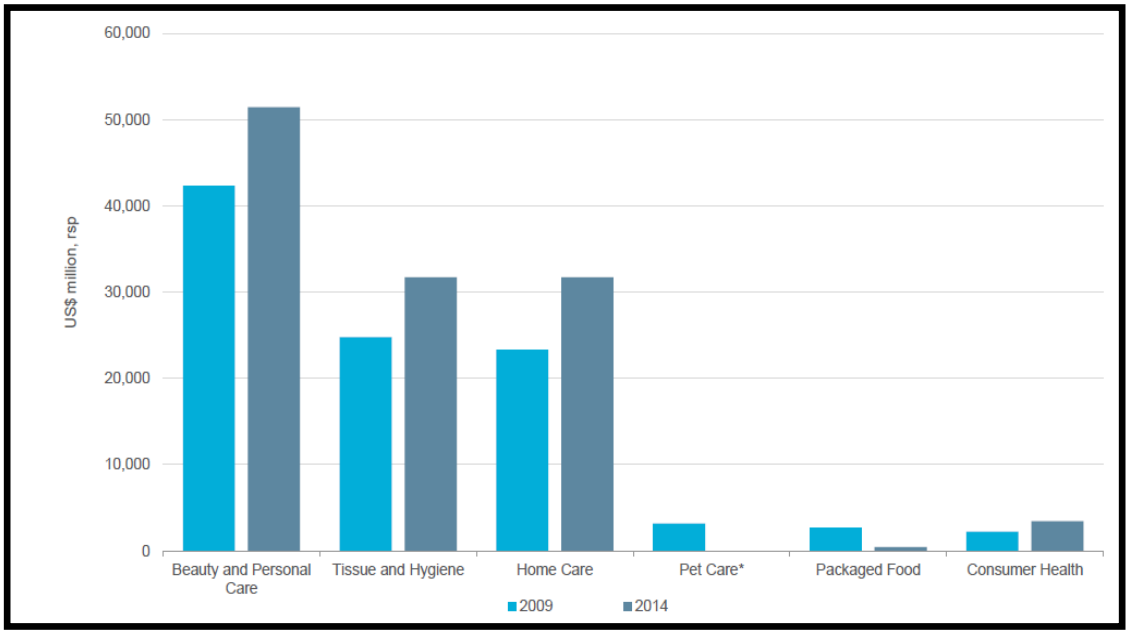


Figure 5.2: P&G global consumer facing categories sales by industry 2009/14
Source: Euromonitor International (2015g)

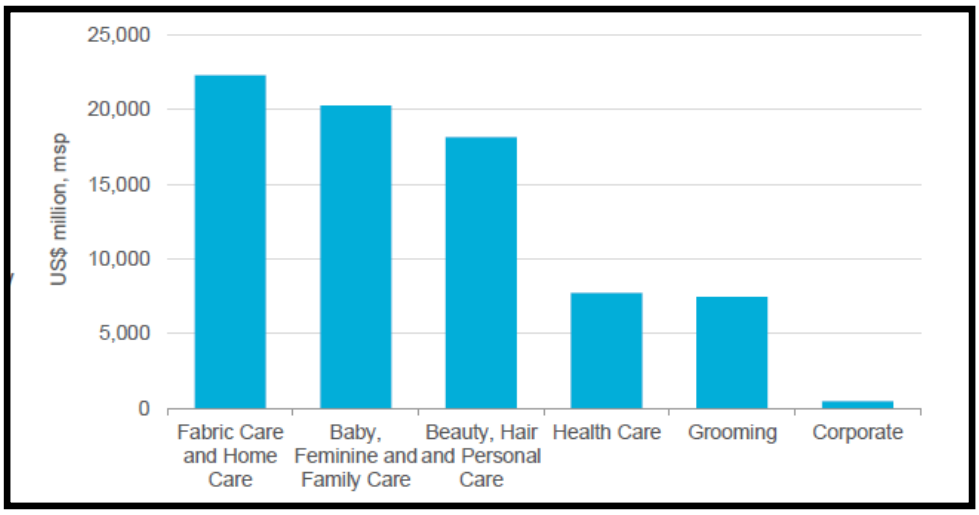


Figure 5.3: Proctor and Gamble revenue by reporting unit fiscal year 2015
Source: Euromonitor International (2015g)

5.2.4.2 Proctor and Gamble Egypt

P&G Egypt was established in 1986 as a medium sized manufacturer of Camay bar soap and Crest toothpaste with initial investments of $3 million and a workforce of 50. P&G Egypt has evolved from a modest manufacturer to one of Egypt's most vibrant and successful MNC. Today, P&G Egypt is investing over $425 million, making it one of the largest foreign direct investors in the country. The company employs around 1,500 skilled workforce and around 10,000 Egyptians are employed in businesses and services

supporting P&G business, such as supplies, logistics, advertising and consultancy services (P&G, 2015b).

In recognition of its outstanding performance and quality, P&G-Egypt was honoured with the National Award for Excellence, the country's most prestigious award for the industrial sector. The company was also featured in the prominent list of the Middle-East's top employers, compiled by Hewitt Associated, for three consecutive rounds in 2009, 2011 and 2013 (P&G, 2015a,b).

In 2014 its market share in home/household care was 25.6% retail sales value from the sales of the brands operating in Egypt. P&G's home care brands operating in Egypt are Ariel, Tide, Bonux, Downy, Fairy and Braun. Meanwhile, P&G's retail sales value share in 2014 was 9.4% of the Egyptian personal care market generated from Camay, Zest, Pantene, Pert Plus, Head and Shoulders, Herbal Essences, Oral B, Crest, Gillette and Safeguard. The third FMCG sector in which P&G operates in Egypt is tissue and hygiene with Pampers and Always (Euromonitor International, 2015g; P&G, 2015b).

5.2.4.3 Unilever Company

Unilever is a British-Dutch MNC with headquarters in Rotterdam, Netherlands and London, United Kingdom. Its portfolio consists of food and beverages, home/household and personal care products. Unilever is considered the third-largest FMCG company after P&G and Nestlé as of 2012 revenues and also the world's largest producer of food spreads. Moreover, Unilever is one of the oldest and most profound MNCs operating in 150 countries and its products are being sold in around 190 countries all-over the world. Its brands and consumers are very diverse as it offers more than 400 brands with its top 13 brands generating sales of over $1.5 billion a year (Unilever, 2016b).

Since 2009 Unilever foods category has not been performing well in terms of sales growth, nevertheless, its core operating margin has been almost on balance with that of personal care and significantly above that of home care (Figure, 5.4). It has been above the company's overall margin for the last three years. In 2014 the foods' operating margin

was 20% in comparison to the company's average of 14%. Therefore, this high operating margin of Unilever's food products reflects the profitability and the segment's efficient cost management. Meanwhile, the home care category was Unilever's fastest growing segment in 2014 (Euromonitor International, 2015l).

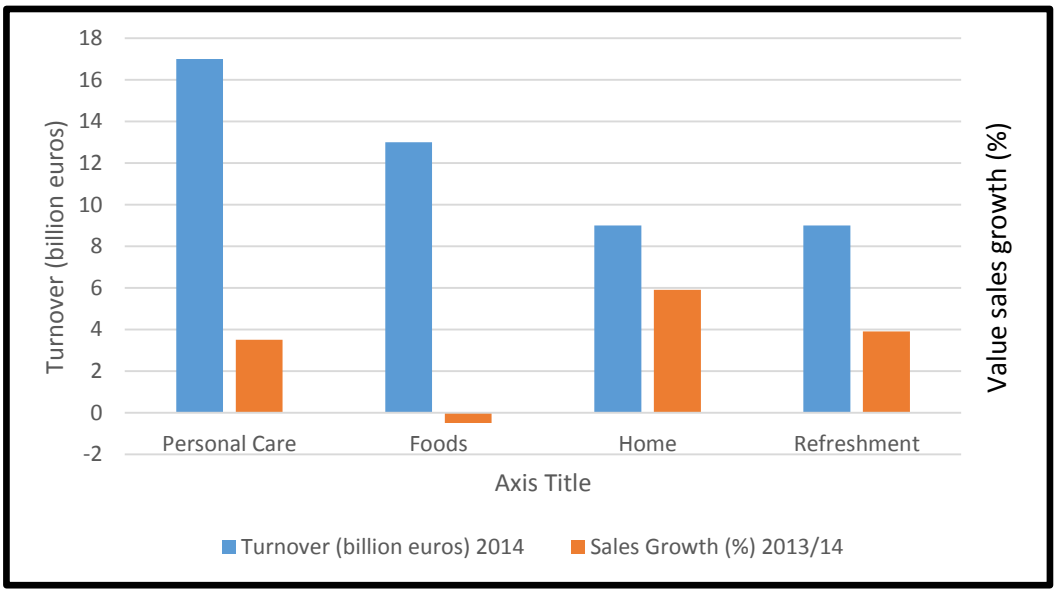


Figure 5.4: Unilever turnover and sales growth by segment 2015
Source: Unilever (2016b)

5.2.4.4 Unilever Mashreq

Since 1933 Unilever's products have been sold in the North African and Middle East region including Egypt. In 1992, Unilever entered a joint-venture with Fine Foods Company, one of the Rachid group companies, which resulted in the establishment of Lever Egypt. Seven years later Fine Foods Group merged with Lever Egypt forming Unilever Egypt. Unilever is considered one of the leading FMCG MNCs of the region and also the largest TV advertiser in the region. Unilever Egypt is the headquarters of Unilever Mashreq (Egypt and Levant countries: Lebanon, Palestine, Jordan, Iraq, Sudan, and Syria). In Mashreq territory, Unilever is the market leader of the majority of the FMCG sectors in which it operates (Unilever, 2016a,c).

Unilever built several factories across the North African and Middle East region to ensure that the majority of its products sold in the region are manufactured locally. The home care factories are located in Algeria, Morocco, Tunisia, Egypt and Saudi Arabia. As for

the foods production facilities these are located in Morocco and Egypt while the tea facilities are located in Jebel Ali, Dubai and Egypt. Finally the personal care factories are located in Saudi Arabia, Tunisia, Algeria and Egypt (Unilever, 2016a,c).

In 2014 Unilever Mashreq market share in hot drinks was 27.1% retail sales value from the sales of its brand operating in the Egyptian market, namely, Lipton tea. Meanwhile, its retail sales value share was 9.4% of the Egyptian personal care market generated from Axe, Close up, Dove, Lux, Rexona, Signal, Sunsilk, Vaseline, Clear, Fair & Lovely, Ponds, Sunlight soap and Good Morning soap in 2014. The third FMCG sector in which Unilever operates in Egypt is foods with Knorr brand which consists of a wide range of soups, stock cubes, bouillons, seasonings and sauces and in 2014 it occupied 27.8% of the Egyptian powder soup retail sales value share. The fourth category is home care in which Unilever sells JIF, Lifebuoy, Comfort and Omo (Euromonitor International, 2015l; Unilever, 2016c).

5.3 Empirical study: primary data collection and analysis

A preliminary letter describing the nature of the research was submitted to each MNC as a request to consider the company as a research case study and to be granted access. Moreover, supply chain and marketing managers and directors were approached to approve and participate in the study. Access was granted and consent letters were signed by the participants in each company. In order to provide insight to the case study project the case study protocol was developed. The protocol is compiled of the phases' corresponding questions, the data collection procedures and an overall guide for the final case study report. See Appendix I for the detailed case study protocol.

The researcher met the informants in each MNC to introduce the procedures to be undertaken in the study, the level of cooperation between the researcher and the company, the level of strategic and tactical managers needed to participate in the individual and group interviews and the secondary data needed (documents, archival records, presentations etc.). Unilever Mashreq and P&G Egypt agreed to share confidential secondary data while the other three MNCs restricted their participation in the study to experts' opinion sharing through their managers' participation in the interviews. Thus, the researcher scheduled visits to the MNCs to interview strategic and tactical SCM and marketing managers and gathered qualitative primary information related to the exploratory phase that was conducted in 2012 through semi-structured interviews (Figure 5.5).

After the completion of the exploratory phase, the researcher decided to collect quantitative primary data from the participants of the case studies through structured individual and group interviews to validate the outcomes of the exploratory phase, and to verify the generated proposition. This phase was conducted at the end of 2012 and start of 2013 (Figure 5.5). More details related to this phase are demonstrated in chapter six. In addition, in-depth observations were required to follow and understand the level and scheme/process of cross-functional integration taking place in the represented company between the marketing department and the SCM department. Cross-functional process mapping is further investigated in chapter seven.

The company that approved this type of observation was Unilever Mashreq. Therefore, a confidentiality agreement, also known as nondisclosure agreement (NDA), was formulated by Unilever's legal department and signed by the researcher and the company's legal representative to grant access to confidential data. The NDA is a form of protection against public disclosure of confidential information. According to this NDA the company's figures (financial measures and performance measures) were expressed in terms of trends rather than real values. Also, the information related to specific business issues obtained from the observations of closed meeting were not disclosed. See Appendix II for a copy of the NDA.

Table 5.11 summarises the three case study phases along with their targeted outputs, data collection procedures and phases' questions.

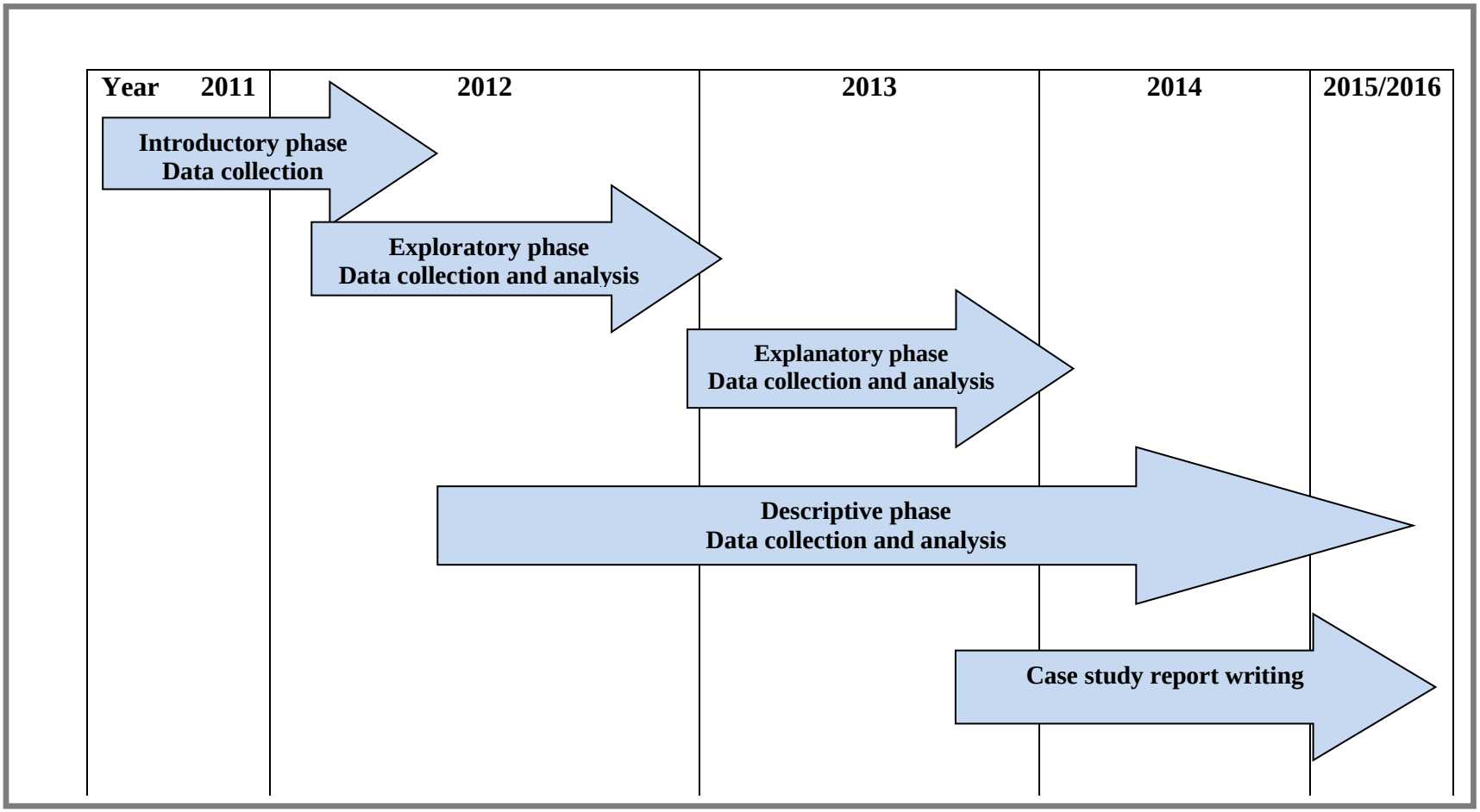


Figure 5.5: Time frame for case study phases

Table 5.11: Summary of the three case study phases – targeted outputs, data collection procedures and phases' questions

<table>
<tr><td colspan="7">Main research question: How can the impact of the marketing/SCM integration phenomenon on SCP and business performance be measured?</td></tr>
<tr><td colspan="7">Introductory phase</td></tr>
<tr><td colspan="2">Case studies' selection criteria identification</td><td colspan="3">Targeted output</td><td colspan="2">Data collection method/ model /technique</td></tr>
<tr><td colspan="2">What are the criteria of the organisations to be used as case studies?</td><td colspan="3">Identification of multinational companies operating in the Egyptian FMCGs market regarded as SCM best practices</td><td colspan="2">Online references, statistical reports, industry reports, periodicals and specialised journals</td></tr>
<tr><td colspan="7">Case study design and analysis</td></tr>
<tr><td>Phase</td><td colspan="2">Case study phase and assigned chapter</td><td colspan="2">Targeted output</td><td>Data collection method/ model/ technique</td><td>Case study specific phase questions</td></tr>
<tr><td rowspan="3">1</td><td rowspan="4">Chapter 5</td><td rowspan="4">exploratory</td><td colspan="2">Understanding the marketing/SCM cross-functional integration status at the selected cases studies.</td><td rowspan="4">1- Archival records
2- Interview (semi-structured/individual and group)
3- Informants
4- Documentation</td><td>What is the status of cross-functional integration?</td></tr>
<tr><td colspan="2">Identification of the marketing capabilities of the case studies that possess the ability to impact SCP.</td><td rowspan="2">Proposition</td><td>What are the marketing capabilities that can affect SCP in the selected companies?</td></tr>
<tr><td colspan="2">Identification of the corresponding marketing/SCM integrative performance measurements of the case studies.</td><td>What are the SCP metrics that might assess the impact of the marketing capabilities on SCP at the selected companies?</td></tr>
<tr><td>2a</td><td colspan="2">Analysing and ranking the strength of the relationship between the identified integrative marketing capabilities and each SCP attribute.</td><td rowspan="2">Validated conceptual framework

Accept/reject proposition</td><td rowspan="2">1- Structured Interview (formal survey)
2- SCOR Model version 9
3- Informants</td><td>How strong is the relationship between each identified marketing capability and each SCP attribute?</td></tr>
<tr><td>2b</td><td colspan="2">Development of a marketing/SCM measurement metrics capable of assessing the integration impact on SCP and business performance.</td><td>Which SCP measures are the most capable of reflecting the integrated capabilities impact on each SCP attributes?</td></tr>
<tr><td>3</td><td>Chapter 6</td><td>Descriptive</td><td colspan="2">Mapping the detailed cross-functional integration process between the marketing and the SCM departments at the case studies.</td><td>Practical cross-functional integration process model</td><td>1- Documentation
2- Archival records
3- Interview (unstructured)
4- Informants
5- Performance metrics
6- Observations</td><td>How does the integration process function?</td></tr>
</table>

5.4 The exploratory phase: primary qualitative data collection and analysis

Chapter three provided an insight into the methodology followed by the researcher in developing a preliminary conceptual framework addressing a measured cross-functional integration concept based on an analytical literature review. Thus, the empirical study starts with an exploratory phase to gather primary data related to different aspects of the framework.

Exploratory phase: targeted outputs (Table 5.11)

- Understanding the marketing/SCM cross-functional integration status with regard to the business culture at the selected case studies.
- Identification of the marketing capabilities of the case studies that possess the ability to impact SCP.
- Identification of the corresponding marketing/SCM integrative performance measurements of the case studies.
- Generating propositions.

In section 5.2.2 an introductory phase was presented briefly highlighting the FMCG Egyptian sectors the case study companies are operating in, their characteristics, the scope of operation and the market coverage of each case study. Moreover, as P&G and Unilever accepted disclosure of their participation in the study their historical development, specific scope of operations and detailed sectors and brands, world and Egypt market shares and coverage were highlighted.

At this exploratory phase the researcher gathered primary data through scheduled meetings with strategic and tactical SCM and marketing/sales managers (Table 5.12) at the MNCs participating in the study (undertaken in 2012). Due to the purpose of the research the managers interviewed were specifically chosen by top management to participate. As the research aims at gaining in-depth insights of the research phenomenon, two to four managers were assigned by each company's top management to engage in this research. The positions of these interviewees included marketing managers, trade marketing and sales managers,

demand planners, supply planners, operations managers and customer service excellence managers. Mainly the data was gathered through semi-structured interviews on the organisations' supply chain structures, supply chain internal and external interfaces, strategy, integration processes, inter-functional marketing and SCM measures. Moreover, the experts were also asked to identify, based on their expertise, the measures they consider as reflecting the impact of integrating marketing and SCM efforts during the different supply chain processes, namely, Plan, Source, Make and Deliver. Return is out of scope of this study as it is a backward facing process while this research focuses on the forward facing processes.

They were also required to evaluate the marketing capabilities that have an impact of the five SCM attributes (RL, RS, AG, CO and AM) alongside the primary conceptual framework initially developed by the researcher. Based on their review the framework was further developed and a proposition was generated.

Table 5.12: List of semi-structured interviews' participants

Interviewee		**MNC**	**Duration of interview**	**Interview type**
Position	**Department**			
Supply chain customer service manager	SCM	The chocolate confectionery and biscuits company	120 min	Individual
Supply chain general manager	SCM	The chocolate confectionery and biscuits company	90 min	Individual
Marketing manager	Marketing	The chocolate confectionery and biscuits company	120 min	Individual
Business Development manager - sales	Trade marketing	The sweet and savoury snacks company	120 min	Group interview
Assistant trade marketing manager	Trade marketing	The sweet and savoury snacks company		
Supply and production planning manager	SCM	The soft drinks company	105 min	Individual

Assistant trade marketing manager - sales	Trade marketing	The soft drinks company	90 min	Individual
Demand planner	SCM	The soft drinks company	90 min	Individual
SC- Materials Supply management & CEEMEA manager	SCM	Procter and Gamble	120 min	Individual
Sales and Business development - section manager	Trade marketing (Sales)	Procter and Gamble	120 min	Individual
Supply chain division manager	SCM	Unilever Mashreq	90 min	Individual
Home and Personal Care Products Trade marketing manager	Trade marketing (Sales)	Unilever Mashreq	120 min	Group interview
Supply chain - Customer Service Excellence manager	SCM	Unilever Mashreq		
MSO- demand planner	SCM	Unilever Mashreq	90 min	Individual
MSO Planning Manager	SCM	Unilever Mashreq	90 min	Individual
Personal care – brand manager	M arketing	Unilever Mashreq	90 min	Individual

As this analysis was conducted based on data collected from the experts' semi-structured interviews, companies' documentation and archival records, thus, multiple sources of evidence were used to ensure case construct validity. All interviews were audio taped and notes were written down after asking the interviewees to sign a written consent form (consent letter form Appendix III), hence, a chain of evidence was established to further guarantee construct validity. A case database with all data collected was constructed, consequently, ensuring case reliability. In addition, one or two key informants were selected at each MNC as a primary source of information in order to provide access to the desired information and

to ensure continuous communication between the organisation and the researcher. The informants should be objective and unbiased. Again, using informants enhances the construct validity of the case. Lastly, using the same procedure at all cases studied reflects the 'replication logic in multiple-case studies' which again ensures external validity.

The questions (or in a similar formulation) that were discussed with the experts at this phase include the following (the detailed semi-structured interview questions are illustrated in Appendix IV):

- Explain the structure of your organisations in terms of departments and the hierarchy.
- Explain the supply chain structure, boundaries and strategy in your company.
- What is your perspective about the relationship between marketing and SCM?
- Does your organisation support cross-functional integration between different functional domains such as marketing/sales and SCM? If yes how does this integration take place?
- Do you think that supply chain performance attributes (Reliability, Responsiveness, Agility, Cost and Asset Management) might be affected by marketing capabilities and functions such as market research, marketing forecasts, segmentation and targeting, product development, pricing, promotion, marketing channels, sales activities, information sharing, CRM etc.?
- What marketing functions/activities do you think affect supply chain performance most?
- How do you measure SCP in your organisations? Are there any specific measures or KPIs? Do you measure the overall supply chain performance to the customer's customer or only to your direct customers?
- Do any of these measures reflect the marketing SCM/integration? Are there other measures you can think of that are capable of assessing the impact of this cross-functional integration?

Then, the interviewees were also asked to evaluate the proposed marketing capabilities in relation to the SCP standard attributes (RL, RS, AG, CO and AM) and the proposed conceptual framework (See Appendix IV). Some aspects of the following analysis were

supported by companies' archival records and documentations such as performance scorecard, KPIs handbooks and organisations' and supply chain structure charts.

The following section addresses the semi-structured interviews' main aspects and results.

5.4.1 Supply chain structure, scope/boundaries and strategy

This part addresses the position of the SCM department inside the organisations' structures, the supply chain strategy, boundaries and scope. The cases that have been examined differ regarding the mentioned domains. Thus, this section attempts to demonstrate the different models present at the studied cases.

- **Organisations and SCM structure**

The structure of the SCM department and its position inside each organisation structure differed but mainly two models can be illustrated based on the interviews with the participants of the five case studies and the organisations' documentation. The models in Figure 5.6 represent an idea of the structures of the five case studies but do not exactly reflect the situation of each case.

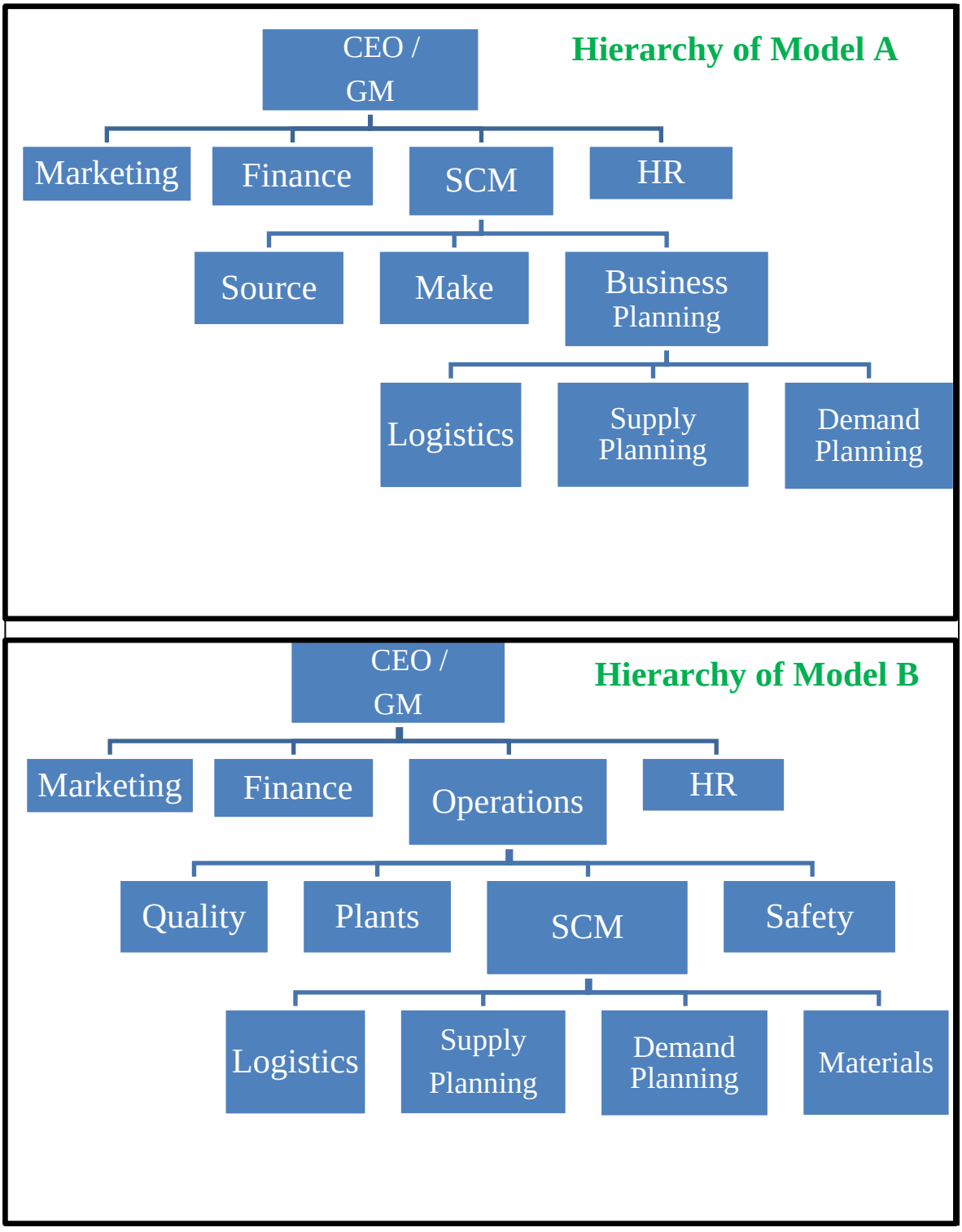


Figure 5.6: Models of SCM position and structure at the studied cases

As illustrated in Figure 5.6 the Chief Executive Officer (CEO) or the General Manager (GM) is at the top of the organisations' structure then at the second level the main business departments are located. In Model A SCM is among the main business departments at the same level with Human Resources (HR), Marketing and Finance (e.g. the case of Unilever Mashreq) whereas in model B the SCM department is replaced by another department called Operations which includes SCM as its subordinate (the case of the Soft Drinks Company and the Sweet and Savoury Snacks Company). The terminology SCM department per se does not exist at two of the case studies although they do implement the SCM concept and are ranked among Gartner top 25 Supply Chain leaders.

Operations department as illustrated in Model B contains SCM, Quality, Safety and Plants (factories). The scope of SCM in this case includes Logistics, Supply and Demand Planning and Materials Management. Thus, manufacturing is outside of the SCM scope in this example. Plants management is put in the same position or rank as SCM and is part of the overall Operations. While in Model A, SCM is a main business department and includes Source and Make processes which puts procurement and materials management, as well as, manufacturing and plants management under the umbrella of SCM. SCM also includes Business Planning which in turn contains the Logistics activities (Warehousing, transportation, packaging etc.), and the Supply and Demand Planning. Model A represents a much wider scope of SCM.

In reality, the structure of the SCM department in the MNCs is not that simple, there is another horizontal perspective of it i.e. each of these MNCs is a leader of a number of countries in the same geographical area and thus, the demand planner in Lebanon for example has to report to Lebanon's MSO country leader and also to SCM manager or director at the headquarters (Egypt).

- **SCM scope and boundaries**

In the previous section the structure of SCM was discussed through illustrating Models A and B while in this section the scope and boundaries of SCM operations internally and

externally are elaborated. Again for the scope and boundaries of activities and operations there are two different models present at the case studies. Model A in Figure 5.7 is related to Model A in Figure 5.6 as the SCM processes of Plan, Source and Make are under the spectrum of SCM department but Deliver is a joint task between the company and the first Tier customer (the distributor) who is a long term partner (Figure 5.7). This is again the case at Unilever Mashreq for example and close to P&G's model.

In this model the distributor owns the Distribution Centres (DC) and the warehouses. He/she carries out the task of delivering the products to the Tier two customers (wholesale and retail). Nevertheless, the organisation works closely with the distributor, develops his operations, employs its staff at the premises and uses its own sales force in delivering the products using the distributor's vehicles' fleet. Moreover, the MNC integrates the systems of the distributor with its own system to work in harmony and measures the efficiency of the operations towards its customers (tier two) with secondary performance measures, for example, secondary Customer Case Fill Rate On Time (CCFOT). Thus, the red solid line in Figure 5.7 represents the actual SCM processes and operations undertaken by the company's own staff and the dotted line represents the width of scope/reach of the SCM processes and activities even if undertaken through the downstream partner (intermediary).

Model B in Figure 5.7 is also related to Model B in Figure 5.6. Although the Make process is not under the spectrum of SCM in Model 5.6, the Operations department with SCM as a subordinate is considered in Figure 5.7. Thus, companies representing Model B cover all SCM processes of Plan, Source, Make and Deliver. Deliver is undertaken by the organisation itself using its own fleet, owning its DCs and warehouses and using its own workforce, only relying on distributors for 10% of its operations. This is the case of the Soft Drinks Company and the Sweet and Savoury Snacks Company.

Meanwhile, companies in Model B measure the efficiency of SCM operations at their own warehouses e.g. Case Fill Rate is calculated for deliveries to the companies' own DC versus sales forecasts not for actual sales deliveries. Thus, customer facing performance measures are not realised. Moreover, as illustrated in Figure 5.7 the actual processes undertaken by the

companies themselves in Model B are more than in Model A, nevertheless, the reach of SCM processes and activities in Model A are much wider.

To illustrate the scope and boundaries of SCM processes of Models A and B the red line in Figure 5.7 represent the scope of activities undertaken by the company itself where the dotted blue line reflects the scope, control and ability of the company to measure the SCP with the help on other supply chain partners.

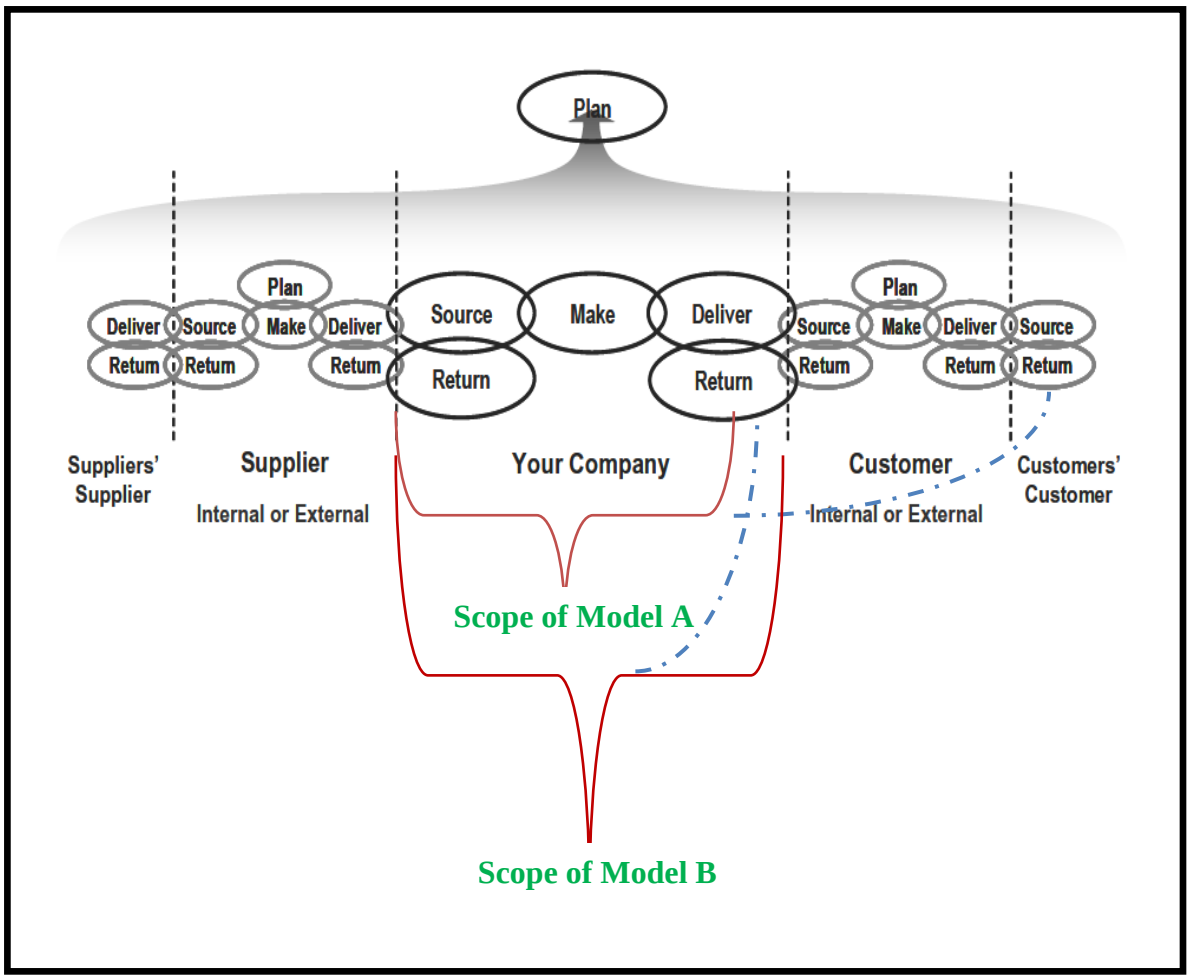


Figure 5.7: Scope and boundaries of SCM processes at the studied cases

- **SCM strategy**

The strategies of the cases represent either Make to Stock or Make to Order or a hybrid. The cases implementing Make to Stock claim that they are working in a dynamic FMCG industry and it is hard to wait for customers' orders in order to source and manufacture. They mainly depend on building stocks based on market forecasts in order to keep up with any sudden changes in demand. Nevertheless, companies that follow a Make to Order strategy have strong demand that is not satisfied with the current supply as the organisation's resources and capacity cannot fulfil these levels of demand. Therefore, they do not keep stock and consider themselves Make to Order (e.g. The Chocolate Confectionery and Biscuits Company and Soft Drinks Company).

The third strategy found at the case study companies is a hybrid between Make to Stock and Make to Order strategies. Unilever Mashreq and P&G Egypt consider themselves moving towards a hybrid as currently they follow a Make to Stock strategy, but improved forecasts accuracy enables them to keep minimum levels of stocks, thus moving towards a hybrid strategy. Especially, Unilever, as mentioned in the previous section regarding SCM scope and boundaries, is trying to stay ahead by measuring performance at the customer's customer (Tier two and three customers) which provides more insights about the market and enables improved forecasts.

5.4.2 Status of cross-functional integration between marketing/sales and SCM at the MNC studied

This section covers the cross-functional integration status at the case study companies mainly between the demand creation side of the organisations i.e. marketing and customer development (sales) departments and the demand fulfilling side, namely, SCM.

Marketing/SCM cross-functional integration at the case studies mainly takes place on a planning level across all supply chain processes, i.e. planning demand, planning supply, planning new product launches, planning sales promotions, planning customer involvement

programmes, planning distribution channels etc. The marketers do not really get involved in planning sourcing of raw materials, packs etc., nevertheless, the joint Make decisions, which for example, certainly affect sourcing decisions. Also, Make decisions are only integrated on a top level i.e. marketers do not get further involved in any Make processes but rather merely in the design of the product, the packaging and labelling designs, planning new product launches and sales promotions.

This cross-functional integration takes different forms at the different case studies depending on the firm's culture and professional practices. It can be demonstrated in scheduled business meetings between the different functions involved i.e. marketing and SCM departments. It can also exist through sub category teams, also called, product families which is the case at Unilever for example. Sub categories or product families consist of members from different business functions such as marketing, finance, SCM and sales who work together as a team planning and executing all activities related to a Strategic Business Unit (SBU) or a specific brand for example.

Another planning integration tool that is implemented at the five case studies is the Sales and Operations Planning (SnOP) model. Each company executes its own tailored practice of this planning and forecasting model. Basically this model of planning brings together the plans from the different business functions such as marketing, manufacturing, procurement, sales, logistics and finance to compile one overall integrated business plan. As explained in the previous section some cases consider manufacturing under the umbrella of the supply chain department while others do not. Nevertheless, the new trend is for categorising logistics, procurement, demand planning, supply planning and manufacturing under the spectrum of SCM, then, this planning process is executed mainly between marketing, sales (called at some case study companies Customer Development CD), SCM and finance.

The SnOP model is a process that integrates the customer-focused demand creating side of the organisation i.e. marketing and sales with the demand fulfilling side of the organisation, namely SCM. This is done through matching tactical plans in order to provide top management with the insights to take competitive strategic decisions.

The SnOP process is not about matching plans to fulfil demands successfully but rather to reconcile supply-demand plans and link them to business plans. The cycle of the SnOP process is intermediate so meetings are held at least once a month by the product family team management but practices vary at the different case studies. The cycle has to cover a time horizon sufficient to plan sourcing and making of the products. The experts at the case studies are convinced that when implemented properly, the SnOP can generate desirable outcomes in terms of tying the business strategic plans to the appropriate execution through proper planning and allows management to review integrative performance measurement accordingly. This cycle also allows management to compare between plans and actual performance through the review of performance measurements which supports continuous improvement.

Practices of the implementation of the SnOP planning process vary from one case to the other. It ranges from a simple balancing of demand forecasts with production capacity to a very mature strategically integrated planning system involving the whole organisation from strategic up to operational drawdown. Moving from a premature stage to a mature stage of this process is not an easy task because change is always difficult in any organisation. It takes changing the decision-making process, the informational analysis used for decision-making, the scope of duties and the skilled workforce involved. Nevertheless, it is seen as a necessity for continuous improvement and coping with the dynamic environment of FMCG.

Demand planning function was performed by the sales department in the past and was mainly only sales forecasting based on histrical data not taking any other factors into account. It then transferred to SCM and became the owner of the SnOP process. As comprehended from the interviews, demand planning is responsible for predicting future demand from placed customer orders, historical trends, prevailing market conditions and demand generating activities (e.g. advertising and new innovations) of the firm, as well as, its competitors.

Some organisations such as Unilever and P&G recently further transformed the function of demand planning into a new concept called Marketing and Sales Organisation (MSO). The

demand planning team was transformed into an MSO. This unit's responsibility is to forecast and manage the whole supply chain cycle till the stocks reach the destination. It is a development from being only concerned with forecasts in terms of planning techniques, styles and tools now to contain looking over shipments, inventories, stock cover, planned promotions, and new launches rather than only putting the forecasts according to formulas and calculating forecast bias and accuracy. The demand planning scope got enlarged. These inputs come from marketing and sales people specifically in each country (geographical segmentation) and MSO team plans accordingly.

Managing the MSO makes it the demand planning team responsibility to answer for shipments' delays, overstocks, long transit times etc. Thus, finished goods and their replenishment across geographical locations is the MSO's responsibility, which pushes the demand planning team to integrate the plans with the demand creation side, marketing, very accurately and carefully. All this is done from a strategic and tactical level not operational level as MSO owners do not get involved in delivering the products, logistics activities or distribution routes. All these task take place through the SnOP process. Cross-functional integration practices undertaken by the case studies are illustrated in Figure 5.8. More elaboration of the cross-functional integration and cases' cross-functional processes' mapping is covered in chapter seven.

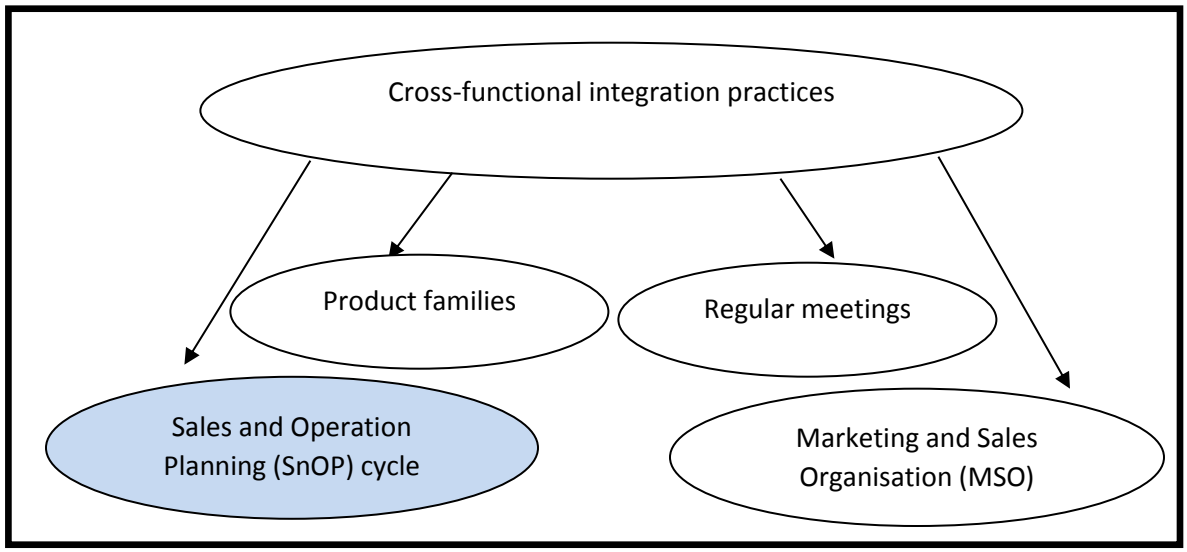


Figure 5.8: Cross-functional integration practices at the research studied cases

5.4.3 Marketing capabilities impacting SCP attributes

This section covers the marketing capabilities generated from the empirical study that are suggested to affect SCP and business performance. Although these capabilities are referred to as marketing capabilities, it is believed that they should still be integrated and sometimes jointly planned by both functional areas (marketing and SCM).

Based on the literature review on marketing capabilities, this research domain turned out to be under-researched especially marketing capabilities influencing SCP and generally business performance. Nevertheless, based on the scarce scholarly work in the marketing and SCM domains, the researcher was able to compile a set of preliminary marketing capabilities that are claimed to influence performance. This set of capabilities was presented to the marketing and SCM managers at the case studies who were intensively interrogated to further modify and validate these marketing capabilities. As a result of this in-depth discussion a new modified comprehensive set of marketing capabilities, that can impact SCP attributes, was developed (Figure 5.9).

It was strongly agreed that the strength of marketing remains in its ability to understand the market place through obtaining information and communicating the market desires to their peer functional areas at the company in order to integrate their efforts and create customer value. Thus, the researcher started analysing the practical aspects on marketing functions and capabilities with the interviewees in order to compile a modified practical set of marketing capabilities. They examined the integration activities between the functional areas e.g. SnOP process to investigate which capabilities might be influential to SCP.

After analysing the different integration aspects a modified set of capabilities was constructed (Figure 5.9). The following section discusses the aspects of changing the theoretical capabilities into the practical set of marketing capabilities suggested to be influential factors to SCP.

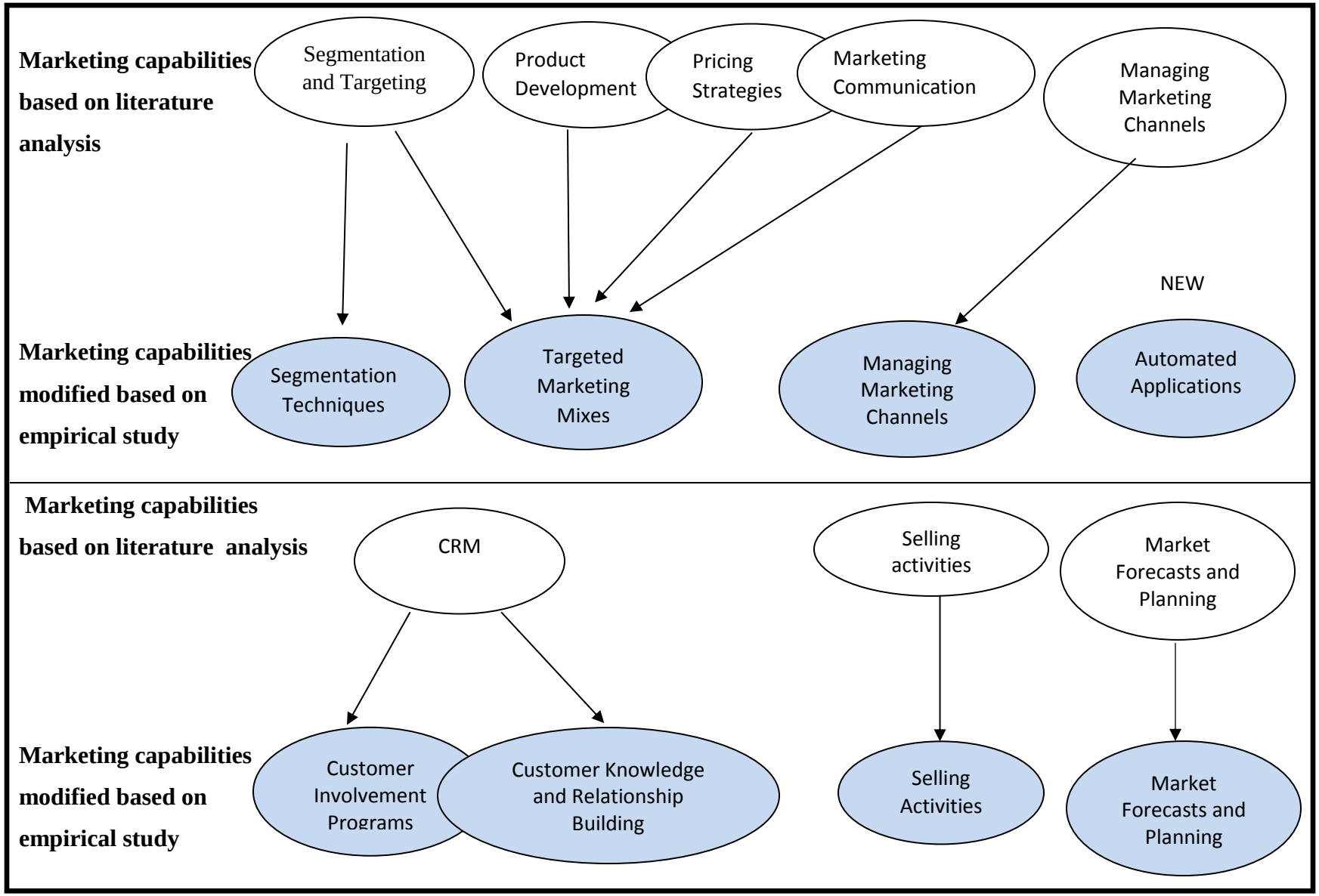


Figure 5.9: Marketing capabilities based on the empirical study

- **Segmentation techniques**

Segmentation and targeting capability was divided into two aspects, namely segmentation techniques and targeted marketing mixes (Figure 5.10).

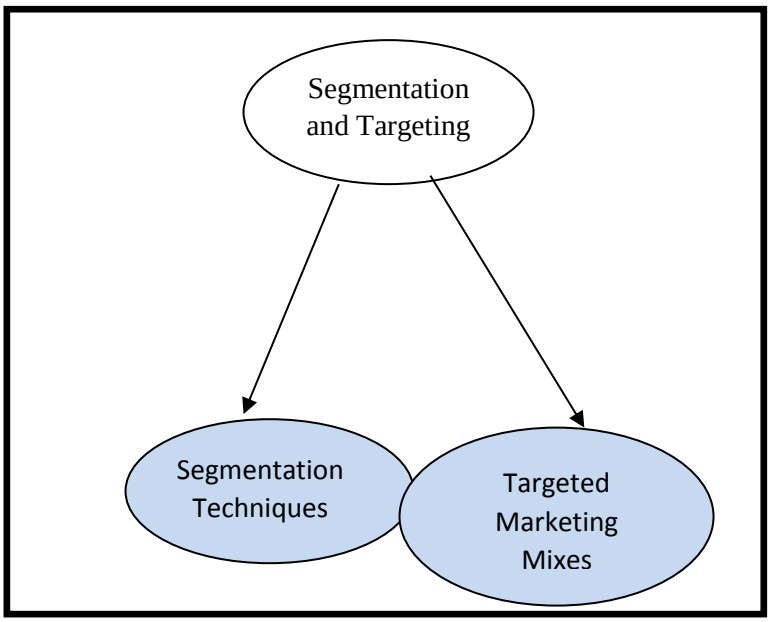


Figure 5.10: Segmentation techniques and targeted marketing mixes

Segmentation is seen by the majority of the interviewees as an influential capability on SCP various attributes from an RM or Business to Business (B2B) perspective. Business buyers at the studied companies are being segmented by geographical locations (countries, regions, cities, and neighbourhoods), channel (on-trade vs. off trade or wholesale vs. retail) and operational characteristics such as business scale, quantities ordered and shelf space. Also, account value is an important segmentation criterion used. Proper segmentation is claimed to reveal hidden opportunities, thus, influencing SCM to plan and implement accordingly or modify certain practices such as channels' design for example. In other words, segmentation is a management tool that helps divide the market into different customer groups with different characteristics which can be size of operations and hence, SCM can take decisions whether or not to directly deal with the customer or through an intermediary.

Instead of handling too many accounts directly the company can decide on segments to directly serve or let the first tier customers serve them. Some of the study's MNCs use Minimum Order Quantity (MOQ) to segment their customers into direct or indirect customers' segments. They also segment their business customers into modern trade and general trade. Modern trade is represented in hypermarkets and big supermarkets and general trade is the wholesale and small retail outlets. This enables SCM to determine the frequency of deliveries, to prepare for customised packages or schedule specific transportation routes. Segmentation should be incorporated between the functional areas of marketing / Customer Development (sales) and SCM, as properly dividing customers into distinct groups and serving them according to their needs and demands is considered to enhance SCP attributes.

- **Targeted marketing mixes**

Thorough discussions were carried out with the interviewees at the MNCs studied. The majority supported dividing the Segmentation and Targeting capability, as adopted from the literature analysis, into two aspects as explained in the previous part where Segmentation Techniques were addressed. Meanwhile, Targeting was transformed into a new capability called Targeted Marketing Mixes to cover Targeting Strategies, Product Development Strategies, Pricing Strategies and Marketing Communication (promotion) (Figure 5.11).

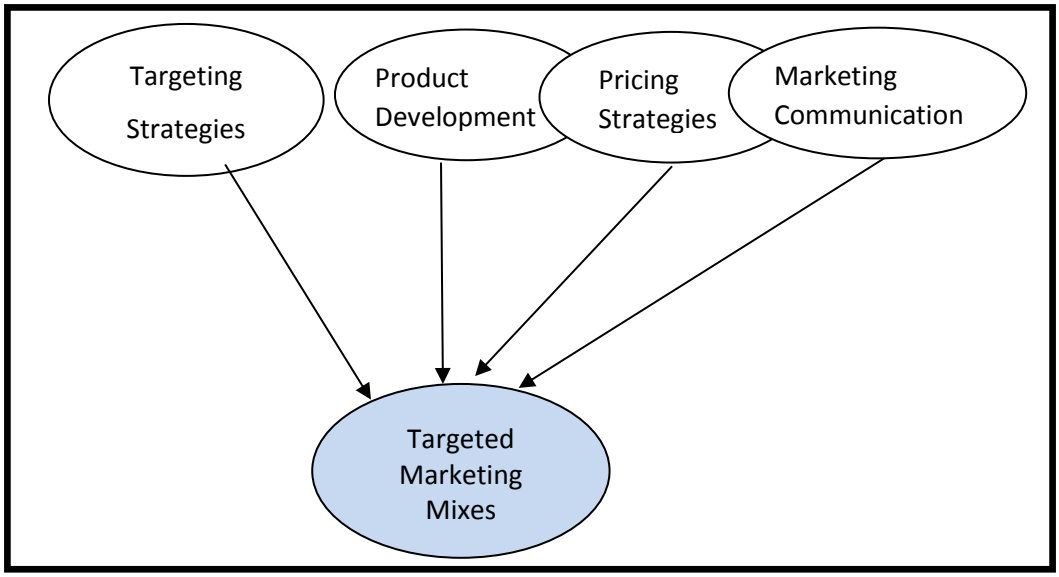


Figure 5.11: Targeted marketing mixes

The fourth marketing mix element, namely distribution or marketing channels was not added to this capability as managing the marketing channels is recongnised to be of a higher influence on SCP.

After dividing the customers into groups according to specific criteria 'segmentation', it is necessary to evaluate each market segment to decide the weight of each and the means to serve it. The managers at the five studied companies were convinced that the segments should be evaluated and the ones chosen should be targeted with the appropriate marketing mix tailored for the segments' characteristics. Thus, it was agreed to put together targeting and marketing mix elements.

The product is the first marketing mix element. It covers maintaining current products, as well as, developing new ones. The second element is pricing. It is the only marketing mix element generating money for the company instead of cost and all business efforts are compensated through the revenues collected based on the prices of the sold products. The third element is marketing communication or promotion which includes sales generating activities such as advertising and sales promotions.

When marketing and SCM jointly plan product improvements and innovations or agree on packing modification, SCP is deemed to be improved as the marketers design the products as wanted by the customer and the SCM tries to fulfil these requirements through production or through sourcing the appropriate material. If the functional areas are in line when a new launch has to take place SCM will plan its activities accordingly and there will be no conflicts and delays which impact SCP. The same applies for marketing communication as it is very necessary that the SCM is aligned when an advertising campaign is going to take place because advertising is a demand generation marketing activity and SCM department have to plan capacity accordingly.

- **Managing marketing channels**

The marketing channel is comprised of the downstream supply chain partners, i.e. tier one, two and three customers. This area has been reflecting the major overlap and integration aspects between marketing and SCM as it includes the logistics aspect of physical distribution. Thus, it is kept as a major capability based on literature and empirical results (Figure 5.12).

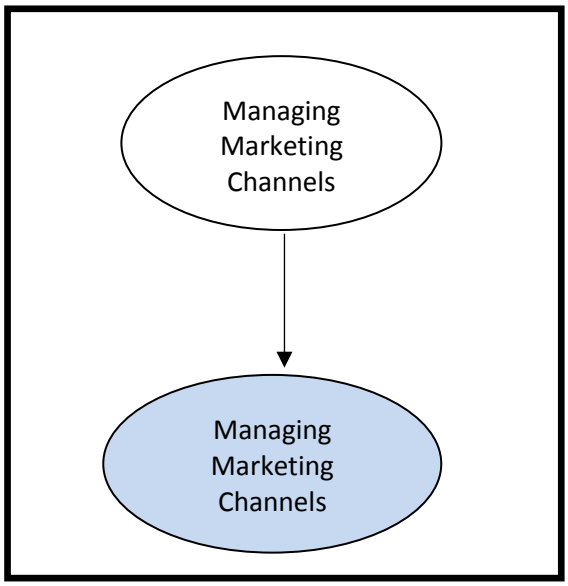


Figure 5.12: Managing the marketing channels

Mainly the Customer Development or Trade Marketing (Sales) department, as the names vary across the different cases studied, are the ones in direct contact with the channel partners not the SCM, however, it is the SCM department that is responsible for fulfilling the channels demand.

The marketing channels are designed differently at each company, for example, there is general trade versus the modern trade channel, also the on-trade channel versus the off-trade channel. The modern trade channels are the hypermarkets and big supermarkets where the general trade channels are the traditional trade channels such as wholesale, medium size and small retail. Some case studies serve the modern trade directly as it orders big quantities others serve this channel through the distributors. As for the off trade and on trade channels,

the off trade channel represents the modern trade and the general trade at the soft drinks company for example, whereas the on trade channel represents selling to hotels and restaurants.

Channel design differs from company to company but it is managed by trade marketing or customer development department. On the other hand, the supply of the products, transportation, warehousing, inventory stocks, distribution centres and all other logistics activities are managed by the SCM department in order to fulfil each channel's customised demand. The channel partners have the ability to reach end consumers so establishing strong relationships with channel partners can yield a competitive advantage as they are essential to enhancing the supply chain's entire performance. Therefore, integration on this capability has to be undertaken effectively in order to improve SCP through satisfying customers, creating value which leads to improving the entire business performance.

- **Automated applications**

Especially managers at Unilever Mashreq and P&G Egypt pointed out during the interviews that the whole integration process is supported or backed up by automated applications and it was widely agreed that these systems make the function easier for both functional departments. Thus, a new capability called Automated Applications was added (Figure 5.13).

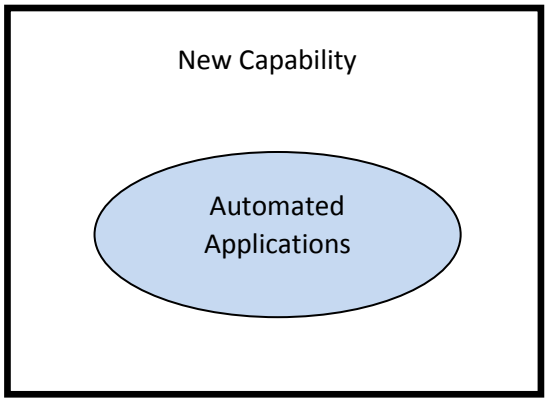


Figure 5.13: Automated applications

The main business software the five case studies are using in their operations is SAP which is a leading business software tool facilitating the management of business operations and customer relations. It enables the managers to acquire instant data across the whole enterprise and make better decisions.

At the five cases studied, the managers specifically highlighted that SAP facilitates joint making decisions during the joint meeting and during the meetings of the SnOP cycle as it enables them to access real time facts. Moreover, SAP software can engage the customer / partner (e.g. distributor) and make him take part in the system, hence, enabling managers to observe what is being sold where in what quantities at what time. Using this software helps analyse customers, tailor specific programmes for the different customers and engage them in your planning and execution. This in turn helps improving customer relationships, thus, SCP.

From a SCM perspective having such a tool helps meet demand expectations through planning demand and supply using the Automated Planning Optimizer (APO) which is a tool of SAP analytical tools. It also facilitates running complex supply networks. Different aspects of SCM are integrated in the system such as inventory management. Therefore, if this tool is applied properly, it can be driver of improved SCP.

Another less complicated marketing automated application that might have an impact on performance is the hand held devices that are carried by the sales force. When a purchase takes place the system instantly signals to SCM and stocks are planned accordingly. Furthermore, keeping an updated customer database with all customer information including preferences, previous purchases, amount and scale of operations etc. is also believed to have an impact on performance.

- **Customer involvement programmes**

The capability of CRM was addressed as a marketing capability resulting from the analytical literature review in chapter three, however, when conducting the in-depth discussions with

the interviewees at the case studies and after observing their business activities the researcher decided to divide CRM into Customer Involvement Programmes and Customer Knowledge and Relationship Building (Figure 5.14).

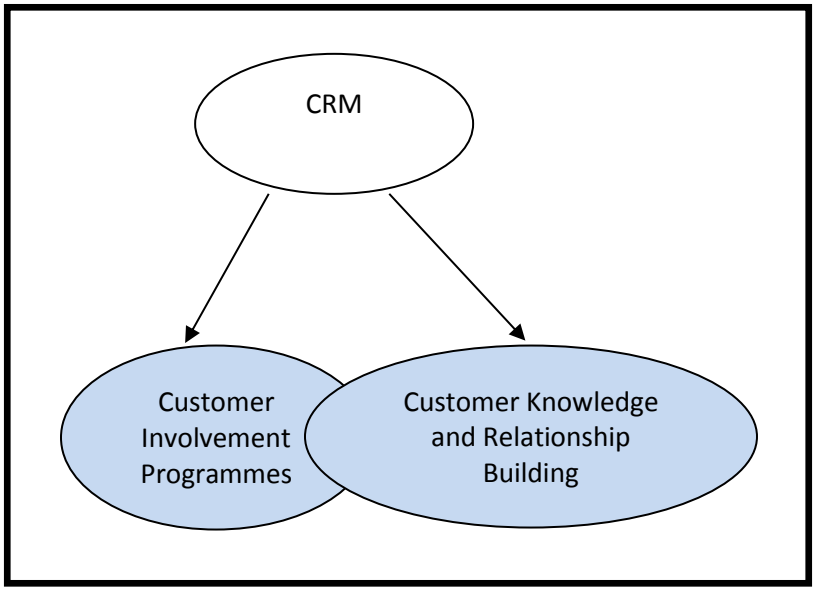


Figure 5.14: Customer involvement programmes and customer knowledge and relationship building

First, Customer Involvement Programmes are programmes targeted at partners such as major distributors with whom the company signs long term contracts. These partners might be exclusive customers that the organisations rely on to generate feedback and they involve them in their decision making process. This activity depends mainly on segmentation using scale of operations as not any customer is involved in these programmes only the biggest customers who are worth these efforts and whose involvement will yield favourable results.

Unilever Mashreq for example uses these programmes to develop customer practices towards tier two customers; their major downstream partner, the distributor, is engaged in the SAP software. This makes it easier for the managers to follow the operations and calculate SCP KPIs at tier two customers which they call secondary measures. Sometimes they invest in the customer's facilities and have their sales force present at the premises. They train his work force on how to handle the products, deal with stocks etc. This will boost the operations and generate loyalty. After all, the organisation's success depends on the performance of the

entire channel rather than the organisation's individual performance as again channel members are the ones with the direct approach to the consumer.

- **Customer Knowledge and Relationship Building**

The second capability that resulted from CRM is Customer Knowledge and Relationship Building (Figure 5.14). It was separated from Customer Involvement Programmes because Customer Involvement Programmes engage mainly key customers, not all customers, whereas Customer Knowledge and Relationship Building involves all types of customers. It was highlighted in the previous section that the MNCs keep databases and profiles of their customers and customers' customers with all related information including scale of operations, assortments ordered, coverage areas etc. The managers at Unilever Mashreq emphasised that when they acquire good knowledge about the customer, they are able to serve and satisfy him/her better and hence, build strong long-term relationships.

A significant number of interviewees claimed that strong customer relationships are generated through good customer service which is key to collaborative partnerships with the customers. They see it as an important step towards ensuring products are on the shelf, in store, for consumers to purchase. These relationships allow providing a joint mechanism for sharing performance analysis, creating ownership for losses and generating actions to remedy those losses, thus, continuous improvement. This joint mechanism enables a consistent method for measuring the order- to -delivery performance across their entire business for example.

Consequently, strong relationships throughout the supply chain are essential as the business customers are the ones who realise making the products available to other customers and end consumers. Without these strong long term relationships businesses will not survive in the market.

- **Selling activities**

As Selling Activities are a profound business function dating from before the modern marketing concept was even developed, the majority of the managers interviewed at the five studied cases confirmed the importance of the Selling Activities and kept it as a main capability (Figure 5.15).

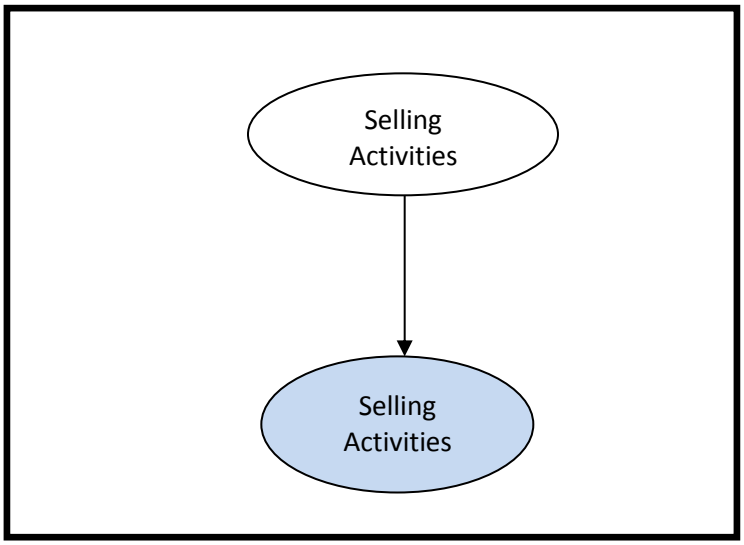


Figure 5.15: Selling activities

At the five studied companies, the sales department and the sales force are no longer called sales but trade marketing or customer development departments as their job is to work with business customers and let the marketing department concentrate on consumers' demand generation. Their job also expanded to building long term relationships with customers through transferring the customers' needs and the demand to SCM in order to fulfil them. In addition, the department includes merchandising activities and is responsible for any in-store activities planned by the marketing department towards final consumers. They facilitate convincing the customer of such activities and placement of the products in the best spots inside the customers' stores.

The sales force, deployed by the business development department, is in direct contact and interface with the customer. They acquire customers' orders, convince them of the company's products, innovations and strategies and prepare them to act as promoters for the company. They also assess the customers' capabilities and potential, and feed the information back tothe company with the information. All the information generation from the selling activities has to be coordinated with marketing and SCM in order to plan accordingly.

- **Market forecasting and planning**

The majority of interviewees strongly consider forecasting as the most important marketing capability impacting SCP, hence, Marketing Forecasts and Planning was kept a major capability resulting from literature and the empirical study (Figure 5.16).

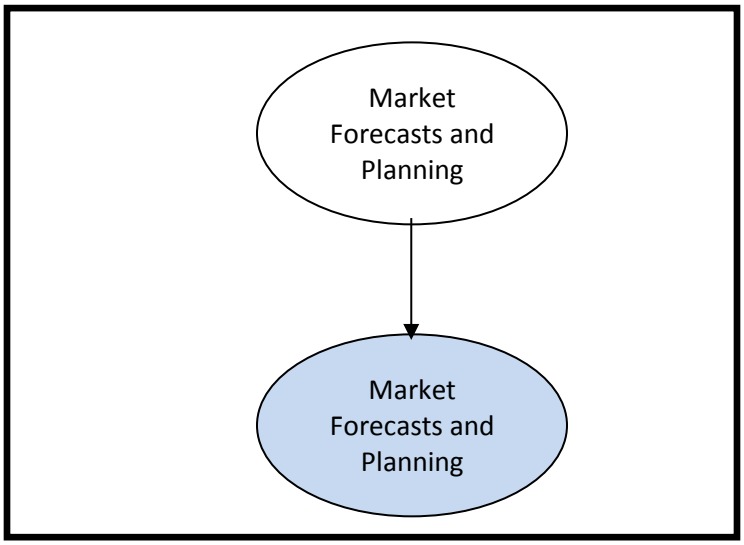


Figure 5.16: Market forecast and planning

Joint planning based on accurate forecasting is what drives successful implementations. For this reason the SnOP cycle was created to ensure proper forecasting and planning. Market intelligence remains a marketing domain of acquiring market insights such as consumer needs and wants, preferences, competitors etc. This information is then transferred to the demand planning division in the SCM department, which in turn takes these inputs alongside other marketing inputs (planned promotions, advertising campaigns, new innovations) and

historical trends to predict future demand in a specific period of time in the future using technical automated applications. Some of the case studies use a tool called APO.

Market forecasting or demand planning drives supply planning and then demand/supply reconciliation. Market or demand forecasting is needed for updating all SCM processes, namely, Plan, Source, Make, and Deliver. Thus, proper market forecasting and planning lead to the desired balance between the marketplace and the organisation's resources. The SnOP is designed to fulfil this objective in the most effective manner and it ends with comparing between the actual demand and the forecasting demand using a set of measures. The cases studied enforce the idea that forecasting and planning is a joint task of marketing and SCM.

Forecasting also plays a vital role in realising the company's strategy as, if the company is following a ‘make- to- order’ strategy not depending on high levels of stocks, accurate demand forecasts are very essential. This is the case at the Chocolate Confectionery and Biscuits Company and also at Unilever Mashreq and P&G Egypt as they are trying to move from a make- to -stock strategy to a hybrid between make to stock and make -to -order.

5.4.4 SCP measures capable of assessing marketing/SCM cross-functional integration impact

According to the interviewees each MNC has a large metrics of performance measurements for business performance and for functional areas. It was stated that not all measurement in the companies’ measurement scorecard are used but rather a set of KPIs that are frequently used to measure performance either in the marketing department or the SCM department. Using each company’s KPIs during the semi- structured interviews, the majority of participants suggested the measurements that can be influenced by integrating the proposed marketing capabilities and the integration practices. The resulting measures are listed in Table 5.13 case by case with their corresponding explanations and current functional areas.

Table 5.13: Case studies' integrative measures

MNC	Measurement	Explanation	Functional area
Unilever Mashreq	**On Shelf Availability (OSA)**	It indicates the presence of all products on key customers' shelves. In case of unavailability of products a loss tree is analysed in order to understand the reasons for absence of the products from the customer's shelf. It is an important measure as it reflects how the end consumer sees the product.	SCM, CD (sales), marketing
	Customer case fill rate on time (CCFOT)	The percentage of total cases delivered to the customer in good condition and correct assortment compared to the initial customer order within the standard delivery lead time (usually 48 hours) if specific delivery dates are not agreed on with the customer.	SCM
	Case Fill rate	The percentage of total cases delivered to the customer in good condition and correct assortment compared to the initial customer order.	SCM
	Total Supply Chain Savings	The extent to which cost is reduced in comparison to previous periods	SCM
	Stocks days on hand	This indicator is used to monitor the level of Finished Goods stock in the warehouses in relation to forward demand. This measure is time based to illustrate the time it would take to respond to changed customer requirements. It monitors the ratio of Finished Goods stock to the days on hand on the basis of forecast sales.	SCM
	Customer complaints	Consumer Complaints expressed as absolute number of complaints.	SCM, marketing

	Forecast Accuracy	Comparing the initial forecast to actual sales by channel, SKU etc. in absolute difference (error analysis)	SCM (demand planning), CD (sales)
	Forecast Bias	Negative and positive variance between initial forecast and actual sales by channel, SKU etc.	SCM (demand planning), CD (sales)
	Market share	The amount of sales of the company's products (by brand or category) in relation to the market size and other competitors.	marketing
	Sales volume and value	The amount of volume and value sales of the company's products (by category, brand and SKU) monthly, quarterly and annually.	CD (sales), marketing
	Sales turnover	The amount of earnings yield from sales of the company's products (by category, brand and SKU) which are compared to previous periods.	CD (sales), marketing
P&G Egypt	**On time delivery**	Number of delivered orders as per customers requested timing and meeting customers' expectations (usually between 48 and 72 hours).	SCM, CD (sales)
	Shelf out of stock	Existence of the products on customer's shelf (mainly key accounts) measured in percentage (maximum 5% absence allowed).	SCM, CD (sales), marketing
	Rejected volume	Percentage of products rejected by the customer (maximum 2% acceptable) for being damaged, wrong assortment or bigger quantity then ordered.	SCM, CD (sales)
	Case fill rate	Percentage of total customers' orders fulfilled on the agreed terms and timings. Missed cases' analysis	SCM, CD (sales)
	Shelf share	Percentage share of the company's products on the customer's shelf in comparison to competitors.	SCM, CD (sales), marketing

	Sales volume and value	The amount of volume and value sales of the company's products (by category, brand and SKU) monthly, quarterly and annually.	CD (sales), marketing
	Sales turnover	The amount of earnings yield from sales of the company's products (by category, brand and SKU) which are compared to previous periods.	CD (sales), marketing
	Payscore	The percentage of customers' payments within three days.	SCM, CD (sales)
	Market share	The amount of sales of the company's products (by brand or category) in relation to the market size and other competitors.	CD (sales), marketing
	Forecast accuracy	Comparing the initial forecast to actual sales by channel, brand, SKU etc.	SCM (demand planning), CD (sales)
	Inventory targets	Minimum and maximum inventory levels as set targets	SCM
	Service as measured by customer (customer scorecard)	Qualitative measure surveying the customers for their opinions about the service level through a scorecard	CD (sales), marketing
The Chocolate Confectionery and Biscuits Company	**Case fill**	Actual delivered cases versus cases initially ordered by customer (correct assortment is not an element in this measure).	SCM, CD (sales)
	Order fill accuracy	Total number of orders fulfilled 100% with correct assortments in a specific period of time.	SCM
	On time delivery	Number of delivered orders on time (as per customers' requested delivery time and the mutual service level agreement i.e. customer commit date).	SCM
	Perfect order	The percentage of total orders delivered to the customer in good condition and correct assortment compared to the initial customer order and on time (as per customer's requested delivery time and the	SCM

		mutual service level agreement i.e. customer commit date).	
	Sales volume and value	The amount of volume and value sales of the company's products (by category, brand and SKU) monthly, quarterly and annually.	CD (sales), marketing
	Sales turnover	The amount of earnings yield from sales of the company's products (by category, brand and SKU) which are compared to previous periods.	marketing
	Market share	The amount of sales of the company's products (by brand or category) in relation to the market size and other competitors.	marketing
	Forecast accuracy	Comparing the initial forecast to actual sales by channel, SKU etc. in absolute difference (error analysis)	SCM (demand planning), CD (sales)
	Forecast bias	Negative and positive variance between initial forecast and actual sales by channel, SKU etc.	SCM (demand planning), CD (sales)
The Soft Drinks Company	**Case fill rate**	Total orders fulfilled at the company's own DC versus weekly forecast (internal measure)	SCM (demand planning)
	Product availability	The level of current stocks at the company's warehouses versus daily forecast	SCM
	Sales volume and value	The amount of volume and value sales of the company's products (by category, brand and SKU) monthly, quarterly and annually.	CD (sales), marketing
	Market share	The amount of sales of the company's products (by brand or category) in relation to the market size and other competitors.	CD (sales), marketing
	Quality of initiatives	The rate of success of new programmes and projects in the market place measured by outreach and increase in sales	SCM, CD (sales), marketing

	Forecast accuracy	Comparing the initial forecast to actual sales by channel, SKU etc.	SCM
The Sweet and Savoury Snacks Company	**Shelf out of stock**	Existence of the products on customer's shelf measured in percentage from company total SKUs range (mainly measured at key accounts)	SCM, CD (sales), marketing
	Forecast accuracy	Comparing the initial forecast to actual sales by channel, SKU etc.	SCM
	Sales volume and value	The amount of volume and value sales of the company's products (by category, brand and SKU) monthly, quarterly and annually.	CD (sales), maketing
	Sales turnover	The amount of earnings yield from sales of the company's products (by category, brand and SKU) which are compared to previous periods.	CD (sales), marketing
	Market share	The amount of sales of the company's products (by brand or category) in relation to the market size and other competitors.	marketing
	Case fill rate	Total orders fulfilled at the company's own DC versus weekly forecast (internal measure)	SCM (demand planning)

Some measures were repeated by different interviewees in different companies. This reflects that they are applying similar measures. The different participants at the five case study companies suggest that these resulting measures can reflect the integration between marketing and SCM and showing the marketing capabilities' impact on SCP.

Meanwhile, the explanation of each MNCs managers of their measures differed in some cases from company to company although the measures had the same names (see Table 5.13). For example, the "Case Fill Rate" at Unilever, P&G and the Chocolate Confectionery and Biscuits Company measures the rate of fulfilling the cases ordered by the customer where as

the Soft Drinks Company and the Sweet and Savoury Snacks Company measure fulfilling the forecasts and delivering the forecasted cases to their own distribution centre.

Moreover, some MNCs have some measures that do not exist at the other case studies such as "Service as Perceived by Customers" by P&G and "Quality of Initiatives" by the soft drinks company. Furthermore, some measures are used to assess the same thing but different terminologies are used at different MNC such as "Case Fill Rate", "On Time Deliveries" and "CCFOT" as Unilever uses "CCFOT" to assess both "Case Fill Rate" and "On Time Deliveries".

Forecasting measures are used in the five case studies and claimed repeatedly to reflect the strongest link between marketing (demand creation side) and SCM (demand fulfilment side) and the highest impact on SCP. Moreover, measures that reflect meeting customers' orders with efficiency while being on time, despite different terminologies at different case studies, are suggested to be also related to integrating marketing and CD capabilities and activities with SCM and thus, causing these SCP integrative measures to improve.

At Unilever, for example, they consider CCFOT a major customer facing measure that directly reflects the marketing/SCM integration towards external customers. In other words, if they have high scores on the CCFOT measure this means they reached Good Customer Service which is key to forming collaborative partnerships with the customers and an important step towards ensuring Unilever's products are on the shelf, in store, for consumers to purchase. They use CCFOT to measure the Order to Delivery performance across Unilever and to provide a mechanism for root cause analysis; create ownership for losses, generate actions to remedy those losses and ensure continuous improvement. As it provides a common mechanism for sharing performance and losses responsibility it is considered a major integrative measure that facilitates sharing of best practice.

Another important measure is related to customers' shelves and it has been repeated with different terminologies such as "Shelf Out Of Stock" or "On Shelf Availability" or "Shelf Share". They all examine the existence of key SKUs at the biggest customers and key

accounts, namely, big and famous hypermarkets, super markets and groceries. It is an important measure as it reflects how the end consumer sees the company's products versus competitors. Making the product available on the customers' shelves is a joint responsibility of CD (sales) and SCM. CD department's workforce makes the agreements and contracts with these customers regarding the company's shelf share. Moreover, SCM deliver the ordered products on time in order to occupy the agreed on shelf share and the marketing department is very much interested in this measure as it is directly related to the end consumer.

Inventory is another area that is seen as reflecting the importance of the integration at P&G and Unilever companies. Either referred to as "Stocks (days on hand)" or "Inventory Targets" this indicator is used to monitor the level Finished Goods (FG) stock in the warehouses in relation to forward demand. At Unilever, this measure is time based to illustrate the time it would take to respond to changed customer requirements. Stocks days on Hand FG monitors the ratio of Finished Goods stock to the days on hand on the basis of forecast sales which again reflects the integration between the demand creation side (marketing and CD) who are providing the market inputs for the forecasts that are then formulated and fulfilled by the SCM department.

Although supply chain return process is out of scope of this study because it mainly covers defective items, "Rejected Volume" is seen at P&G as an important measure reflecting the cross-functional integration. As the products might not be rejected because they are defective or damaged, but because they have been delivered in the wrong assortment or in larger quantities than ordered. This might happen because of miscommunication between the CD workforce who take the order and the SCM who fulfil and deliver the order. Thus, good integration processes can improve this measure.

"Payscore" is another measure that is seen as integrative by P&G. It measures customers' payments within three days. The payments are collected by CD (sales) force and reported to SCM as, if customers do not pay on time no more deliveries will be made or incentives would

be reduced, thus, the customer is penalised to prevent this habit from occurring in the future. This measure is believed to be affecting cash flows.

The majority of the resulting measures in Table 5.13 are quantitative measures; only two measures reflect qualitative approaches, namely, "Customers' Complaints" by Unilever and "Service As measured By Customers" by P&G. A significant number of participants recommended that more qualitative measures should be added to their scorecards. They were presented with qualitative customer-oriented performance measurements from literature that are claimed to be overlapping in both domains, marketing and SCM, such as level of customer satisfaction, customer lifetime value, level of customer perceived value and rate of customer complaints. The majority of interviewees presented a high level of interest in these measures and thought they should be closely examined to find a methodology to incorporate them in the companies' scorecards.

5.5 Exploratory phase outcomes and analysis

This section briefly summarizes the outcomes of the exploratory qualitative phase which are represented in a set of influential marketing capabilities on SCP, a list of integrative measurements and a research proposition. Moreover, the conceptual framework is further developed.

5.5.1 Set of influential marketing capabilities

This exploratory phase yielded important qualitative in -depth analysis of marketing capabilities that are suggested to generate a positive impact on SCP if properly integrated with SCM. The participants at each case studied were involved in a thorough investigation in order to identify these capabilities. It was emphasised that the strengths of marketing remain in its closeness to the customers and its ability to understand the market place which it then reflects to its peer departments at the company so efforts can be integrated accordingly and customer value is created. Thus, the researcher analysed the practical aspects on marketing functions and capabilities with the interviewees and compiled the following practical set of marketing capabilities that were previously discussed in details in this chapter:

- Segmentation Techniques
- Targeted Marketing Mixes
- Managing Marketing Channels
- Automated Applications
- Customer Involvement Programmes
- Customer Knowledge and Relationship Building
- Selling Activities
- Market Forecasting and Planning

5.5.2 List of integrative measurements

The researcher and the participants focused on the measurements that can be influenced by the integration practices. Through the discussion a significant number of interviewees pointed out that the SCM processes that are impacted the most by the cross-functional integration are Plan and Deliver while Source and Make are also impacted but indirectly. This is obviously reflected in their cross-functional integration processes as during the SnOP cycle the marketers for example rarely meet the procurement manager or the plant manager (only in the case of a new product launch, an initiative or a new promotion) but they meet the demand and supply planners regularly.

Most resulting integrative practical measures of this exploratory phase reflect Plan and Deliver processes, nevertheless, Source and Make processes are believed to still be indirectly impacted. Moreover, some of the resulting measures were repeated at the different case studies while some other measures had the same meaning but under different terminology. Therefore, the researcher attempts to standardise the measures' terminology under the SCOR model standardised set of measurement and include measurements reflecting Plan, Source, Make and Deliver processes to be tested again through quantitative techniques in the next phase (chapter six).

As mentioned in the previous measurements section there is a need to include more customer satisfaction related measures, as only a few measures were used as part of the case studies' KPIs to reflect customer satisfaction qualitatively, however, the majority of participants emphasised the importance of this aspect. Thus, more customer oriented qualitative measures will be tested in the next phase. The measures resulting from the in -depth semi-structured interviews were filtered in order to remove repeated measures with the exact same meaning and thus, the following list of integrative practical measures was determined:

- On Shelf Availability
- Case Fill Rate On Time
- Total Supply Chain Savings

- Stocks Days On Hand
- Case Fill Rate
- On Time Delivery
- Customer Complaints
- Forecast Accuracy
- Forecast Bias
- Supply Chain Cost
- Market Share
- Sales Turnover
- Shelf Out Of Stock
- Shelf Share
- Service As Measured By Customers
- Inventory Targets
- Payscore
- Perfect Order

5.5.3 The case study proposition

After finalising the exploratory qualitative phase of the case study and based on the discussions and the outcomes, the case study proposition is derived:

"Integrating the cross-functional capabilities and activities between the marketing and SCM domains can lead to improved SCP and business performance which can be assessed by an integrative set of measurements".

The research proposition concentrates on the relationship between marketing/SCM integration and SCP improvements which is claimed various times in literature (but neither verified by specific integrative measures nor by hard real life evidence) and supported in the case study exploratory phase with a suggested set of practical integrative measures. Hence, this proposition will be further verified during the next case study explanatory phase using more structured quantitative techniques.

5.6 Evaluation and further development of the preliminary conceptual framework

Based on the results of this exploratory qualitative phase the conceptual framework, developed in chapter three based on the conducted literature thorough analysis on the marketing and SCM domains, is further developed. The participants were asked to look at the preliminary framework and provide their insights. Moreover, the outcomes of the discussions, regarding the marketing integrative capabilities and the practical integrative marketing/SCP measures, are incorporated in Figure 5.17 that is a further development of the study's conceptual framework initially developed in chapter three.

The framework illustrates that the resulting integrative marketing capabilities influence (if properly integrated) on the five SCP attributes, namely, Reliability, Responsiveness, Agility, Cost and Asset Management. Moreover, the alleged influence can be measured by the list of practical integrated marketing/SCP measures that were the outcomes of this case study phase. The current measures' outcomes include marketing, SCP and overall business performance measures. These measures will be further verified and filtered in the next case study explanatory phase.

First the impact of the suggested marketing capabilities on the five SCP attributes will be tested. Then the resulting measures alongside more standardised quantitative and qualitative measures will be tested against each marketing capability using more quantitative techniques in the next phase to validate this exploratory phase results and further develop the framework.

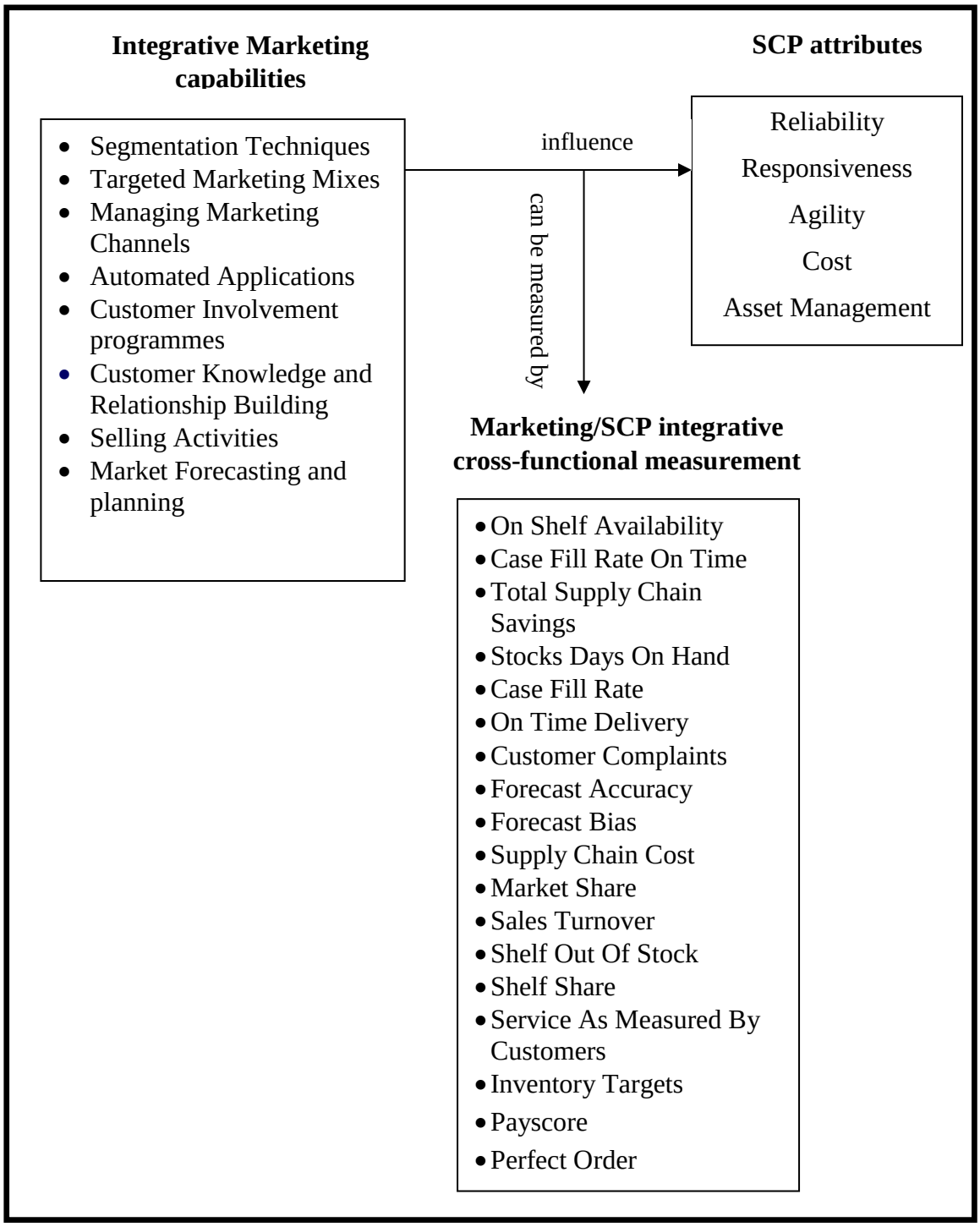


Figure 5.17: Exploratory analysis further developed conceptual framework for a measured marketing/SCM integration business model

5.7 Conclusion

The case study exploratory phase has been presented in this chapter. First of all insights were provided into the Egyptian FMCG industry generally and then into the specific sectors where the case studies operate. In addition, case study nominations from these sectors were screened and the appropriate case studies were selected. Then, an overview on the case studies was provided and data collection techniques and procedures were demonstrated.

After reviewing and analysing the Egyptian FMCG industry and selecting the relevant five MNCs as the research case studies, the aspects of the empirical study were demonstrated. The empirical study started with the exploratory phase presented in this chapter which was conducted to investigate the current status of cross-functional integration between marketing and SCM, to identify integrative marketing capabilities and to compile a list of practical measures capable of reflecting the integration's impact on SCP and business performance.

During this phase, the characteristics, the structure, scope and the strategy of companies' existing supply chains were described and the current situation of cross-functional integration was discussed. Moreover, transformation of the literature based marketing capabilities into practical capabilities was explained. Furthermore, a set of integrative SCP and marketing measures was compiled. The outcomes of this phase were summarized and a case study proposition was derived. Finally, the conceptual framework was further developed.

The outcomes of this exploratory phase presented in chapter five will be further validated by more structured explanatory techniques in chapter six. Moreover, chapter six will provide a detailed cross-functional integration process to help companies implement proper cross-functional integration activities based on the case studies' best practices.

6 CASE STUDIES AND ANALYSIS: THE EXPLANATORY AND DESCRIPTIVE PHASES

6.1 Introduction

The previous chapters highlighted the novel approach of this research. Therefore, the research began with an exploratory phase that required qualitative methods to develop the relevant framework and identify the appropriate performance measurement. An inductive reasoning approach was followed as this research is mainly based on qualitative and interpretative analysis methods which are rather scarce in logistics and SCM research. Hence, the researcher was able to generate substantive understanding and knowledge about this new concept. The initial methodology of this study focused on examining exploratory data through observations, company records and conducting in-depth single and group semi-structured interviews.

The initial conceptual framework was proposed in chapter three and further developed in chapter five. The framework suggested that the identified marketing capabilities influence SCP attributes if properly integrated and this influence can be measured by cross-functional and customer oriented performance measurements. The research followed the case study approach and involved five MNCs operating in the Egyptian FMCG industry including Proctor & Gamble and Unilever Mashreq that are considered best practices.

The second and third phases of the empirical study are presented in this chapter. The second phase follows an explanatory approach using more structured research techniques. Quantitative primary data were collected from the participants of the case studies through structured individual and group interviews to validate the outcomes of the exploratory phase and to verify the derived proposition. As a result the initial framework is further developed and an integrative measurement matrix that is capable of measuring the impact of the cross-functional integration on performance, is constructed. This conceptual framework can benefit companies by offering a tool to evaluate the effectiveness of the marketing/SCM cross-functional integration leading to improved SCP and overall business performance.

Integration processes of each case study were mapped during the third research phase, the descriptive phase. In-depth observations were required to follow and understand the level and scheme/process of cross-functional integration between the marketing department and the SCM department at the case studies. Cross-functional process mapping resulted in the development of a practical marketing/SCM cross-functional integration model. Moreover, the SnOP process and the KPIs of Unilever Mashreq were described as a real life example of a core case study.

The chapter is structured as follows; first the explanatory phase targeted outputs are highlighted and the methods of designing the structured interview are explained. The explanatory phase is divided into two parts, thus, the results of each part are presented and discussed in detail. Furthermore, the descriptive phase targeted outputs are then underlined and a brief literature review on demand/supply integration processes, in particular the SnOP, was conducted. Afterwards, a practical demand/supply integration model is derived based on the case studies cross-functional integration processes. Subsequently, the SnOP process of Unilever Mashreq is mapped and the performance of its integrative KPIs is demonstrated in order to serve as a real life example reflecting the integration impact on performance. Finally conclusions are drawn. A roadmap to the explanatory and descriptive analyses is illustrated in Figure 3.1.

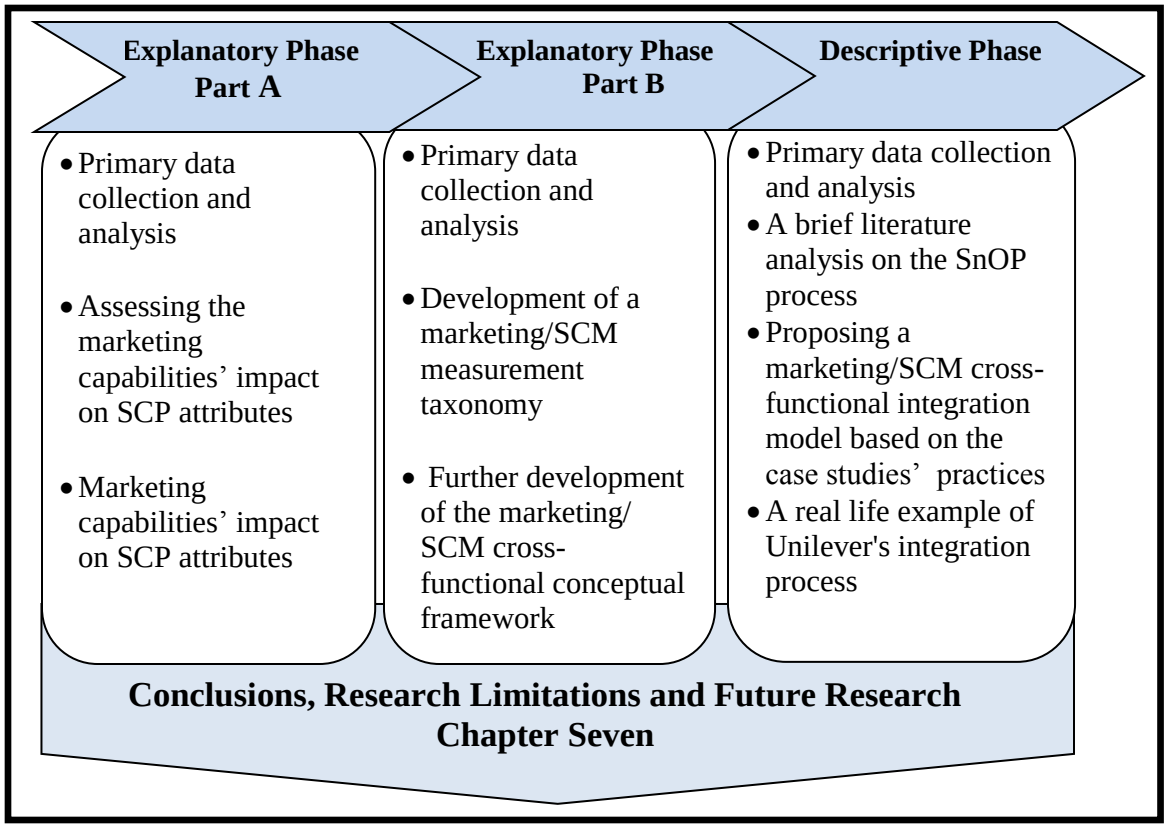


Figure 6.1: Explanatory and descriptive analyses roadmap

6.2 The explanatory phase: primary quantitative data collection and analysis

A few researchers have written about the positive effect of SCM and marketing on SCP and business performance as an outcome of the cross-functional integration, nevertheless, empirical evidence identifying concrete performance measurement capable of confirming the validity of the proposed positive impact within a company is still lacking. Therefore, case-based studies to analyse this impact on enhancing a company's overall SCM and business performance are worthy of investigation.

As explained in the previous chapters the developed framework attempts to propose influential marketing capabilities that impact SCP attributes. Moreover, it proposes an SCP measurement matrix that is capable of assessing the impact of integrating marketing and SCM strategies and operations. Chapter five provided an exploratory investigation which

resulted in a comprehensive set of marketing capabilities that have the potential to positively impact SCP if properly integrated. Moreover, the exploratory investigation also resulted in compiling a list of practical performance measures that are suggested to assess the impact of marketing/SCM cross-functional integration. Also, a research proposition was formulated.

In this chapter, an explanatory investigation and analysis are presented. This explanatory phase follows more structured techniques (structured face to face interview) to gather primary data in order to validate the outcomes of the exploratory phase. Thus, this phase is divided into two parts, namely, part A and part B. Part A mainly investigates the strength of the relationship between the resulting marketing capabilities from the exploratory phase and the SCP standard attributes of the SCOR model (RL, AG, RS, CO and AM). While Part B attempt to develop a measurement taxonomy with standardised SCP measurements to assess the relationship between each marketing capability and each SCP attribute.

The quantitative primary data was gathered through structured interviews with strategic and tactical SCM and marketing/sales managers (Table 6.1) at the MNCs participating in the study. Some of the interviewees changed from the exploratory phase as at this phase the Chocolate Confectionery and Biscuits Company decided not to continue with the research. The researcher preferred to interview the same participants as they are familiar with the research methods and the exploratory phase outcomes, however, some participants were excused from the explanatory phase due to work related assignments. A few new managers were interviewed in addition to the interviewees of the previous phase as shown in Table 6.1, and they were introduced to the research and presented with the exploratory phase results.

As mentioned in chapter five the positions of these interviewees included marketing managers, trade marketing and sales managers, demand planners, supply planners, operations managers and customer service excellence managers. The data was gathered through structured face to face interviews (survey style) with a five to one Likert scale (5 = strong to 1 = very weak). The interviews at this phase were conducted in 2013 and lasted between 120 and 180 minutes as the participants were asked to elaborate on their answers. Sometimes group interviews were held so that the interviewees from different departments could discuss

their different points of views; however, each interviewee completed his own pack of structured questions' sheets.

Table 6.1: List of structured interviews' participants

Interviewee		MNC	Duration of interview	Interview type
Position	**Department**			
Regional Business Development manager	Trade marketing	The sweet and savoury snacks company	180 min	Group interview
Supply Planning manager	SCM	The sweet and savoury snacks company		
Supply Chain operations manager	SCM	The soft drinks company	120 min	Individual
Sales - Assistant trade marketing manager	Trade marketing	The soft drinks company	100 min	Individual
Demand Forecast & initiative planning manager	SCM	The soft drinks company	120 min	Individual
Materials Supply Management & CEEMEA manager	SCM	Procter and Gamble	120 min	Individual
Sales and Business development - section manager	Trade marketing (Sales)	Procter and Gamble	120 min	Individual
Home and Personal Care Products Trade marketing manager	Trade marketing (Sales)	Unilever Mashreq	180 min	Pilot group interview
Supply Chain - Customer Service Excellence manager	SCM	Unilever Mashreq		
MSO - demand planner	SCM	Unilever Mashreq		
Supply Chain - Customer Service Excellence assistant manager	SCM	Unilever Mashreq		

In order to confirm validity of the interviews a pilot study was conducted with four Unilever mangers (Table 6.1). The mangers confirmed questions are clear and do reflect the purpose of the study.

The steps and details of each part of the explanatory phase are demonstrated in the following section.

Explanatory phase: targeted outputs (Table 5.11)

- Part A: Analysing and ranking the strength of the relationship between the marketing capabilities and each SCP attribute.
- Part B: Development of a marketing/SCM measurement matrix capable of assessing the integration impact on SCP.
- Overall output: Validated conceptual framework and research proposition.

6.2.1 Part A: assessing the marketing capabilities' impact on SCP attributes

As the exploratory empirical study in chapter five revealed a positive relationship between the identified marketing capabilities and the SCP attributes, Part A of the explanatory phase investigates the strength of each of the mentioned capabilities to each SCP attribute. The eight identified marketing capabilities resulting from exploratory phase of the study are namely, Segmentation Techniques (SG), Market Forecasts and Planning (MFP), Automated Applications (AA), Targeted Marketing Mixes (TMM), Managing Marketing Channels (MMC), Customer Involvement Programmes (CIP), Customer Knowledge and Relationship Building (CKRB) and Selling Activities (SA).

The five SCP attributes are standardised according to the SCOR model for reasons discussed in chapter three. Thus, Table 6.2 describes SCOR model SCP attributes and highlights each attribute's associated level 1 performance metric.

Table 6.2: Performance attributes and associated level 1 metrics with definitions

Performance attribute	Performance attribute definition	Level 1 metrics	Metrics definition
Supply Chain Reliability (RL)	The performance of the supply chain in delivering: the correct product, to the correct place, at the correct time, in the correct condition and packaging, in the correct quantity, with the correct documentation, to the correct customer.	Perfect Order Fulfilment	The percentage of orders meeting delivery performance with complete and accurate documentation and no delivery damage. Components include all items and quantities on-time using the customer's definition of on-time, and documentation - packing slips, bills of lading, invoices, etc.
Supply Chain Responsiveness (RS)	The speed at which a supply chain provides products to the customer.	Order Fulfilment Cycle Time	The average actual cycle time consistently achieved to fulfil customer orders. For each individual order, this cycle time starts from the order receipt and ends with customer acceptance of the order.
Supply Chain Agility (AG)	The agility of a supply chain in responding to marketplace changes to gain or maintain competitive advantage.	Upside Supply Chain Flexibility	The number of days required to achieve an unplanned sustainable 20% increase in quantities delivered. **Note** - 20% is a number provided for benchmarking purposes. For some industries and some organizations 20% may be in some cases unobtainable or in others too conservative.
		Upside Supply Chain Adaptability	The maximum sustainable percentage increase in quantity delivered that can be achieved in 30 days.
		Downside Supply Chain Adaptability	The reduction in quantities ordered sustainable at 30 days prior to delivery with no inventory or cost penalties.
Supply Chain Costs (CO)	The costs associated with operating the supply chain.	Supply Chain Management Cost	The sum of the costs associated with the SCOR Level 2 processes to Plan, Source, Deliver, and Return. Cost of Raw Material and Make Costs are generally accounted for in COGS.
		Cost of Goods Sold	The cost associated with buying raw materials and producing finished goods. This cost includes direct

			costs (labour, materials) and indirect costs (overhead).
Supply Chain Asset Management (AM)	The effectiveness of an organisation in managing assets to support demand satisfaction. This includes the management of all assets: fixed and working capital.	Cash-to-Cash Cycle Time	The time it takes for an investment made to flow back into a company after it has been spent on raw materials. For services, this represents the time from the point where a company pays for the resources consumed in the performance of a service to the time that the company received payment from the customer for those services.
		Return on Supply Chain Fixed Assets	Return on Supply Chain Fixed Assets measures the return an organization receives on its invested capital in supply chain fixed assets. This includes the fixed assets used in Plan, Source, Make, Deliver, and Return.
		Return on Working Capital	Return on working capital is a measurement which assesses the magnitude of investment relative to a company's working capital position verses the revenue generated from a supply chain. Components include accounts receivable, accounts payable, inventory, supply chain revenue, cost of goods sold and supply chain management costs.

Source: Adopted from SCOR Model - Version 9, Supply Chain Council (2008)

The performance attributes of a supply chain define and describe what is meant by SCP which is why the researcher followed the clear standardised SCP attributes of the SCOR model. The five SCP attributes used are: RL, RS, AG, CO, and AM. These SCP attributes enable the decision makers to compare their business performance to other organisations' performance.

As shown in Table 6.2 according to the SCOR model Level 1 strategic metrics are directly associated with each of the performance attributes. Using these Level 1 metrics the organisations are able to calculate and measure their SCP in relation to each SCP attribute,

and thus, their success in achieving their goals and positioning strategy in the marketplace (Supply Chain Council, 2008).

In order to determine and rank the strengths of the relationship between each identified marketing capability and each of the five SCP attributes (RL, FL, RS, CS and AM) interviewees were presented with structured interview questions. They decided on a five to one Likert scale (5 = strong to 1 = very weak) the strength of the impact of each individual marketing capability on each of the five SCP attributes. An example of the Part A interview questions is presented in Figure 6.2. The rest of the interview questions are available in Appendix V.

In case the answer is strong or moderate explain how or mention an example and in case the answer is weak or very weak explain why.

Comprehensive segmentation techniques have a _____ influence on:

Supply chain performance attributes	**strong**	**moderate**	**neutral**	**weak**	**very weak**
1. Supply chain reliability (quality)					
2. Supply chain agility (flexibility)					
3. Supply chain cost					
4. Supply chain responsiveness (speed)					
5. Supply chain asset management					

Figure 6.2: Part A: structured interview questions' example

After conducting the interviews of part A, the impact of the different proposed marketing capabilities to each of the five major SCP attributes was determined through calculating the average of each relationship based on the interviewees' responses. Figure 6.3 visualises the relationships between each marketing capability and each SCP that is supposed to be evaluated at this research phase.

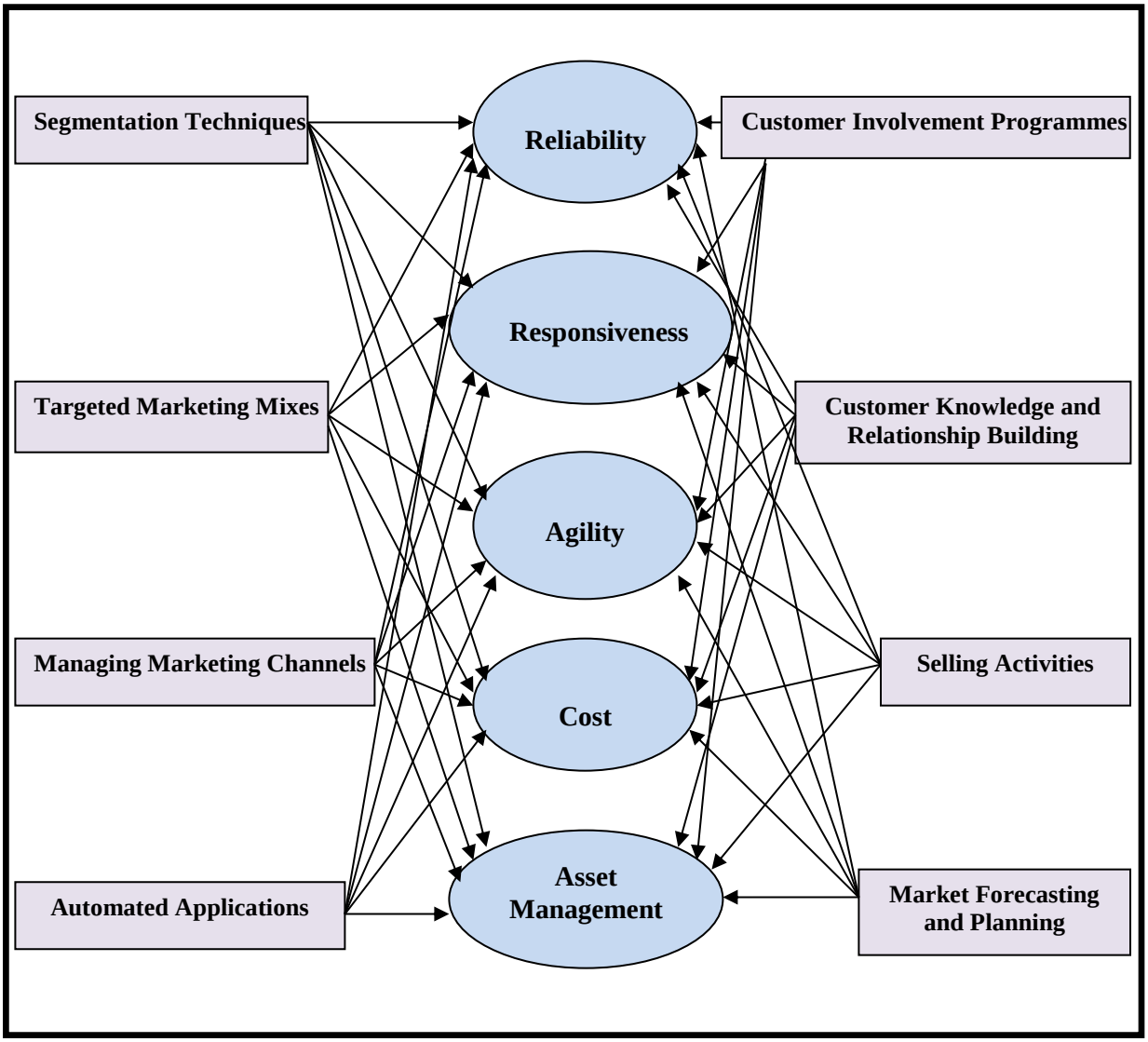


Figure 6.3: A graphical illustrated of the relationships under investigation between the marketing capabilities and the SCP attributes

As the aim of this part is to examine and rank the strength of the relationship between each marketing capability and each SCP attribute, Table 6.3 reveals the results of the interviewees' responses regarding the strength of each marketing capability/SCP attribute relationship in an average format.

Table 6.3: Marketing capabilities' impact on SCP attributes

SCM attributes/ marketing capabilities	***SG***	***MFP***	***AA***	***TMM***	***MMC***	***CIP***	***CKRB***	***SA***	***Total column***
RL	4.82	5	3.55	4.64	4.82	4.27	4.27	4.45	35.82
AG	4.45	5	3.55	4.64	4.36	4.64	4.27	4.64	35.55
RS	4.82	5	3.91	4.55	4.64	4.64	4.45	4.45	**36.46**
CO	4.09	4.8	3.36	4.09	4.64	3.91	3.91	4.27	33.07
AM	4.27	5	3	3.55	4.45	4.09	3.73	3.91	32.00
Total row	22.45	**24.80**	17.37	21.45	22.91	21.55	20.64	21.73	

When testing the eight identified marketing capabilities against the five SCP attributes Market Forecasts and Planning scored the highest total average versus the other marketing capabilities with all SCP attributes and in total. In addition, supply chain responsiveness appears to be the SCP attribute most influenced by the marketing capabilities, as is obvious in the total result.

When the participants were asked to elaborate on their responses the majority indicated that forecasting and planning affects all other SCM processes (source, make and deliver), thus, it has a strong impact on all SCP attributes. They also highlighted based on their expertise, that forecasting and planning is the main domain for cross-functional integration between organisational departments such as marketing, trade marketing, sales and SCM in order to boost performance.

Subsequently, proper cross-functional forecasting of demand and planning of supply and demand improves the performance of the supply chain in delivering the right product, at the right place, and time, in a good condition and right packaging, in the demanded quantity, to the correct customer (reliability, agility and responsiveness are achieved). Moreover, responsiveness scored highest with all marketing capabilities. It was suggested that the marketing capabilities such as collecting the proper knowledge about the market place and

the customer, building close customer relationships, dividing the market properly into segments and targeting each with the most suitable marketing mix indicates that the company understands the market well which enables it to respond faster than the competition to customers' demand especially if these capabilities are cross-functionally integrated with the SCM department.

Automated applications scored the lowest total average of all SCP attributes as it was not considered a major integrative marketing capability but rather supporting software for all business functions. They confirmed its importance and that it eases the integration process between sales, marketing and SCM. There is still a positive relationship between this capability and the SCP attributes but it is not as strong as the rest of the marketing capabilities and the SCP attributes.

As for the performance attribute that scored the least in total in relation to all marketing capabilities, that was asset management. Asset Management was considered SCP attribute least influenced by the marketing capabilities as from their stand point they did not know clearly if the integration of the marketing capabilities had a direct impact on supply chain asset management. Nevertheless, it still yielded a positive score which indicates that a number of interviewees are convinced with the positive impact of integrating the marketing capabilities on asset management. It was mentioned that, for example, if the forecasting is done properly through the integration between marketing and SCM then inventory can be kept at the optimum level which impacts asset management positively. Moreover, if the segmentation strategies are communicated clearly to sales and SCM, they will be able manage the distribution fleet efficiently by designing specific routes to specific segments.

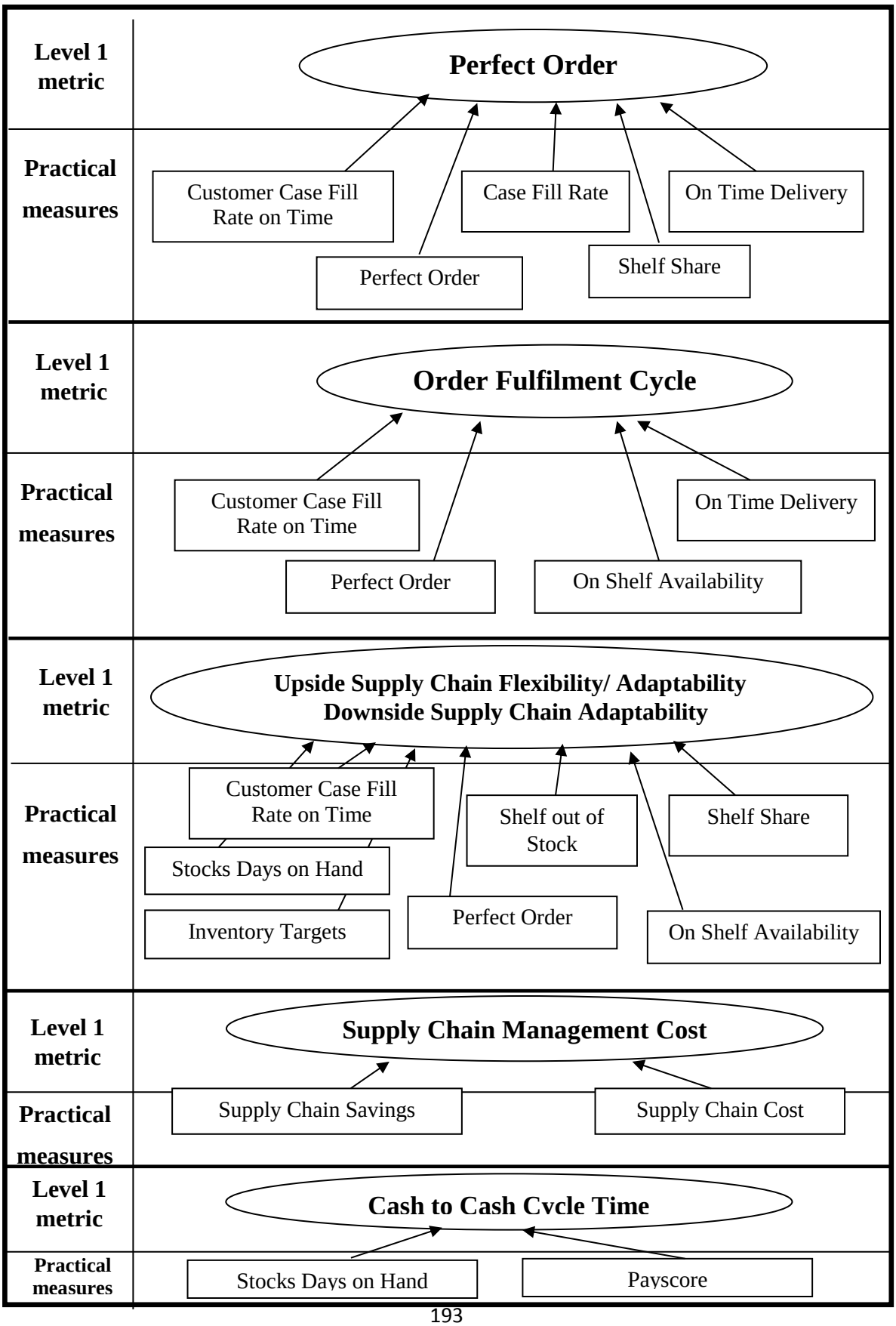
Part A confirmed that the identified marketing capabilities have a positive impact on the SCP attributes and the strength of this impact was examined through structured interview questions with the managers of the four participating MNCs. The relationships between the marketing capabilities and the SCP attributes were ranked and analysed in order to understand and explain why certain capabilities have a stronger impact than others on the five SCP attributes.

6.2.2 Part B: developing a marketing/SCM measurement taxonomy

After confirming and analysing the relationship between the identified marketing capabilities and the five SCP attributes, Part B aims at developing a relevant marketing/SCM measurement matrix capable of assessing the impact of integrating the marketing capabilities on SCP and business performance. In order to achieve this aim the interviewees continued the interviews with the structured questions of Part B. Again they were supposed to decide on a five to one Likert scale (5 = strongly agree to 1 = strongly disagree) whether they consider the proposed measurements relevant to assess the impact of each marketing capability on each of the five SCP attributes. Each SCP attribute was linked to a set of measurements that is supposed to measure the impact of integrating the identified marketing capabilities on each SCP attribute (RL, FL, RS, CS and AM). The set of measurements linked to each SCP attribute was compiled based on the practical measures resulting from the previous exploratory phase, the SCOR model Level 1 and 2 metrics and other qualitative customer oriented measures.

6.2.2.1 Aligning SCOR model level 1 and 2 metrics and the MNCs' integrative practical measures

As explained in the exploratory phase, each company has its own terminologies for its performance measurements where some mean the same thing with different names and others the same names with different meanings or totally different measurements. Therefore, the MNCs' practical integrative measures identified in the exploratory phase are coded and categorized in this section according to the corresponding Level 1 and 2 SCOR model measurements in order to provide a standardised terminology for practitioners and the rest of the industry. The categorising of the practical measures under the SCOR model metrics is shown in Figure 6.4. This Figure was shared with the informants of the case studies for approval which was granted.


Level 1 metric
Perfect Order
Practical measures
Customer Case Fill Rate on Time
Case Fill Rate
On Time Delivery
Perfect Order
Shelf Share
Level 1 metric
Order Fulfilment Cycle
Practical measures
Customer Case Fill Rate on Time
On Time Delivery
Perfect Order
On Shelf Availability
Level 1 metric
Upside Supply Chain Flexibility/ Adaptability
Downside Supply Chain Adaptability
Practical measures
Customer Case Fill Rate on Time
Shelf out of Stock
Shelf Share
Stocks Days on Hand
Inventory Targets
Perfect Order
On Shelf Availability
Level 1 metric
Supply Chain Management Cost
Practical measures
Supply Chain Savings
Supply Chain Cost
Level 1 metric
Cash to Cash Cycle Time
Practical measures
Stocks Days on Hand
Payscore

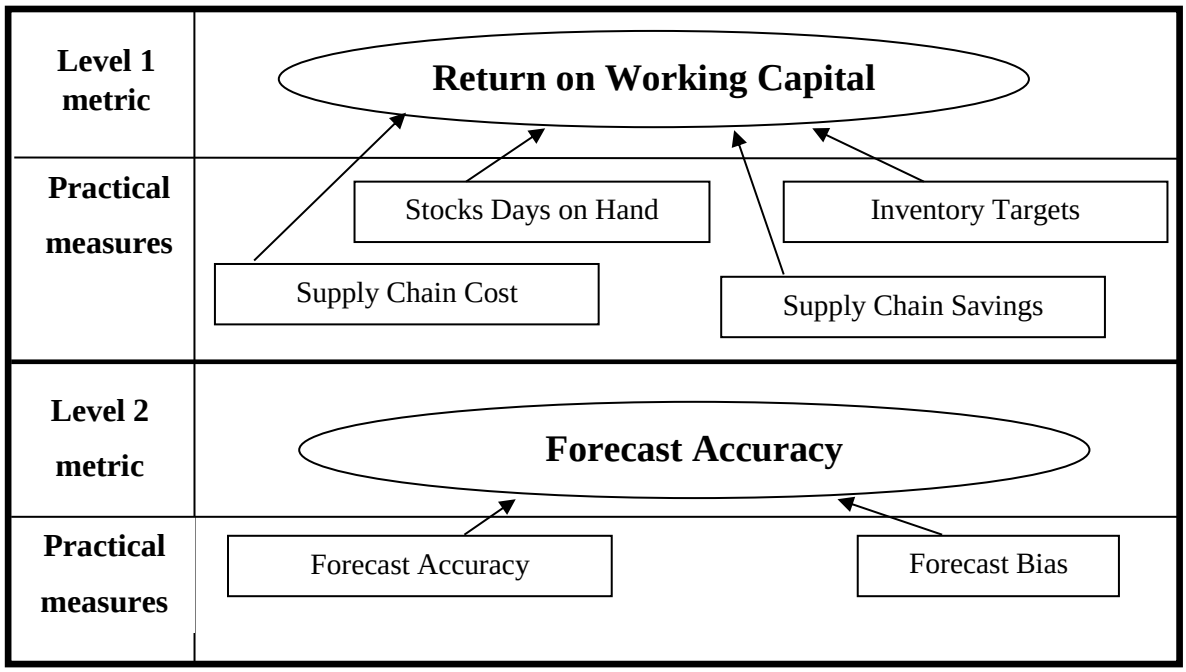


Figure 6.4: Aligning and categorizing practical measures under SCOR Level 1 and 2 metrics

The ten performance metrics of the SCOR model level 1 are designed to provide an overall view of SCP from a top level (the most aggregated level). Therefore Level 1 metrics are usually reviewed by very senior strategic decision makers such as the CEO and Board of Directors to evaluate the performance of the company's overall supply chain (Apics, Supply Chain Council, 2015). Meanwhile SCOR model level 2, referred to as the process element level, contains supporting metrics that are keys to the level 1 metrics (Hwang *et al*., 2008). Level 2 Metrics are also primary, high level measures that may cross multiple SCOR processes (plan, source, make, deliver, return) (Apics, Supply Chain Council, 2015). They are mainly used by tactical middle level managers to measure a specific process or aspect of SCP.

The practical integrative measures suggested by different managers at different MNCs in the exploratory phase are categorised under SCOR model levels 1 and 2 as illustrated in Figure 6.4 according to their relevance to each measurement of levels 1 and 2 of the SCOR model. Some practical measures are repeated under more than one measurement as they could be reflecting the aspects of each.

"CCFOT, Perfect Order, On Time Delivery and Shelf Share" are categorised under Perfect Order Fulfilment as they all reflect the essence of achieving a high standard orders' delivery performance through meeting customers' expectations and with no variation from initial customers' orders on the agreed commit date and time, and with no damage. Shelf Share is categorised under Perfect Order Fulfilment as if the order it not fulfilled with all criteria described above, the company's products will not occupy a fair share on the customer's shelf. Perfect Order Fulfilment reflects the SCP attribute "Reliability".

Order Fulfilment Cycle Time covered "On time delivery, Perfect Order, CCFOT and On Shelf Availability". Order Fulfilment Cycle Time represents the average actual cycle time needed to fulfil customer orders, thus, it reflects the responsiveness attribute of SCP. Perfect Order and CCFOT measures contain the time aspect and if the order is not delivered on time these measures do not yield a high score. Moreover, On Shelf Availability has been categorised under Order Fulfilment Cycle Time because if the order does not always arrive on the commit date and time it will not be available on the customer's shelf for the end consumer to purchase.

"Perfect Order, CCFOT, Shelf Share, On Shelf Availability, Shelf Out Of Stock, Inventory Targets, and Stocks Days on Hand" have been categorised under Upside Supply Chain Flexibility, Upside and Downside Supply Chain Adaptability. These three level 1 measurements reflect the SCP attribute Agility as they are related to the capability of the supply chain to respond to sudden changes in demand (increase or decrease) through increasing or decreasing supply, or the time (days) needed to respond to these changes. Therefore, the ability of the company's supply chain to respond to these changes affects the criteria of delivering a Perfect Order or filling customer's cases as demanded on time (CCFOT).

The ability to respond to the sudden changes in demand also affects the products' share on the customer's shelf (Shelf Share) as well as their availability on the shelf (On Shelf Availability / Shelf Out Of Stock). In addition, if the demand or customers' orders change suddenly "Inventory Targets and Stocks Days on Hand" measures will be strongly affected.

As Supply Chain Management Cost is related to all costs associated with the SCOR Level 2 processes, namely, Plan, Source, Deliver, and Return (except make), thus, "Supply Chain Savings and Supply Chain Cost" practical measures were categorised under it. "Payscore and Stocks Days On Hand" were categorised under Cash to Cash Cycle time as Payscore reflects the percentage of customers' payments within three days and the Stocks Days On Hand measure demonstrates the number of days, where capital is tied up in inventory till the products get sold. Therefore, they are related to the time needed for the investment to flow back into the company.

The last level 1 measurement, used to reflect practical measures, is Return On Working Capital. As this measure compares the scale of investment in a company's working capital position to the revenue generated from a supply chain, "Inventory Targets, Stocks Days On Hand, Supply Chain Cost and Supply Chain Savings" were categorised beneath it. Each of these measures reflects an aspect of Return On Working Capital.

The practical identified measures that were very relevant and similar to level 2 of the SCOR model measurement Forecast Accuracy are namely, "Forecast Bias and Forecast Accuracy". Other level 2 measurements will be addressed in the next section.

The suggested MNCs' practical measures resulting from the exploratory phase are already coded and categorized into the corresponding SCOR model levels 1 and 2 measurements in order to standardise terminologies as discussed above. This will allow other companies in the industry to select the most appropriate performance measures for their business as this model includes standard performance metrics that measure the performance of supply chain processes with respect to the five standard performance categories. Thus, the relevant supply chain processes (Plan, Source, Make, Deliver) for each Level 1 metric with their calculations and associated standardised SCP category (RL, AG, RS, CO and AM) are illustrated in Table 6.4.

Table 6.4: The relevant supply chain processes for level 1 SCOR model SCP metrics

Performance Attribute Code	SCOR Level 1 metrics	Calculation	Process	Performance Attributes				
				Customer-Facing			Internal-Facing	
				Reliability	Responsiveness	Agility	Cost	Assets
RL.1.1	Perfect Order Fulfilment	[Total Perfect Orders] / [Total Number of Orders] x 100%	S1,M1, D1	✓				
RL.1.2	Forecast Accuracy	(Sum Actuals - Sum of Variance)/ Sum Actuals to determine percentage error.	P	✓				
RS.1.1	Order Fulfilment Cycle Time	[Sum Actual Cycle Times For All Orders Delivered] / [Total Number Of Orders Delivered] Order Fulfilment Cycle Time ≈ Source Cycle Time + Make Cycle Time + Deliver Cycle Time	S1, M1, D1		✓			
AG.1.1	Upside Supply Chain Flexibility	Total elapsed days between the occurrence of the unplanned event and the achievement of sustained plan, source, make, deliver and return performance. Note: Elapsed days are not necessarily the sum of days required for all activities as some may occur simultaneously.	S1,M1, D1			✓		
AG.1.2	Upside Supply Chain Adaptability	Upside Source Adaptability + Upside Make Adaptability + Upside Deliver Adaptability	S1,M1,D1			✓		
AG.1.3	Downside Supply Chain Adaptability	Downside Source Adaptability + Downside Make Adaptability + Downside Deliver Adaptability.	S1,M1, D1			✓		

CO.1.1	Supply Chain Management Cost	TSCMC = Sales – Profits – Cost to Serve (e.g., marketing, selling, administrative) TSCMC = Cost to Plan + Source + Deliver + Return Cost of Raw Material and Make Costs are not included here as generally they are accounted for in COGS. It is recognized that there is likely to be overlap/ redundancy between supply chain management costs and COGS if Make costs included here.	P, S1, D1				✓	
CO.1.2	Cost of Goods Sold	COGS = direct material costs + direct labour costs + indirect costs related to making product.	M1				✓	
AM.1.1	Cash-to-Cash Cycle Time	[Inventory Days of Supply + Days Sales Outstanding – Days Payable Outstanding]	P, S1, M1, D1					✓
AM.1.3	Return on Working Capital	Return on Working Capital = (Supply Chain Revenue – COGS – Supply Chain Management Costs) / (Inventory +Accounts Receivable – Accounts Payable)	P, S1, M1, D1,					✓
AM.1.2	Return on Supply Chain Fixed Assets	Return on Supply Chain Fixed Assets = (Supply Chain Revenue – COGS – Supply Chain Management Costs) /Supply-Chain Fixed Assets	P1, P2, P3, P4, S1, M1, D1, SR1, DR1					✓

Source: Adapted from SCO R Model - Version 9, Supply Chain Council (2008)

6.2.2.2 Adding more measurements to the interview questions

It was suggested during the exploratory phase that Source process is the process least impacted by cross-functional integration and that the Make process realises moderate indirect impact. In order to support or disregard the notion claimed by a significant number of interviewees in the exploratory phase, the selected SCOR model levels 1 and 2 measurements were broadened to include more measurements. Thus, other SCOR model level 1 and level 2 performance measures were accommodated to add a more strategic and tactical perspective, and to cover more cross-functional processes. Consequently, the structured interview questions of the explanatory research phase Part B included SCOR model measures of levels 1 and 2 that cover Plan, Source, Make and Deliver processes in order to confirm the results of the exploratory phase (Table 6.5).

6.2.2.3 Aligning MNCs' business and qualitative customer/market oriented measurements with literature qualitative measurements

As discussed in chapter three, while analysing literature performance qualitative measurements related to SCP and marketing performance, and confirmed again in chapter five through the interviews, qualitative performance measures are lacking although they are considered of high importance. The aim is to link the identified marketing capabilities to SCP and business performance in order to help organisations to develop integrative performance metrics combining both quantitative and qualitative measurements to evaluate the impact of the integration on performance.

As previously mentioned the SCOR model has limited scope. It mainly focuses on engaging logistics, production and purchasing functions of the supply chain in its five supply chain management processes. It does not involve all business activities, nevertheless, it covers all customer interactions, all physical material transactions and all market interactions. It does not attempt to describe every business process or activity. Moreover, the SCOR model does not include sales and marketing (demand generation), product development, research and

development, and some elements of post-delivery customer support (Apics, Supply Chain Council, 2015).

The model is efficiency-focused rather than relationship-focused. Since it does not directly engage marketing and sales into its metrics which is the main interest of this research, the author added more customer oriented measures to Part B structured interview questions. These added business and qualitative customer oriented measures were selected based on the cases' practical measures and literature measures reviewed in chapter three. The literature qualitative and customer oriented measures were presumed interesting by the majority of interviewees and they suggested that more qualitative measures should be incorporated into their measurements' scorecards. A major overlap exists between the identified literature and practical marketing and SCM customer-oriented performance measurements such as customer satisfaction, customer lifetime value, level of customer perceived value, order lead time, rate of customer complaints etc.

The main two qualitative measures reported by the case studies were "Customers' Complaints" by Unilever and "Service As measured By Customers" by P&G, which were then added to the structured interview's list of customer oriented measures. Moreover business performance measurements such as "Market Share" and "Sales Turnover" were added to the list of measurement as they were mentioned by the majority of interviewees.

Table 6.5 includes all measurements and measurement categories that were used to construct the structured interview questions. These questions (explanatory phase: structured interview Part B) aim at identifying which performance measurements are capable of assessing the impact of each integrated marketing capability on each SCP attribute in order to compile a measurement matrix. Table 6.5 presents 91 measurements collected based on the exploratory phase interviews, SCOR model and, theoretical and practical qualitative customer oriented measurements, to be tested during the explanatory research phase.

Table 6.5: SCOR, practical and qualitative measurements used to construct the structured interview questions Part B

Performance attributes	SCOR Level 1 metrics	Used SCOR Level 2 metrics	Practical measures categorised under SCOR Level 1/ 2 metrics	Qualitative practical and literature customer oriented and business measures
Supply Chain Reliability	• Perfect Order Fulfilment	• Forecast Accuracy	• Case Fill Rate On Time • Case Fill Rate • On Time Delivery • Perfect Order • Shelf Share • Forecast Bias • Forecast Accuracy	• Range of products and services • Level of customer perceived value • Rate customers' complaints • Customer satisfaction • Customer churn (turnover) • Level of information sharing • Annual rate of customers retained • Buyer–supplier partnership level • Sales turnover • Market Share
Supply Chain Responsiveness	• Order Fulfilment Cycle Time	• Plan Cycle Time • Source Cycle Time • Make Cycle Time • Deliver Cycle Time	• On Time Delivery • On Shelf Availability • Case Fill Rate On Time • Perfect Order	• Frequency of delivery • Responsiveness to urgent deliveries • Level of customer perceived value • Rate customers' complaints • Customer satisfaction • Customer churn (turnover) • Level of information sharing • Annual rate of customers retained • Buyer–supplier partnership level • Sales turnover • Market Share
Supply Chain Agility	• Upside Supply Chain Flexibility • Upside Supply Chain Adaptability • Downside Supply Chain Adaptability	• Upside Source Flexibility • Upside Source Adaptability • Upside Make Flexibility • Upside Make Adaptability • Upside Deliver Flexibility • Upside Deliver Adaptability • Downside Source Adaptability • Downside Make Adaptability • Downside Deliver Adaptability	• Case Fill Rate On Time • On Shelf Availability • Stocks Days On Hand • Shelf Out Of Stock • Shelf Share • Inventory Targets • Perfect Order	• Level of customer perceived value • Rate customers' complaints • Customer satisfaction • Customer churn (turnover) • Level of information sharing • Annual rate of customers retained • Buyer–supplier partnership level • Sales turnover • Market Share
Supply Chain Cost	•Supply Chain Management Cost •Cost of Goods Sold	• Cost to Plan Supply Chain • Cost to Source • Cost to Make • Cost to Deliver	• Total Supply Chain Savings • Supply Chain Cost	• Order Management Costs • Buyer–supplier partnership level • Level of information sharing
Supply Chain Asset Management	•Cash-to-Cash Cycle Time •Return on Supply Chain Fixed Assets •Return on Working Capital	•Inventory Days of Supply	• Payscore • Stocks Days On Hand • Supply Chain Cost • Supply Chain Savings • Inventory Targets	• Buyer–supplier partnership level • Level of Information sharing • Customer churn (turnover) • Annual Rate customers retained

6.2.2.4 Structured interview Part B example

As mentioned in the previous section Part B aims at identifying marketing/SCP measurements that are capable of assessing the influence of integrating each of the identified marketing capabilities on each SCP attribute. In order to achieve this aim, the interviewees were presented with the structured questions of Part B. They decided against a five to one Likert scale (5 = strongly agree to 1 = strongly disagree) whether they consider the proposed measurements relevant to assess the impact of each marketing capability on each of the five SCP attributes.

Figure 6.5 illustrates an example of the questions presented to the interviewees in Part B. The full structured interview is available in appendix V. The interviewees were also given a glossary with the definitions of all Level 1 and 2 measurements of the SCOR model and were presented with Figure 6.4 in order to understand which of their KPIs was categorised under which SCOR measurement (See Appendix VI).

Kindly explain your answer or mention an example in case you agree or disagree
Comprehensive segmentation techniques' influence on **supply chain responsiveness** can be measured by:

Supply chain performance measures	**Strongly agree**	**agree**	**neutral**	**disagree**	**Strongly disagree**
Order Fulfilment Cycle Time					
Plan Cycle Time					
Source Cycle Time					
Make Cycle Time					
Deliver Cycle Time					
Frequency of delivery					
Responsiveness to urgent deliveries					
Level of customer perceived value					
Rate customers' complaints					
Customer satisfaction					
Customer churn (turnover)					
Level of information sharing					
Annual rate of customers retained					
Buyer–supplier partnership level					
Sales turnover					
Market Share					

Figure 6.5: Part B: structured interview questions' example

6.2.2.5 Taxonomy of capabilities, attributes and the corresponding performance measurements

Different measures appeared to be able to assess the impact of each marketing capability on each of the SCP attributes, composing a taxonomy of measurements capable of evaluating the marketing/SCM integration as shown in Table 6.6. According to Paramenter (2007) two types of performance measures are used to identify the means to enhance the current performance, these are Performance Indicators (PIs) and KPIs. Organisations use both PIs and KPIs, but KPIs are used specifically to focus on the performance aspects that are of high

importance in order to substantially improve performance. For this reason it is recommended that a company uses up to 80 PIs but no more than ten KPIs (Paramenter, 2007).

Thus, this section presents 28 PIs, out of 91 initially examined PIs (see Table 6.5), that resulted from the structured interviews and are considered capable of assessing the integration practices between the marketing domain and the SCM domain. The list of the 28 resulting PIs is presented as follows:

- Perfect Order Fulfilment
- Forecast accuracy
- Upside Supply Chain Adaptability
- Upside Supply Chain Flexibility
- Upside Deliver Adaptability
- Downside Deliver Adaptability
- Upside Deliver Flexibility
- Downside Supply Chain Adaptability
- Order Fulfilment Cycle Time
- Plan Cycle Time
- Deliver Cycle Time
- Supply Chain Management Cost
- Cost to Deliver
- Cost to Plan Supply Chain
- Order Management Costs
- Return on Working Capital
- Cash-to-Cash Cycle Time
- Finished Goods Inventory days of supply
- Return on Supply Chain Fixed Assets
- Level of customer perceived value
- Sales turnover
- Customer satisfaction

- Range of products and services
- Annual Rate customers retained
- Customer life time value
- Level of Information sharing
- Buyer–supplier partnership level
- Responsiveness to urgent deliveries

Table 6.6 presents a taxonomy of these PIs that are capable of assessing the marketing/SCM integration. Any organisation can use these PIs to evaluate the success of its marketing/SCM cross-functional integration. The measures presented in Table 6.6 are the ones that scored over four points for an average in sequence (maximum three measures are presented in each marketing capability SCP attribute intersection). Table 6.6 presents 28 PIs when counting each recurring measure only once.

As this research is novel, only the three highest scoring measures were highlighted to be practically used by business organisations at this stage. Other measures, that have also rendered positive results, are suggested to be examined in further research (see section 7.5).

Table 6.6: A marketing/SCM integration performance measurement taxonomy

Marketing capabilities/ SCM attributes	***SG***	***MFP***	***AA***	***TMM***	***MMC***	***CIP***	***CKRB***	***SA***
RL	**P**erfect Order Fulfilment **L**evel of customer perceived value **S**ales turnover	**P**erfect Order Fulfilment **F**orecast accuracy **C**ustomer satisfaction	**P**erfect Order Fulfilment **F**orecast accuracy	**P**erfect Order Fulfilment **R**ange of products and services **S**ales turnover	**P**erfect Order Fulfilment **L**evel of customer perceived value **C**ustomer satisfaction	**P**erfect Order Fulfilment **F**orecast accuracy **A**nnual Rate customers retained	**P**erfect Order Fulfilment **S**ales turnover **C**ustomer life time value	**P**erfect Order Fulfilment **F**orecast accuracy **S**ales turnover
AG	**C**ustomer satisfaction **U**pside Supply Chain Adaptability	**U**pside Supply Chain Flexibility **U**pside Supply Chain Adaptability **L**evel of Information sharing	**U**pside Supply Chain Adaptability **D**ownside Supply Chain Adaptability **L**evel of Information sharing	**U**pside Supply Chain Flexibility **U**pside Supply Chain Adaptability **L**evel of customer perceived value	**U**pside Deliver Adaptability **D**ownside Deliver Adaptability **U**pside Deliver Flexibility	**U**pside Deliver Adaptability **U**pside Deliver Flexibility **A**nnual Rate customers retained	**L**evel of customer perceived value **B**uyer–supplier partnership level **L**evel of Information sharing	**U**pside Deliver Adapt-ability **U**pside Deliver Flexibility **C**ustomer satisfaction
RS	**O**rder Fulfilment Cycle Time **R**esponsive-ness to urgent deliveries **C**ustomer satisfaction	**O**rder Fulfilment Cycle Time **P**lan Cycle Time **S**ales turnover	**O**rder Fulfilment Cycle Time **C**ustomer satisfaction **L**evel of Information sharing	**P**lan Cycle Time **C**ustomer satisfaction **S**ales turnover	**O**rder Fulfilment Cycle Time **D**eliver Cycle Time **R**esponsiveness to urgent deliveries	**O**rder Fulfilment Cycle Time **D**eliver Cycle Time **C**ustomer satisfaction	**O**rder Fulfilment Cycle Time **L**evel of Information sharing **C**ustomer life time value	**O**rder Fulfilment **D**eliver Cycle Time **S**ales turnover
CO	**S**upply Chain Management Cost **C**ost to Deliver	**S**upply Chain Management Cost **C**ost to Plan Supply Chain	**O**rder Management Costs	**S**upply Chain Management Cost **C**ost to Plan Supply Chain **C**ost to Deliver	**S**upply Chain Management Cost **C**ost to Deliver **O**rder Manage-ment Costs	**S**upply Chain Management Cost **C**ost to Deliver **B**uyer–supplier partnership level	**S**upply Chain Management Cost **C**ost to Deliver	**C**ost to Deliver **O**rder Manage-ment Costs
AM	**R**eturn on Working Capital **C**ash-to-Cash Cycle Time	**R**eturn on Working Capital **C**ash-to-Cash Cycle Time	Non over 4 points	**F**inished Goods Inventory days of supply **A**nnual Rate customers retained	**R**eturn on Working Capital **C**ash-to-Cash Cycle Time	**R**eturn on Working Capital **C**ustomer life time value	**R**eturn on Working Capital **R**eturn on Supply Chain Fixed Assets **C**ustomer life time value	**R**eturn on Working Capital **C**ash-to-Cash Cycle Time

Perfect Order Fulfilment, Forecast Accuracy and Sales Turnover kept frequently reappearing with the different marketing capabilities for the SCP attribute Reliability. Perfect Order Fulfilment is seen as a very important KPI at the case study companies as it covers CCFOT by Unilever, Case Fill Rate and On Time Delivery by P&G, Perfect Order and Shelf Share by the other case study companies. All these measurements are considered as major KPIs by a significant number of the case study participants. Perfect Order Fulfilment measures the degree to which the company was able to achieve a high standard orders' delivery performance through meeting customers' orders with no variation from the agreed commit date and on time and with no damage. Therefore, Perfect Order Fulfilment is regarded as the main PI that reflects the impact of integration marketing/sales capabilities and functions on the SCP attribute "Reliability".

Forecast Accuracy is also regarded as an important PI that reflects the integration impact on Reliability as the better the integration the better the market and capacity information to be used in forecasting and, consequently, the more reliable the SCP in fulfilling customers' expectations. Furthermore, if the company's performance is positioned as reliable in the marketplace, sales will increase, thus, boosting Sales Turnover which is the third highest scoring PI for the SCP attribute Reliability suggested to assess the impact of integration on performance.

Upside Supply Chain Flexibility, Upside Supply Chain Adaptability and Level of Information Sharing appeared with multiple capabilities in relation to the SCP attribute Agility. Upside Supply Chain Flexibility and Adaptability reflect the capability of the company's supply chain to respond to sudden increases in demand in a specific period of time. A number of interviewees were more concerned with increases in demand rather than decreases. The results suggest that Upside Supply Chain Flexibility and Adaptability reflect the impact of integrating the efforts of marketing and SCM cross-functionally especially as Perfect Order, CCFOT, Inventory Targets and Stocks Days on Hand, On Shelf Availability and Shelf Out Of Stock have been categorised under these two measures. Moreover, the Level of Information Sharing is regarded as an important measurement with Agility as well, certainly with a marketing capability such as CKRB. The stronger the relationship between

the company and its customers or marketing channel members, the better the quality of information shared and, thus, more agile SCM.

Order Fulfilment Cycle Time, Deliver Cycle Time, Customer Satisfaction are PIs that were suggested to measure the impact of the majority of the identified marketing capabilities on supply chain Responsiveness. Specifically, Order Fulfilment Cycle Time appeared with all eight capabilities as it contains CCFOT, On Time Delivery, Perfect Order and Shelf Share which are major responsiveness KPIs at the research case studies.

As for Deliver Cycle Time, it was suggested to measure mainly the impact of MMC, CIP and SA on the SCP attribute Responsiveness as the three capabilities are related to the ability of the company to deliver the ordered products as fast as possible within the permitted delivery period. A significant number of interviewees suggested that supply chain Responsiveness is improved and can be measured by Deliver Cycle Time especially when these three capabilities are properly integrated between marketing and SCM. Furthermore, Customer Satisfaction was linked to multiple marketing capabilities in relation to the SCP attribute Responsiveness. It was strongly linked to the SCP attribute Responsiveness and that Responsiveness is the SCP attribute that is mostly impacted by cross-functional integration between marketing and SCM.

As for the SCP attribute Cost, it was mainly aligned with the PIs SCM Cost, Cost To Deliver and Order Management Cost. Overall SCM Cost was suggested to be impacted by integrating six out of the eight identified marketing capabilities as SCM cost could be saved due to the integration. Moreover, Order Management Cost was linked to SG, AA, MMC and SA because they are all related to managing customers' orders in terms of receiving the order, notifying warehouses and delivering the order.

A capability such as AA is seen as important in reducing Order Management Cost as handhelds, for example, are devices used by the sales force to automatically share the order place by the customer with the SAP (company's software) so that all involved departments get informed with the specific orders placed. They can then plan, source, produce and deliver

according to instant market demand. Furthermore, Cost to Deliver got linked to the marketing capabilities SG, MMC and SA as they are all related to delivering the products to the customers and managing and integrating these capabilities properly can lead to reduced cost.

Finally, supply chain Asset Management turned out to be the SCM attribute that is impacted the least by the marketing capabilities. It was suggested that the impact of integrating all the identified marketing capabilities on the SCP attribute Asset Management can be mainly measured by Return on Working Capital. Return On Working Capital contains the practical KPIs of the case studies, namely, Stocks Days On Hand, Inventory Targets, Supply Chain Cost Savings and Supply Chain Cost. Thus, integrating the marketing capabilities is believed to yield better Return On Working Capital such as stocks. The capability AA was found to be scoring lowest in relation to Asset Management in Part A of the structured interview and here in Part B there were no measurements suggested scoring over four points to measure the impact of AA on supply chain Asset Management.

6.3 The conceptual framework as a result of the explanatory analysis

After compiling literature and empirical studies and finalising the different phases of this research the final version of the research conceptual framework was developed. The proposed framework in Figure 6.6 conceptualises a measured marketing/SCM cross-functional integrated relationship. The display of this framework was slightly changed from the last version in the exploratory phase in order to visually accommodate the suggested PIs. The framework in Figure 6.6 relates each marketing capability to the different SCP attributes and their corresponding PIs. These corresponding PIs were found capable of assessing the impact of integrating the marketing capabilities cross-functionally with SCM. Each SCP attribute is given a specific colour and its corresponding PIs are aimed at with arrows of the same colour. Moreover, each arrow carries the initials of the integrated marketing capabilities that were found impacting this specific SCP attribute and this impact was suggested to be measured by the aimed at PI.

The two parts (A and B) of the explanatory phase highlighted which marketing capabilities have what type of impact of each SCP attribute. Moreover, corresponding PIs, that can assess the alleged impact, were suggested. The measures resulting from the study are both quantitative and qualitative. The quantitative measures were already clearly assigned to specific SCP attributes, while, the qualitative measures were not assigned to specific attributes. The PIs demonstrated in Table 6.6 and Figure 6.6 are the measures that scored the highest total average during the study. The qualitative measures have shown a frequent recurrence with multiple SCP attributes in Table 6.6 and Figure 6.6. Both quantitative and qualitative measures are claimed to render improved results as a consequence of the integration.

Literature does not relate specific marketing capabilities to SCP attributes and does not suggest certain supply chain measurements to assess the proposed integrated relationship. The resulting measures are both cross-functional and customer facing (inter-organisational) in nature. On one hand, the marketing and supply chain departments integrate business functions for example when the marketing department provides market related information and the SCM department provides information on capacity and constraints. Their efforts of planning and forecasting together are paying off in an improved Plan Cycle Time and improved Forecast Accuracy (cross-functional measures), thus, more responsive and reliable SCM and improved business performance. On the other hand, Sales Turnover, Customer Satisfaction and Level of Customers' Perceived Value are customer facing inter-organisational integrative measures. They are capable of assessing the relationship between the company and its customers. The initial intra-organisational cross-functional integration contributes to the improvement of these inter-organisational measures.

This proposed conceptual framework offers a detailed holistic view on an integrated relationship between marketing and SCM. It is argued that effective integrated marketing/SCM relationships can be a source of competitive advantage to support long-term firm success. Coordination within a firm is generally considered a prerequisite to supply chain coordination extending across different companies. The cases covered in this empirical study do implement the majority of suggestions by Chen *et al.* (2007) such as creating a team-

oriented corporate culture, firm-wide cross-functional interactions and they are aiming at unifying process integrative KPIs.

Chen *et al*. (2007) revealed that process-oriented metrics can lead to full integration between a company's units and contribute to better performance of the overall business. Thus, this way of thinking should be implanted in the corporate culture starting with strategic levels. Moreover, this study reveals that the holistic view of integration extends beyond financial performance to include qualitative results like Customer Satisfaction, Customers' Perceived Value and Customers' Life Time Value.

As suggested in chapter three "Research Methodology" the analysis of the explanatory phase is undertaken using a Pattern Matching technique as the researcher compared the study's empirical results with the initial prediction. The empirical results are presented in Figure 6.6 and Table 6.6 where the prediction is the initial framework developed in chapter three. The patterns matched and internal validity of this case study research is, thus, improved.

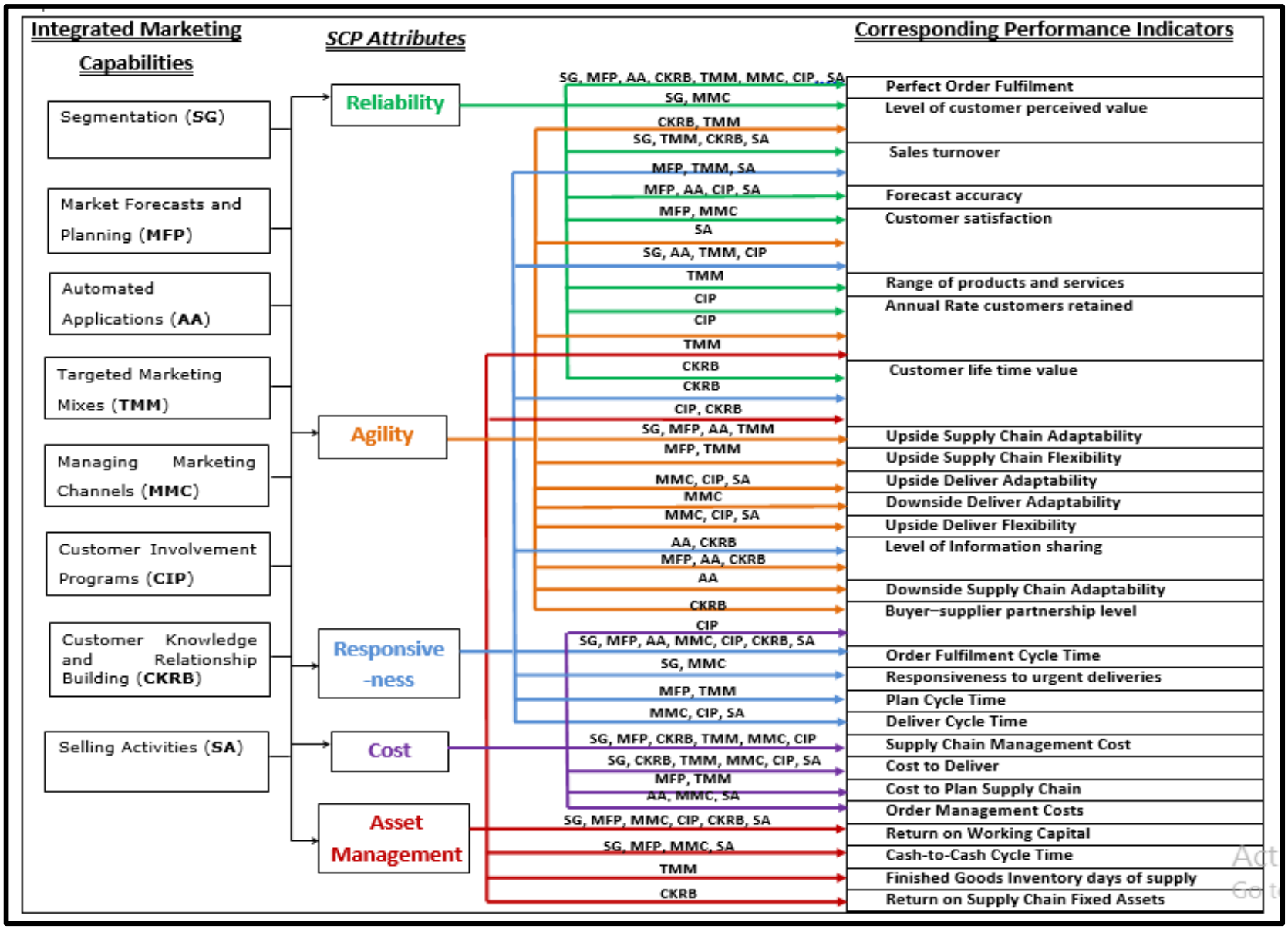


Figure 6.6: A conceptual framework for a measured marketing/SCM integration model

6.4 The descriptive phase: primary qualitative data collection and analysis

The previous section covering the explanatory phase resulted in a framework that conceptualises the measured performance when undertaking proper integration actions and procedures between marketing and SCM. Nevertheless, the framework does not identify which actions and procedures should be undertaken to realise this measured improved SCP and business performance. Therefore, this section presents a descriptive analysis of the actions, procedures and processes conducted by the investigated case studies in order to integrate marketing and SCM functions. Moreover, this descriptive analysis will result in the development of a practical integration model that can benefit any organisation that is interested in improving its performance through integrating marketing and SCM processes and activities. In addition, a practical real integration process and actual improved measurements of Unilever Mahsreq is demonstrated at this section.

This descriptive phase follows the unstructured methods (unstructured face to face interview) to gather primary data on integration processes carried out by the case studies. This phase aims at developing a practical integration model based on the five participating MNCs that are considered best practices owing to reasons explained in chapter five. This research suggests that strategic managers have to formulate strategy and design corporate culture so that employees of functional areas (marketing and SCM) fully understand the benefits of this integration. In order to achieve the claimed full integration more organisations shall adopt a process-oriented approach and measures have to be designed collectively reflecting integration rather than separate functional areas. The case studies covered in this study mainly adopt an integration process referred to as SnOP (briefly explained in chapter five).

Lapide (2005) highlights that the SnOP process is an initiative of the SCM concept and is owned, in terms of maintaining meetings cycle, by the SCM department. Thus, the individual implementations of SnOP by the studied cases are perceived as processes that focus on the efficient matching of supply with demand from strategic management levels down to tactical and operational levels. Initiatives of organisations on the SnOP model

appear to be highlighting supply chain advantages such as better meeting customer demand while reducing inventories and minimizing SCM operating costs.

The cross-functional integration model that is developed in this phase is based on the individual implementations of the case studies. The model presents a detailed process that can enable marketers to align with the SCM department to create new go-to market strategies, get a better idea on translating marketing initiatives into supply chain drivers and fully understand the firm's operational constraints. It ensures the involvement of SCM in marketing planning at an earlier stage, as well as, becoming a partner in decision making (integrated marketing capabilities).

The qualitative primary data was gathered through unstructured interviews with tactical SCM managers who are owners of the SnOP process (Table 6.7) at the MNCs participating in the study. The positions of these interviewees mainly included demand and supply planners and MSO planning managers who are responsible for managing the SnOP cycle. These interviews differed in structure from the previous ones as they took place throughout the research along with observations and archival records review in order to fully understand the processes and procedures of integration at the case studies. They were unstructured as the interviewees were asked to describe their integration processes whether SnOP or any other type of integration procedures. They described the meetings, their timings, who participates, the decisions to be taken, critical issues etc. The researcher asked ad hoc questions whenever she needed more clarification.

The interviews at this phase lasted around 120 minutes and were conducted at the different phases of research. Sometimes the same participant was interviewed twice at different periods of time as the integration process is open to changes and improvements, and the practices might have changed over the research period.

Table 6.7: List of unstructured interviews' participants

Interviewee		MNC	Duration of interview	Interview type	Interview year
Position	**Department**				
Supply chain general manager	SCM	The chocolate confectionery and biscuits company	100 min 70 min	Individual	2012 2013
Supply Planning manager	SCM	The sweet and savoury snacks company	120 min	Individual	2013
Demand Forecast & planning manager	SCM	The soft drinks company	120 min 70 min	Individual	2012 2013
Materials Supply Management & CEEMEA manager	SCM	Procter and Gamble	120 min	Individual	2013
MSO - demand planner	SCM	Unilever Mashreq	130 min 100 min	Individual	2013 2014
MSO - Planning Manager	SCM	Unilever Mashreq	70 min	Individual	2016

The results of the descriptive phase are provided in the following section.

Descriptive phase: targeted outputs (Table 5.11)

- Mapping the detailed cross-functional integration process between the marketing and the SCM departments at the case studies.
- Developing a practical marketing/SCM integration process model based on the five MNCs' integration processes to be used as a best practice for the rest of the industry.

6.4.1 A brief literature analysis on the SnOP process

Firms strive to successfully manage supply and demand which requires extensive integration between demand (marketing domain) and supply (SCM domain) functions and activities. The research suggests two primary sets of processes of moving goods and information through supply chains through which the firm creates value for its customers. These processes are, namely, demand-focused and supply-focused processes. Organizations have historically invested resources to develop competitive advantages in

these fields. The major problem resides in planning each side separately resulting in conflicts between demand (what customers want) and supply (capacity) (Esper *et al*., 2010).

Very little empirical research has been done on integrating the demand side managed by marketers and the supply side managed by the SCM department within businesses (Oliva and Watson, 2011; Esper *et al.*, 2010; Juettner *et al.*, 2007). This research, based on an empirical study related to industry's best practices, proposes a framework to conceptualize the functional integration between demand and supply sides within an organisation. It suggests that successfully managing such integration requires extensive research on demand-focused and supply-focused processes. This integration facilitates forecasting and planning of real-time customer demand and ongoing supply capacity constraints (Esper *et al*., 2010).

The integrated planning process used by a number of industry leaders that is referred to as SnOP aims preliminarily to facilitate master planning, demand planning, and the flow of information between them. At a strategic level, master planning is initially concerned with the coordination of the supply side of the organization and seeks the most efficient ways to fulfill demand forecasts over the medium term (Lapide, 2005; Oliva and Watson, 2011) up to 24 months ahead. The efficiency of the process results in enabling the more detailed tactical levels of planning such as purchasing and materials requirements, production, and distribution planning.

As comprehended from the interviews regarding the customer-facing side of the organization, demand planning is responsible for predicting future demand based on customer orders placed, historical trends, prevailing market conditions and demand generating activities (e.g. advertising and new innovations) of the firm, as well as, its competitors. A basic SnOP process facilitates the transfer of information from demand planning to master planning (Oliva and Watson, 2011).

Esper *et al.* (2010) argue that although SnOP's usefulness as a tool for improving practical integration, has been verified, it still does not reach the goal of common understanding. This perspective is supported by Moon (2006) who agrees that SnOP is a tactical process

that usually involves mid-level managers generating a simple balance between demand forecasts and production capacity. Moreover, *Esper et al. (*2010) claim that the majority of the SnOP processes concentrate on operational plans for guiding short- to mid-term production, logistics, and procurement activities.

In contrast, other practitioners and academics argue that these processes can become more advanced to move beyond the superficial synchronization of master and demand planning to sophisticated joint planning (Oliva and Watson, 2011; Chen *et al*., 2006; Lapide, 2005; Van Landeghem and Vanmaele, 2002). The scarcity of empirical scrutiny for supporting the development of an integration process presents the gap for these contrasting perspectives to continue debating. This gap shall be at least initially narrowed based on empirical studies such the one presented here. Furthermore, the SnOP process is a practical phenomenon that is the subject of ongoing research on its potential integrative capabilities which makes good candidates for inductive research.

Based on the findings of the empirical study both perspectives can be considered. The studied cases show that practices of the implementation of the SnOP process vary from a simple balancing of demand forecasts with production capacity to a very mature strategically integrated planning system involving the whole organization from strategic up to operational drawdown. Lapide (2005) presented four stages of the SnOP process maturity shown in Figure 6.7 which supports that not all companies implementing the SnOP ideology are fully integrating their demand-based and supply-based functions.

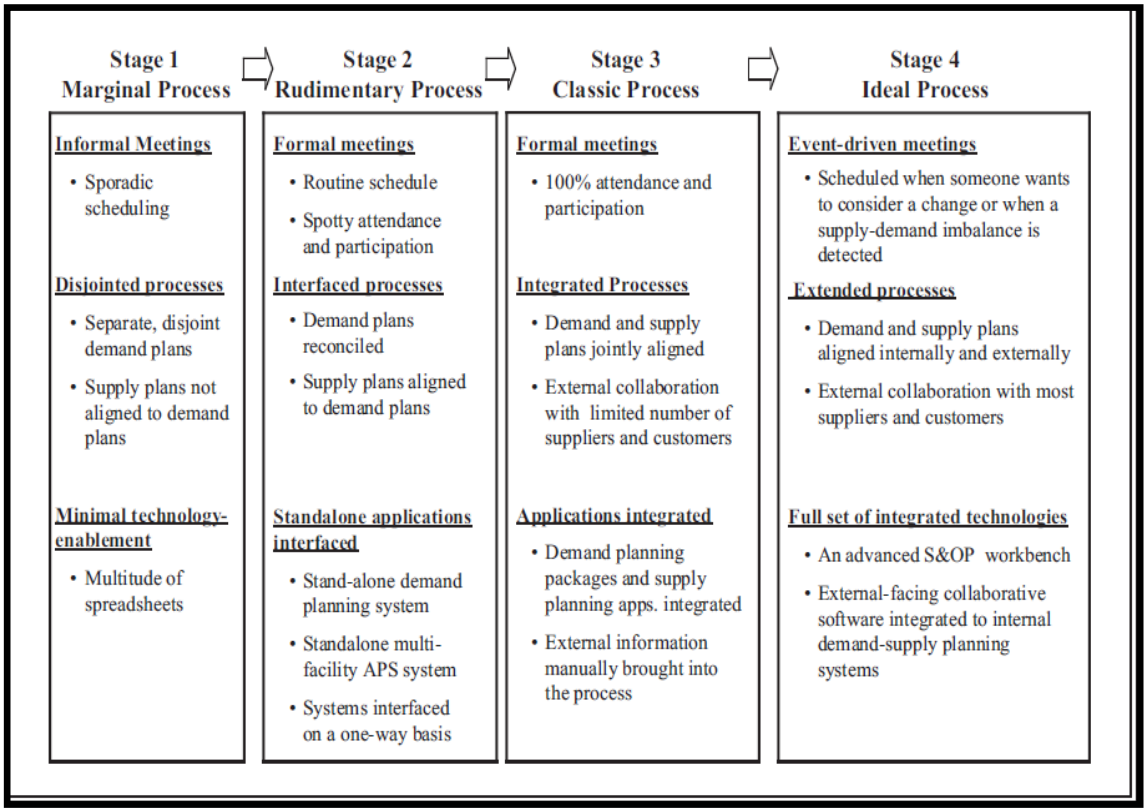


Figure 6.7: A four-stage SnOP process maturity model
Source: Lapide, L. (2005)

The five research case studies are implementing SnOP planning technique but each company is at a different maturity stage. Moving from one stage to another forward on this Figure is not typically easy as process innovation and change are always difficult in any organization. It considers changing not only the processes but the organisation culture in terms of the decision-making process, the information analysis used for decision-making, the scope of duties and the skilled workforce involved (Lapide, 2005).

6.4.2 A proposed marketing/SCM cross-functional integration model

Opposed to Lapide (2002) who claimed that implementing the SnOP process is supposed to result in enhanced firm performance, Esper *et al*. (2010) proposed a conceptual framework referred to as the Demand and Supply Integration (DSI) framework. Esper *et al*. (2010) argued that the DSI framework moves beyond this tactical balancing of demand with supply, and lifts the concept of integration to a more strategic perspective. They declare the DSI drives a common interpretation of demand and supply, which leads to mutual understanding across the organisation, and superior strategic decision-making and execution.

The model developed in Figure 6.8, based on the practices of the MNCs covered in this research, indicates how to integrate the DSI framework proposed by Esper *et al.* (2010) into a strategically managed SnOP supporting strategic managers in decision making, breaking down the strategic plans into tactical and operational plans for effective and efficient execution, and ultimately customer value creation. This justifies Lapide's SnOP process maturity model i.e. enterprises at stage three and four of the maturity model tend to integrated the DSI framework into their SnOP integration processes.

The proposed model in Figure 6.8 highlights key cross-functional processes undertaken by the case studies to match demand and supply. It presents a process integration of SCM planning across multiple highly differentiated areas. Two companies, namely, Unilever Mashreq and P&G Egypt are believed to be at or moving towards stage four (ideal process) of Lapide's SnOP process maturity model. The overall companies' planning and operations are functioning around the SnOP process supported by an Integrated Supply-Demand Planning Technology Architecture that is needed to fully support this ideal SnOP process. In these case studies the technology architecture used is designed by SAP and its planning software is referred to as APO (Described in chapter five). The integration of their demand-focused and supply-focused processes is shown in Figure 6.8.

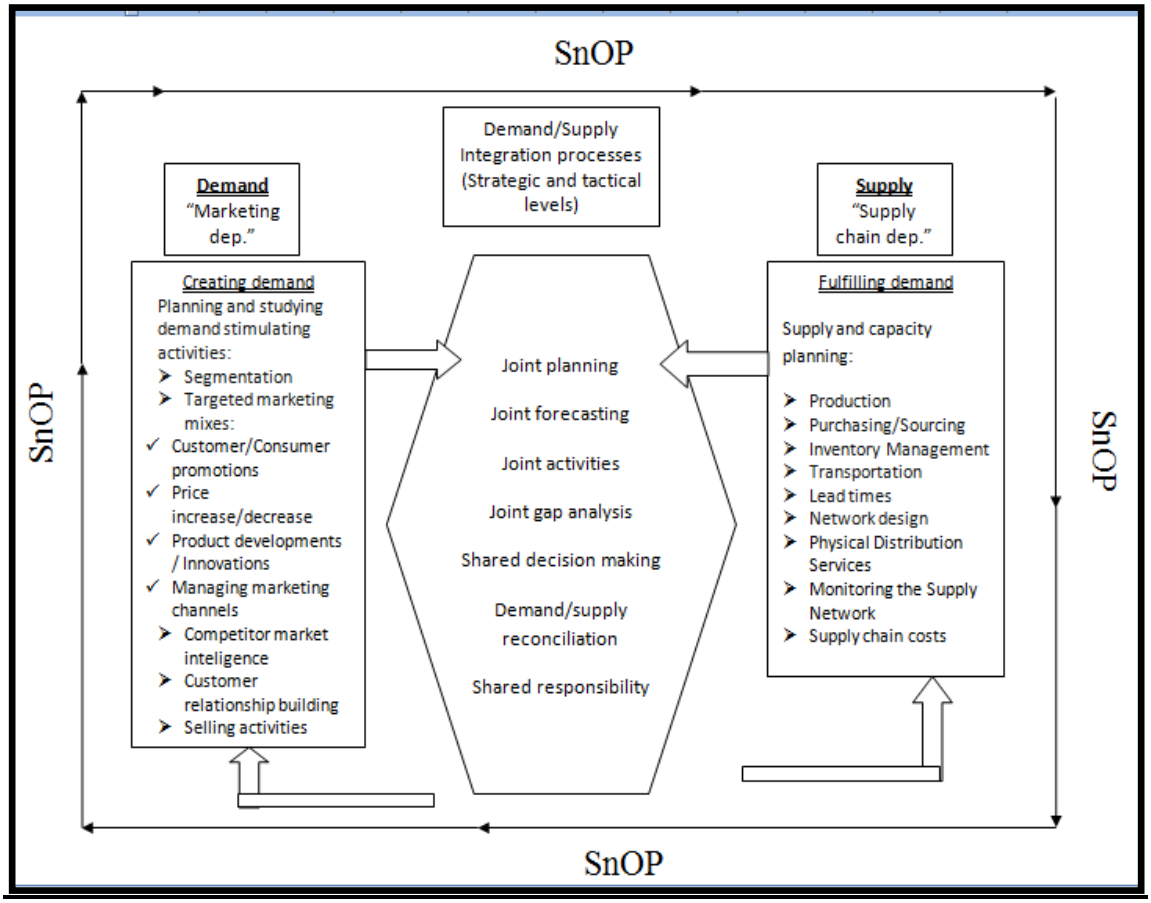


Figure 6.8: A customer value creation model through supply and demand integration process

As the above model incorporates the DSI framework and SnOP process used by the case study participants, it clearly conceptualises the integrations of the demand-based activities and supply based activities. The model is developed based on the case studies' integration methodologies for creating customer value and rendering overall enhanced business performance. This model combines the advantages of the DSI framework and the SnOP process, thus, overcoming the deficiencies of SnOP process.

As shown in Figure 6.8, marketing's domain and strength remain in understanding customers' perceived value (obtaining market and customer knowledge), dividing customer with similar needs and wants into distinct groups (market/customer segmentation), transforming these needs and wants into product and service packages to meeting the different desires (targeted marketing mixes) and marketing channels design. These are the demand-focused activities owned by the marketing and sales departments. On the supply side, the SCM department is concerned with meeting and fulfilling the forecasted demand within the available capacity. Moreover, sourcing plans, inventory

management, transportation, lead times calculations, physical distribution and lowering supply chain costs are the top functional SCM priorities.

The middle shape in Figure 6.8 facilitates the integration between the supply side and the demand side through periodically scheduled joint planning, forecasting, activities' and innovations' planning and gaps' analysis using joint KPIs and shared decision making meetings. The meetings are commonly scheduled on a monthly, quarterly and annual basis depending on the level of detail and decisions needed to be taken. It also depends on the level of management to attend the meetings. Tactical middle line managers from both sides initiate and attend the preliminary monthly planning and forecasting meetings, while, the strategic top level managers attend the gaps' analysis and decision making meetings. The directors from both sides and the CEO discuss the gap in terms of the previously set KPIs' targets versus the actual results and their impact on business performance. They take joint decisions and thus the responsibility for the business performance KPIs is shared. All these steps can be covered through the SnOP process if the company is at an advanced maturity stage and can implement its own version of the SnOP process that might exceed just a forecasting and planning process.

The model in Figure 6.8, based on the reported SnOP integration processes conducted by the research's case studies, enables marketers to align their tasks with SCM to create new go-to market strategies, get a better idea on translating marketing initiatives into supply chain drivers and fully understand the firm's operational constraints. The proposed integration model in Figure 6.8 ensures the involvement of SCM in the marketing planning at an earlier stage, as well as, becoming a partner in decision making. SnOP process is an initiate the SCM concept and is owned in terms of maintaining meetings cycle, by the SCM department. Thus, the SnOP is perceived by the case studies as an integration process that focuses on the efficient matching of supply with demand from strategic management levels down to tactical and operational levels. SnOP process appears to be highlighting supply chain advantages such as better meeting customer demand while at the same time resulting in reduced inventories and minimized supply chain operating costs.

Some companies realised the level of importance of the integration and its impact on forecasting and planning supply and demand which is a key factor to market success. Therefore, they transformed the function of demand forecasting and planning into a new concept called MSO. The planning team was transformed into an MSO (explained in chapter five). This team is responsible for managing the SnOP cycle as well as managing the whole supply cycle till the stocks reach the destination. Instead of being only concerned with forecasts in terms of planning techniques, styles and tools this team is looking over shipments, inventories, stock cover, planned promotions rather than only putting the forecasts according to formulas and calculating forecast bias and accuracy. The MSO team plans and forecasts according to marketing and sales inputs on each country (geographical segmentation) taking capacity and other budget and supply constraints into consideration. Thus, the team has to integrate the plans with the demand creation side, marketing, very accurately and carefully.

6.4.3 A real life example: the SnOP cycle used by Unilever Mashreq

After examining the SnOP processes of the case studies through interviews, documentations and archival records, Unilever Mashreq was found to be at an advanced maturity level, moving beyond the superficial synchronization of demand forecasts and production capacity towards the advanced integration model presented in Figure 6.8. The company granted the researcher access to its detailed monthly cycle and permission to publish it.

Unilever global developed a one set forum of the SnOP cycles, nevertheless, execution slightly differs from MSO to MSO according to market condition, country's local culture or focus i.e. product category, country, primary sales or secondary sales and channels. They might combine two meetings, or change the name of a meeting but with the same process core or skeleton. The SnOP process was mainly developed to minimize lost opportunities and overcome accumulating stocks. Unilever's typical cycle is divided into three phases, namely, demand creation, supply-demand planning and target evaluation / demand-supply reconciliation (gap vs. target). The detailed monthly SnOP cycle of Unilever Mashreq is illustrated in Figure 6.9 which is further explained in the following section.

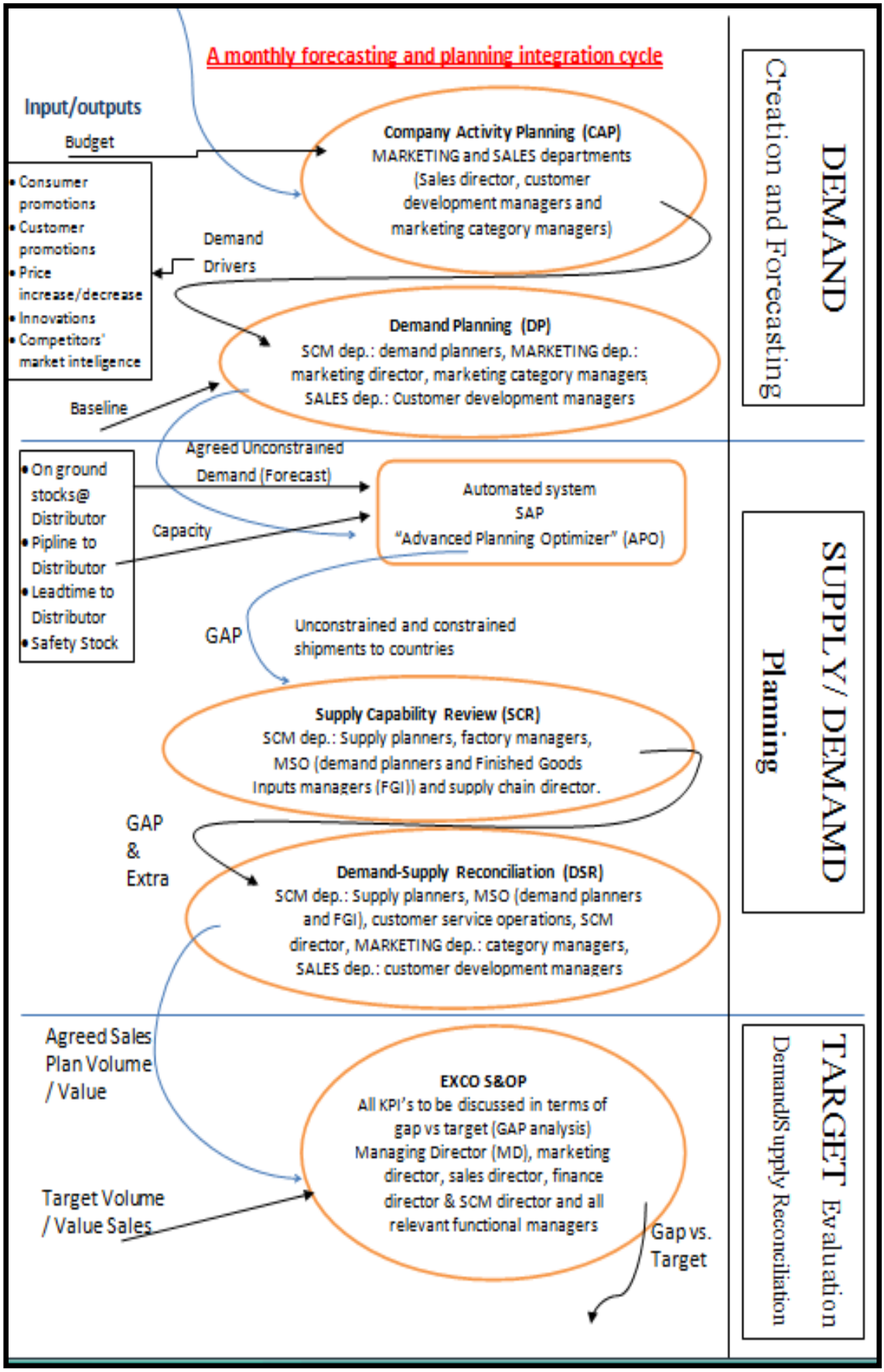


Figure 6.9: Unilever Mashreq's SnOP monthly cycle

The typical SnOP process monthly cycle at Unilever Mashreq is presented in Figure 6.9; nevertheless, if any problems or sudden competitors' moves etc. occur, ad hoc meetings can be called. The cycle is not rigid. The output of one meeting is the input of the following meeting. These cross-functional integration meetings are considered alignment decision making meetings held to ensure readiness for any sudden problems, to overcome imbalance in supply and demand and to minimize lost opportunities. Moreover, it helps to anticipate future demand and to plan capacity issues accordingly. The process aims at forecasting and planning up to two years ahead in order to fulfil future demand.

The monthly meetings are spread across four weeks where Week One starts with the Company Activity Planning (CAP) meeting. The sales director heads the meeting and meets with customer development (sales operations) managers and brand building (marketing category) managers to share and discuss ideas on demand drivers and to plan activities accordingly in order to drive demand based on the available budget. The demand drivers are divided into two categories, controllable and uncontrollable. The controllable drivers are planned by marketing and sales and discussed in the CAP meeting such as consumer promotion, customer promotion, advertising, price increase/decrease and innovations. These controllable internal demand drivers usually yield a lead effect which is an anticipated effect planned by the company.

On the other hand, competitors and market conditions, such as political incidents, diseases, substitute products' price increase/decrease etc. are uncontrollable factors that the company's market intelligence strives to anticipate. These uncontrollable external demand drivers (especially competitors) might yield a lag effect which is an external factor whose effect has not been anticipated or planned for. Nevertheless, the SnOP team has to understand the lag effect for further analysis and actions.

After the demand driving activities have been planned during the CAP meeting another meeting called Demand Planning (DP) is held in the same week (Week One). The marketing director heads this meeting and meets with demand planners, marketing category managers and sales managers. The inputs of the DP meeting are the internal and external demand drivers (consumer promotions, customer promotions, advertising, price increase/decrease, innovations, competitors, market intelligence) and the baseline

demand. The baseline demand forecast indicates how much the market can acquire (unconstrained) not what the company can produce. It formulates an unconstrained demand forecast with all other factors being constant e.g. no consumer promotions, no competitors' promotions etc. In this meeting baseline forecast is adjusted by predicted responses to external and internal reported demand drivers (input from CAP meeting). The output of DP meeting is an Agreed Unconstrained Demand (AUD) forecast by all DP stakeholders (marketing, sales and demand planners).

As Unilever Mashreq consists of six countries headed by Egypt, the SnOP team has to plan for all countries. The company uses the SAP software as the main business system. Before the next SnOP meeting the AUD resulting from the DP meeting is inserted in the SAP software using APO and Manufacturing Resources Planning (MRP) modules to plan for countries using available information on capacity as well as on-ground socks, pipelines, lead times and safety stocks as a buffer in case anything unexpected happens so obstacles to agility and responsiveness can be avoided. Module of MRP is used in this process to develop future plans and expose future requirements. Unilever Mashreq uses a 24 month rolling horizon and continuous plans and forecasts updates are discussed in the monthly SnOP meetings.

In Week Two a Supply Capability Review (SCR) meeting is held. The supply chain director heads this meeting and meets with supply planners, factory managers, MSO team, namely, demand planners and Finished Goods Inputs managers (FGI). The stakeholders of this meeting are all SCM employees who review the supply capability versus forecasted demand. In this meeting the GAP between the unconstrained demand/shipments and constrained demand/shipments is discussed. The GAP exists for multiple reasons including capacity, production problems, extended transit times, shortage in packaging materials especially for countries. The agreed on demand forecast is used by SCM to create an initial supply plan in an attempt to meet the forecasts given the constraints on hand.

In the same week the Demand/Supply Reconciliation meeting is held and also headed by the supply chain director. This meeting's stakeholders are supply planners, demand planners, FGI managers (MSO), customer service operations, marketing category

managers and customer development managers (sales). In the DSR meeting the gap input from the previous meeting is reviewed and alternatives to reconcile the situation and close the gap with new options (replacing SKU by similar SKUs, sourcing from new suppliers etc.) are discussed and decisions made on constrained demand/shipments (agreed sales plan).

The last meeting that takes place in Week Four is the Exco SnOP meeting. It is called Exco as top strategic management attend this meeting. It is headed by the Managing Director (MD) who meets with the marketing director, sales director, finance director, SCM director and all relevant functional tactical managers. Input of this meeting is the output of the DSR meeting, namely, the agreed sales plan, the financial measures and the target volume and value sales. During this meeting the top and tactical management discuss the gap between the target and the (constrained) agreed sales plan versus the target through the company's KPIs. The KPI's performance represents the effectiveness of the process. If there is no gap or a small gap, this reflects that the process is functioning effectively, if the gap is large then reasons are reviewed and solutions are explored.

Measuring performance is vital for implementation and continuous improvement. The reviewed cross-functional integrative KPIs at the Exco SnOP meeting include CCFOT, OSA, forecast accuracy, forecast bias, stocks days on hand, market share, underlying sales growth, growth margin, operating margins and sales value. The SnOP process is then considered an alignment and integration that involves all different business functions and impacts performance as it aims at improving KPIs. If CCFOT improves, then OSA improves then the customer is satisfied, therefore, financial measures improve. The decisions made on the gap in the Exco meeting are an input for the CAP meeting in the next month to plan accordingly.

As the researcher considered Unilever Mashreq a core case study and as the company granted constant access to the researcher, continuous meeting with the informants and the involved managers were held. Consequently, the research was informed that a revamp to Unilever's global SnOP process would take place in 2013 and that 24 months are given to Unilever's branches to execute the revamp. The revamp took place to improve the

process through meetings with global teams to discuss all problems with all local SnOP stakeholders. Unilever is continuously trying to improve the process.

A major outcome of the revamp meetings was that obstacles had been related to mindsets and behaviour rather than the process itself. Therefore, a specific team of cross-functional leaders were selected as a core SnOP team (trustees), and it was decided that any changes have to be based on three pillars or 3x3 as called by the team, namely, process, people (teams) and tools (systems). The revamp does not aim at changing everything but rather improving the current practices. They decided the meeting shall focus on decision making and quality rather than quantity i.e. they should not discuss details in-depth in terms of SKU by SKU for example. Moreover, all stakeholders have to differentiate between the execute horizon and the planning horizon i.e. plans cannot be implemented on the spot.

Another outcome of revamp meetings is a Balanced Scorecard (BSC) of KPIs rather than relying only on functional KPIs. The developed BSC is divided into two categories, the SnOP KPIs and category's or country's KPIs. Each team (SnOP team, category team, country's team) has its own scorecard with its functional KPIs included in the scorecard, same measures different scale for each team. The developed BSC indicates overall success and it linked all categories' and functional measures together in a scorecard to ensure teams' integration and harmony.

It helps avoiding being only functionally focused which hinders achieving overall business targets. So functional employees can look at the KPIs from a different perspective, the overall picture is clear and conflicts can be avoided. Moreover, the SnOP team is striving to modify the reward system. The reward system should not only reward the functional employees based on functional targets but also based on overall sub-cat family scorecard achievements because he/she is part of that achievement even if his/her functional KPIs did not score as well. This way conflicts are reduced and the business's overall success is centred.

As 24 months were allowed to start implementing the revamp plan the updated process execution started in Quarter four 2015. A pre-CAP meeting for each country individually was added to the process in order to save time of discussion in the CAP meeting.

Furthermore, the DSR meeting is renamed CAT business Review meeting. The meetings focus more on decision making rather than operational discussion and only focal employees are attending, thus, fewer attendees.

This revamp of the SnOP process and initiative to link sub-category performance to the reward system rather than only relying on functional KPIs for rewarding employees is solving the problem of the functional KPIs being a barrier to collective integration goals that is addressed by Juettner *et al*. (2007). They mentioned that functional KPIs prohibit tactical managers from aiming at the overall company goals and narrow their efforts towards functional goals. This strengthens the notion that integrative KPIs are designed to cover a broader set of collective company objectives rather than assessing functions on isolated or conflicting performance measures.

Unilever Mashreq considers the SnOP not as an end destination, but a mean to achieve the business targets, the SnOP team calls it a journey where they learn and witness ongoing developments. Marketing and SCM integration is a process of demand creation and fulfilment. Hence, as argued by Haddad and Ren (2013b) customer value creation and improved business performance cannot be achieved unless efforts are integrated from the demand side (marketing) and supply side (SCM).

The following section presents the historical performance of some integrative cross-functional KPIs that are used in the Exco meeting to measure performance.

- **Positive impact of the integration on main KPIs resulting from the research**

The majority of interviewees at the case study companies considered the marketing/SCM integration process a main contributor to the continuous improvement in the KPIs such as Forecasting Accuracy, Perfect Order Fulfilment, Sales Turnover, Stocks Days etc. This section presents some evidence that the successful and comprehensive implementation of the demand and supply integration model, through the SnOP process, can render positive results on business performance. As mentioned in the above section Unilever's integration process (SnOP), the MSO i.e. demand planning teams, information sharing and forecasting mechanism were observed. After the initial analysis of the history and development of these integration processes and reviewing the company's records, it became apparent that the current integration processes have positively affected SCP and business performance (improvement in KPIs) (Figure 6.10).

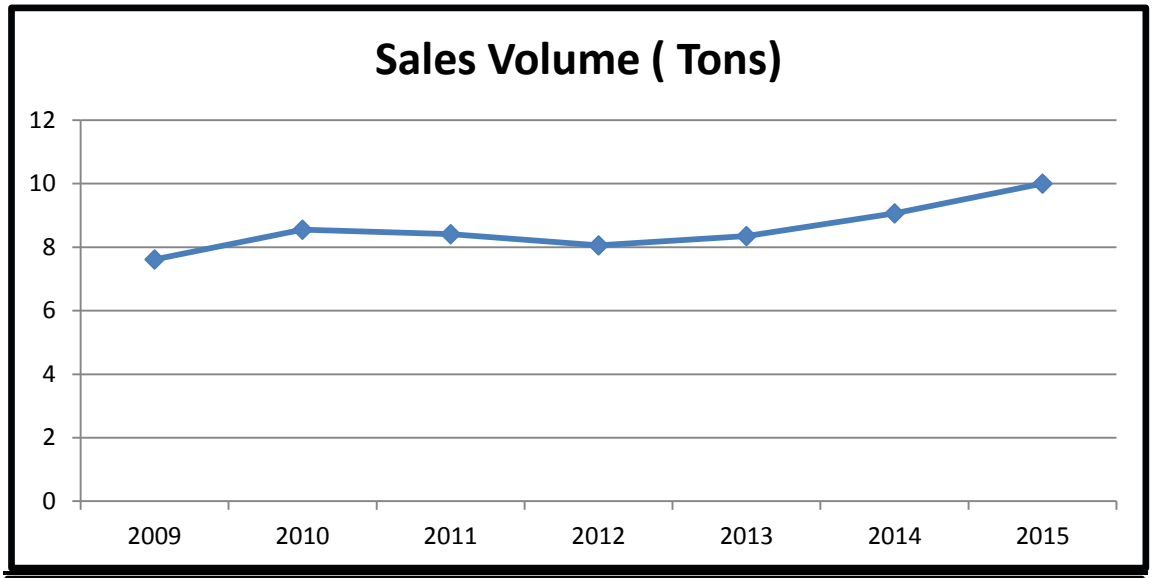
It is worth mentioning that although Egypt was facing turbulent political and economic situations, Unilever's integrative KPIs (forecasts, sales values and volumes, Stocks Days On Hand, CCFOT, OSA) continue to improve, which is advocated to be due to the execution of effective demand/supply cross-functional integration processes. Figure 6.10 shows trends of Unilever's integrative KPIs but does not indicate any real numbers as the numbers have been disguised for confidentiality reasons. The trends show improvements in the KPIs, however, the growth slowed down (Sales Turnover, Forecast Accuracy) or slightly declined (CCFOT, Sales Volume, Stocks Days On Hand) between 2011 and 2013 as these three years were the most difficult after the 2011 revolution where other organisations declined much more or closed down.

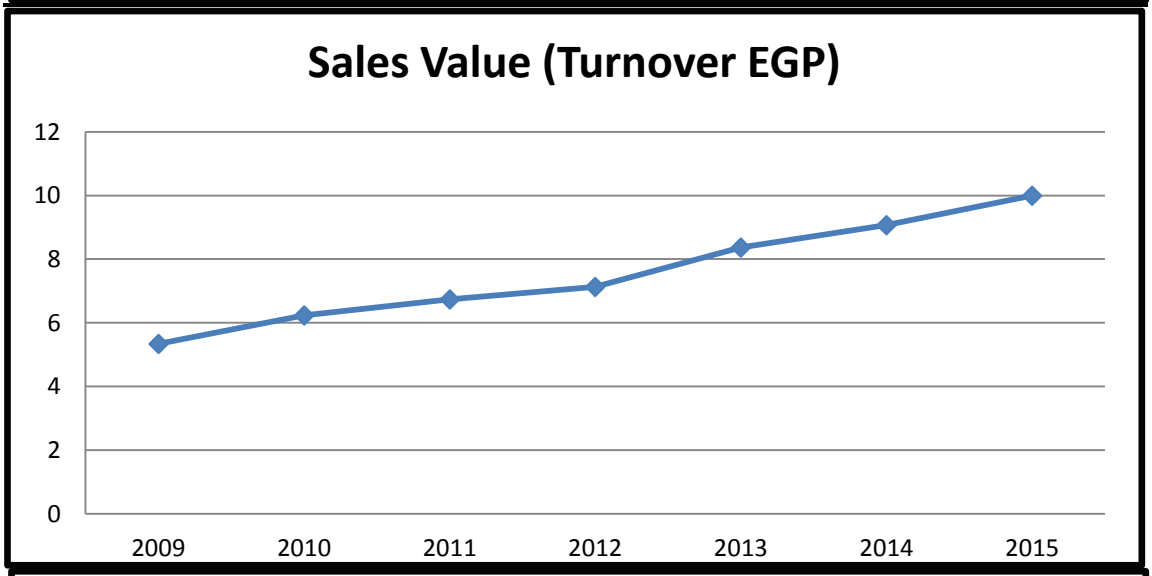
Unilever Mashreq's SnOP cycle started in 2004 and was premature. It has dramatically developed since then. Demand planning started as a function in the SCM department instead of the sales department in 2008 and further developed into the MSO concept in 2011. Also the customer service function was introduced to the SCM department 2008 and then transformed in 2012 into customer service excellence responsible for KPIs such as CCFOT and OSA. The final development of the SnOP process took place in 2015 as mentioned in the previous section.

Unilever's KPIs presented in Figure 6.10 correspond to the main KPIs resulting from the explanatory phase of this research. Sales Turnover, CCFOT (primary and secondary), Stocks Days On Hand and Forecast Accuracy have all scored high with the different marketing capabilities and are listed in the resulting PIs of Table 6.6 and Figure 6.6. The KPIs figures (real numbers) were supplied by the company according to their availability, that is why the trends of the KPIs in Figure 6.6. differ in the starting year. Moreover, KPIs such as secondary CCFOT were not being calculated in the same manner before 2012. Unilever is one of the pioneer companies to measure Perfect Order Fulfilment to Tier two customers not just Tier one (distributor).

Sales (Value) Turnover is namely a major marketing/SCM integrative business PI resulting from this research and as illustrated in Figure 6.10 had a positive growth between 2009 and 2015. Sales Volumes have been increasing since 2009 with a slight decrease in 2012. Moreover, Forecast Accuracy is among the measurements that scored the highest in terms of reflecting the cross-functional integration impact and strengthening the supply chain reliability in explanatory phase. Forecast Accuracy has been continuously improving since 2010. Moreover, Unilever's major SCM integrative KPI called CCFOT reflects the study's measurement Perfect Order Fulfilment. CCFOT also witnessed strong improvement as a result of the cross-functional integration between the demand creation and fulfilment sides of the organisation. Primary (Tier one customers) had a slight decrease in 2013 due to the unstable Egyptian conditions at that time where secondary CCFOT (Tier two customers) continued to improve from 2012 till 2015. The Stocks Days On Hand continued to decrease due to accurate forecasting and becoming more agile as a result of the integration process, however, there was a minor increase 2011 due to curfews as the sales force were not allowed to distribute at all times.

The KPIs presented here are considered integrative or collaborative KPIs measuring the impact of the integration between marketing and SCM. Figure 6.10 presents only trends and does not reflect real numbers of the respective KPI as the true numbers are disguised for confidentiality reasons.





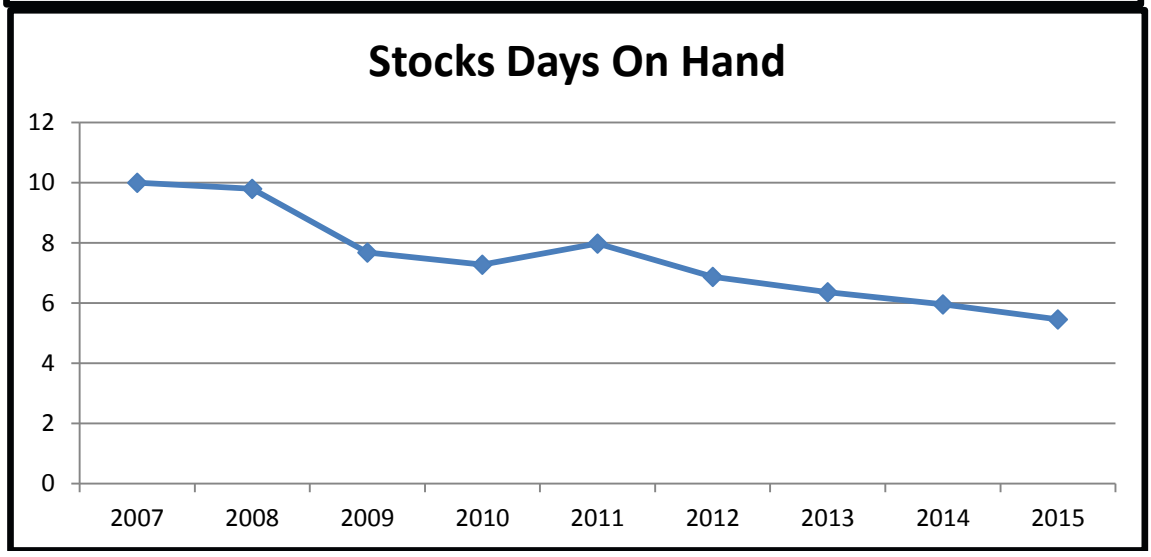


Figure 6.10a: Integrative KPIs of Uniliver Mashreq
Source: Unilever (2016c)

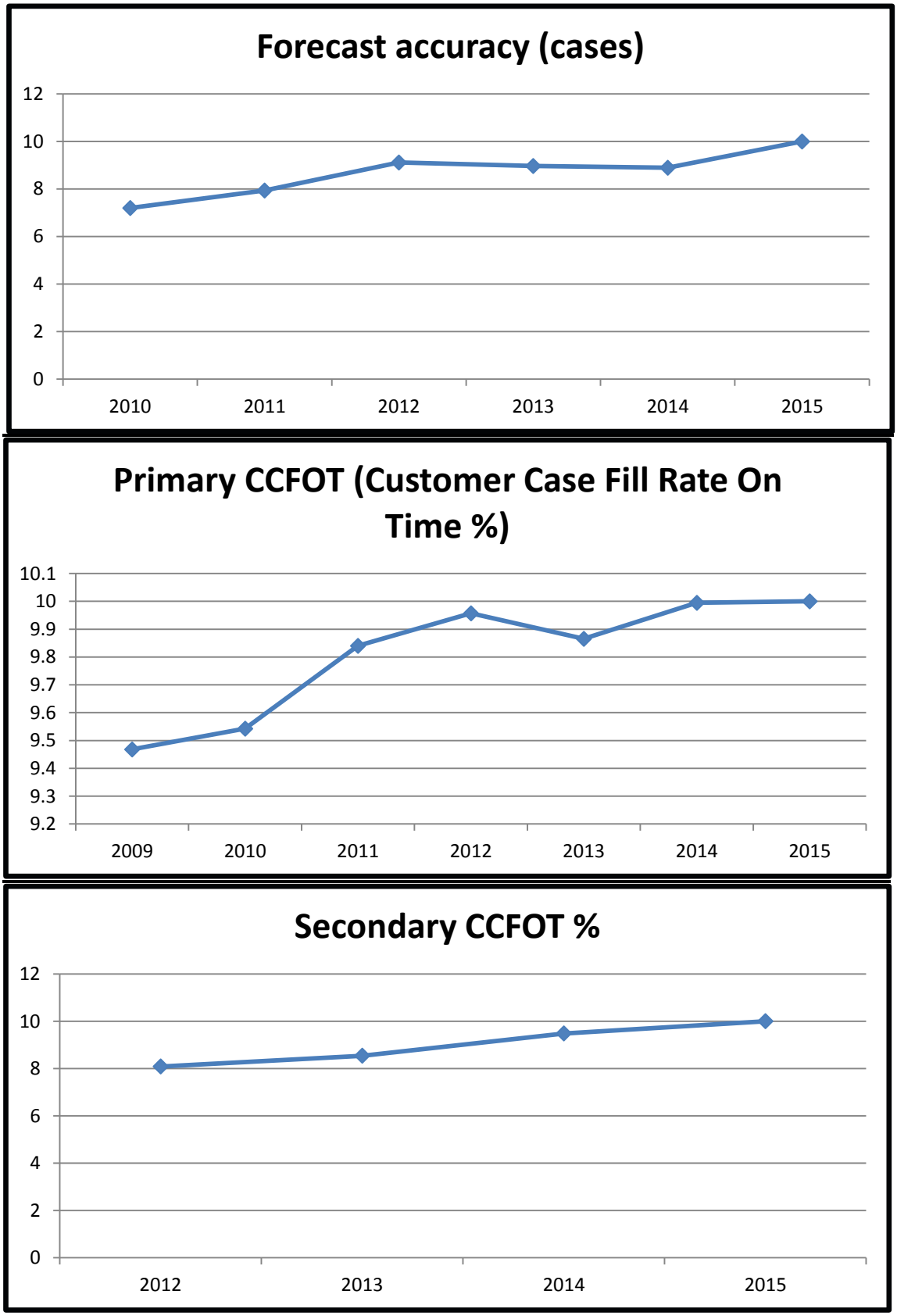


Figure 6.11b: Integrative KPIs of Uniliver Mashreq
Source: Unilever (2016c)

6.5 Proposition validation

After conducting the three research phases (exploratory, explanatory and descriptive) and examining the empirical results, the initial developed framework matched the resulting conceptual framework (final version developed after the explanatory phase) and the research proposition can be accepted.

The proposition states ***"Integrating the cross-functional capabilities and activities between the marketing and SCM domains can lead to improved SCP and business performance which can be assessed by an integrative set of measurements".***

This proposition can be accepted as the research phases confirmed that properly and effectively integrating the marketing identified capabilities with SCM impacts SCP and business performance positively. Moreover, this marketing/SCM integration impact on performance can be measured by integrative measurements suggested in this research.

6.6 Conclusion

The explanatory and descriptive research phases have been presented in this chapter. After conducting the exploratory phase and analysing its outcomes (an initial conceptual framework, a list of practical integrative measurements, a set of marketing capabilities and a research proposition) it was vital to validate these outcomes with more structured methods. Therefore, an explanatory case study research phase was conducted. In this chapter the techniques for conducting the two parts of the explanatory phase were illustrated. Part A aimed at testing the strength between the eight identified marketing capabilities of the exploratory phase and the five SCP attributes. Furthermore Part B aimed at assigning integrative measurements to assess the impact of integrating each marketing capability on each SCP attribute.

The techniques used to construct the structured interview for Part A and B were demonstrated where the practical integrative measurements resulting from the exploratory phase were categorised under the SCOR model level 1 and 2 measurement to provide a standardised terminology. Moreover, qualitative measurements and business

measurements were added to the structured interview list of suggested integrative measurements. The results were illustrated in a conceptual framework for a measured marketing/SCM integration model which is supported by a marketing/SCM integration performance measurement taxonomy and validated by five FMCG industries global leading MNCs (case studies). According to the pattern matching case study analysis technique the prediction (initial framework) and the resulting conceptual framework matched and, thus, internal validity is improved.

The third phase conducted and presented in this chapter is the descriptive research phase. This phase followed an unstructured approach to observe and map the cross-functional integration practical processes undertaken by the case studies. This descriptive phase outcomes proposed a practical demand/supply integration model which combines the strengths of marketing and SCM through aligning demand and supply focused planning, forecasting, decision making and responsibility. The complexity and depth of the implementation depends on individual companies' practices.

A practical real life example of a core case study's, Unilever Mashreq, integration processes were described. The company's main integration process, namely, the SnOP process, was illustrated and its continuous developments were highlighted. The study revealed that the KPIs of Unilever Mashreq have been positively influenced by these integration practices. Some of these KPIs were illustrated and they reflect the marketing/SCM integrative KPIs derived from the explanatory research phase.

The research proposition derived from the exploratory phase was supported after conducting the explanatory and descriptive phases. Thus, the research is concluded by this chapter and conclusions, research limitations and recommendations for future research are expressed in chapter seven.

7 CONCLUSIONS

7.1 Introduction

This chapter presents a review of the research findings and presents the research contributions. It also covers the limitations of the research and concludes with suggestions for future research. The aim of this research was to develop a conceptual framework for a measured marketing/SCM cross-functional integration impact on SCP and business performance to be used by companies as a guide for effective cross-functional integration practices. This aim was achieved through realising the five research objectives. As gaps were identified in literature and practice, five MNCs were selected from the Egyptian FMCG market to serve as case studies in this research.

The case study approach was followed to gain an in-depth understanding on this real life phenomenon and MNCs were selected to reflect a global perspective of the research topic. Integrative marketing capabilities and cross-functional performance measurements were explored, a conceptual framework and a practical integration process model were developed to provide scholars and practitioners with tools to understand and realise a measured integrative cross-functional relationship between marketing and SCM. The developed framework challenges the conventional view of marketing and SCM as two separate isolated domains for the demand creation and the demand fulfilment.

This chapter starts by highlighting the realisation of the research objectives. Afterwards, the research contributions are discussed, followed by the main research limitations. As a number of research areas remain open for investigation, this chapter concludes with future research and recommendations.

7.2 Realisation of the research aim and objectives

The aim of this research was to develop a conceptual framework for a measured marketing/SCM cross-functional integration impact on SCP and business performance to be used by companies as a guide for effective cross-functional integration practices. This framework consists of different pillars that are represented in the research objectives.

When the objectives are realised and put together the framework is developed, thus, research aim achieved. The following points highlight the realisation of the research objectives.

- **Realisation of objective one: To investigate the current gap on the integration between marketing and SCM based on literature.**

This objective has been fulfilled through reviewing published literature regarding different aspects addressing the integration between marketing and SCM. The review of literature in Chapter two revealed that a substantial body of literature is written on the benefits of cross-functional integration between marketing and SCM. Nevertheless, a major gap exists concerning concrete actions needed to be taken to effectively implement such integration and measures to realise and evaluate the integration's impact on performance. As discussed in chapter three, no link has been made between specific marketing capabilities and SCP. Only a few researchers wrote about the link between marketing capabilities and business performance.

A significant gap was also identified in this research regarding measuring the impact of marketing/SCM cross-functional integration as no reference exists to cross-functional integrative measures to evaluate this integration's impact on SCP or business performance. Over the past 15 years researchers (i.e. Lambert and Pohlen's, 2001; Shepard and Guenter, 2006; Gunasekaran *et al*., 2007; Vallet-Bullmunt *et al*., 2011) have been emphasising the importance of designing such cross-functional integrative measurement metrics, however, no studies have been found to completely fulfil this gap.

While reviewing and analysing literature another aspect that concerns measurements was considered a barrier to marketing/SCM alignment. This point is related to conflicting functional measurements and KPIs. The currently used functional KPIs used in practice are conflicting in nature and, therefore, even if marketing and SCM departments succeeded in aligning their strategies and programmes the positive impact of such a cross-functional integration will not be realised unless mutual integrative measurements are identified. Thus, in order to practically justify the impact of

integrated marketing capabilities on SCP attributes when aligning marketing and SCM strategies and processes, a reflective integrative measurement matrix should be developed. Using the traditional functional measurement will not effectively reflect the impact of such integration.

This gap should be closed by developing integrative cross-functional measurement metrics that incorporate integrative, process-oriented, quantitative and qualitative, and customer-oriented performance measurements. If integrative performance measurement systems are well designed the performance of business processes can be effectively measured and thus, improved. Therefore, such cross-functional integrative performance measurements should be used as a strategic tool allowing top management to evaluate, assess and constantly control the entire business performance to achieve their objectives and act in line with the corporate strategy.

- **Realisation of objective two: To understand the marketing/SCM cross-functional integration status at the FMCG MNCs selected as case studies**.

The nature of this research required the case studies to be well established successful MNCs. This objective was addressed by observing the companies' integration processes and investigating their effective practices which were reflected in chapter five. This research was conducted in Egypt and therefore, the Egyptian FMCG market had to be well examined and analysed to make sure it is fit to conduct the research. The investigation revealed that Egypt is the third biggest economy in the Arab world with a huge FMCG market that is one of the largest FMCG markets in Africa and the Middle East region.

It was also disclosed that the Egyptian FMCG market is considered a major industry sector attracting investments as it is the fifth biggest industry in the Egyptian economy. The market is continuously growing as the Egyptian population grows rapidly and therefore, demand accelerates for low priced FMCG from the low income consumers. Another important factor to this research that supported conducting the study in the Egyptian FMCG market is that the market is at a maturity stage. The market enjoys strong MNCs presence where the majority of these companies implement their global

strategies in the Egyptian market. The distribution network is well-established, operational cost is low and it is characterised as a competitive market.

As the cross-functional integration status between marketing/sales (demand creation side) and SCM (demand fulfilling side) was examined, the results can be summarised in four integration methods. Different methods were undertaken by the different MNCs to realise the alignment or integration between marketing and SCM, the approaches found are demand planning, regular cross-functional joint meetings, sub-category product families and SnOP cross-functional processes.

The participants from the functional department at these integration approaches are demand planners, finished goods managers, marketing and sales managers and on specific occasions supply planners and factory managers. This supports the notions suggested at the exploratory phase which claim that the Source process is the least directly aligned process. It is impacted by the alignment as decisions are communicated through demand planners and supply planners not directly between materials procurement managers and marketing managers. Thus, the marketers do not get directly involved in planning operational sourcing decisions such as sourcing of raw materials, packs etc., however, the ongoing joint demand planning decisions and the joint Make decisions, for example, certainly affect sourcing decisions.

Moreover, Make process has a stronger direct alignment with marketing and sales than Source process. Nevertheless, direct cross-functional coordination takes place only occasionally, for example, when a new product is being launched, a sales promotion has to be planned or packs have to be designed. Other than that decisions are communicated through demand planners and finished goods managers. Also, Make decisions are only integrated on a top level as marketers do not get further involved in any operational manufacturing processes.

All the Marketing/SCM cross-functional integration approaches of all SCM processes (Source, Make, Deliver) mainly take place at a planning level, i.e. planning demand, planning supply, planning new product launches, planning sales promotions, planning customer involvement programmes, planning distribution channels etc. The four

identified integration approaches start with basic coordination and alignment of efforts in scheduled business meeting between marketing and SCM departments to plan future activities.

The second identified integration approach is demand planning. This integrated capabilitty is conducted through predicting future demand based on placed customer orders, historical trends, prevailing market conditions and demand generating activities (e.g. advertising and new innovations) of the organisation and its competitors. The market related information is supplied by the marketing department.

The third identified integration approach is represented in sub category teams, also called, product families. Product families consist of members from departments such as marketing, finance, SCM and sales. They work together as a team planning and executing all activities related to specific product or brand.

The fourth and most important integration approach is the SnOP process. Basically this model of planning brings together all tactical plans from the different department such as marketing, sales, supply planning, demand planning and finance to compile one overall integrated business plan. It is a planning and forecasting process that integrates the ideas and plans of marketing and sales, the customer-focused demand creating side of the organisation, with the plans of SCM, the demand fulfilling side of the organisation. This matching of tactical plans provides top management with insights on demand/supply gaps in order to take competitive strategic decisions.

- **Realisation of objective three: To identify marketing capabilities at the case studies that possess the ability to impact SCP.**

This research empirically investigated the marketing capabilities that can impact SCP and business performance when properly integrated with SCM. Referring to literature very few studies have covered the domain of marketing capabilities and their impact on performance, specifically no studies have linked marketing capabilities to SCP attributes. Therefore, this research followed an exploratory case study approach (chapter five) to investigate influential marketing capabilities. The study revealed that

managers from both departments (marketing and SCM) are convinced that marketing capabilities are influential to SCP and business performance when properly aligned and cross-functionally integrated with SCM. The majority of participant stressed the need to mutually coordinate certain marketing capabilities.

The participants were introduced to a list of capabilities extracted on the limited literature on the subject to further modify and validate these marketing capabilities. A set of eight marketing capabilities was compiled as a result of this in-depth exploration. The identified capabilities still fall under marketing's domain as it is clearly understood that marketing is the owner of market knowledge and the ability to understand the market place. Market knowledge and the ability to interpret it leverages the marketing department to communicate the market desires to its peer functional departments in order to integrate efforts and create customer value.

The capabilities that were identified in this research reflect the effort undertaken by both departments to create customer value if well-coordinated and integrated. This set of eight integrated marketing capabilities was compiled through analysing the practical aspects of marketing functions and capabilities and their role and impact toward SCM and SCP.

- **Realisation of objective four: To construct a marketing/SCP measurement metrics model capable of assessing the marketing/SCM cross-functional integration impact on SCP and business performance.**

Measurement is a topic at the centre of this research. The literature review identified a gap regarding performance measurements, particularly no measurements have been assigned to measure cross-functional integration impact on SCP or business performance. The research investigated practical performance measurements that can measure the influence of the marketing/SCM integration on performance. At the exploratory phase (chapter five) some practical measurements from the MNCs scorecards were suggested by experts to reflect the integration impact on SCP and business performance. In order to standardise terminologies during the explanatory phase (chapter six) these practical measures were categorised under the SCOR model.

Moreover, the experts interviewed highlighted the need for qualitative customer oriented measures to assess this type of cross-functional integration impact on SCP and business performance. In addition, more measurements reflecting Plan, Source, Make and Deliver processes were added to validate the results of the exploratory phase through structured interviews during the explanatory phase.

The exploratory and the explanatory research phases resulted in a taxonomy of 28 PIs, presented in chapter six, that are considered capable of assessing the integration practices between the marketing domain and the SCM domain. These integrative measurements were assigned to reflect the impact of aligning each identified marketing capability on each of the five SCP attributes. Any organisation can use these PIs to evaluate the success of its marketing/SCM cross-functional integration.

- **Realisation of objective five: To develop a practical cross-functional integration process model based on the selected five MNCs best practices**

In order to realise this objective the integration processes of the five case studies were mapped. Based on the different integration processes of the different companies, a practical cross-functional integration process model was developed and illustrated in chapter six. As literature does not provide any specific actions or procedures to realise real life marketing/SCM integration in order to recognise improved performance, this process model is considered an addition to the current body of literature.

The model is developed to provide a practical tool for creating customer value and rendering overall enhanced business performance as it incorporates the identified integrated marketing capabilities in a practical manner and suggests execution processes. The impact of implementing this suggested cross-functional practical model on SCP and business performance can then be measured using the constructed measurement taxonomy. The model enable marketers to align their tasks with SCM to create new go-to market strategies, get a better idea on translating marketing initiatives into supply chain drivers and fully understand the firm's operational constraints. It ensures that the SCM department gets involved in the marketing planning at an earlier stage and becomes a partner in decision making.

7.3 Research contribution

As mentioned in the findings, this research is a contribution to knowledge as first it succeeded in compiling a set of integrative marketing capabilities (capable of impacting SCP and business performance if effectively cross-functionally integrated with SCM) that were neither mentioned in literature nor clearly identified in practice. The eight integrated marketing capabilities were identified by investigating the practical aspects of marketing functions and capabilities and their influence on SCP. In order to be effectively executed and to positively influence performance and create customer value, the marketing and the SCM departments have to align their plans and activities. Thus, this directs marketing executives at any organisation (not only FMCGs) to use this set of capabilities to be aligned with SCM in order to improve performance.

Another contribution is the creation of a link between marketing capabilities and the SCOR that originally does not integrate marketing and sales aspects. The capabilities were qualitatively explored during the exploratory phase and linked to the five SCP attributes of the SCOR model (RL, AG, RS, CO and AM) and the corresponding SCP, customer oriented and business performance measurements during the explanatory research phase. The research investigated the strength of the relationship between each marketing capability and each SCP attribute which is a novel approach in the literature of marketing and SCM. The results indicated that Market Forecasts and Planning yield the strongest impact on SCP, thus, the marketing capability Planning and Forecasting should be given high attention by practitioners of marketing and SCM. Moreover, the SCP attribute responsiveness appeared to be the most affected by the integration of the marketing capabilities. This part of the research confirmed a positive relationship between the identified marketing capabilities and the SCP attributes.

The research is also a contribution as it investigated practical KPIs of the research case studies that are capable of assessing the impact of marketing/SCM cross-functional integration. Moreover, it linked and categorised these practical KPIs under the SCOR model in order to standardise terminologies for later reference by any industrial organisations. This was done to facilitate assigning standardised measurements to assess the impact on SCP attributes when cross-functionally integrating marketing capabilities.

A major contribution of this research is the construction of an integrative measurement matrix/taxonomy of SCP, customer oriented and business performance measurements where 28 PIs are assigned to assess each integrated marketing capability's impact on each of the five different SCP attributes. These 28 PIs are considered capable of assessing the influence of the integration practices between the marketing domain and the SCM domain. This taxonomy is an addition to literature and practice as it investigates a new aspect of cross-functional integration between marketing and SCM where the impact of this integration can be measured. Any company may benefit from this matrix in order to evaluate the level of effectiveness of its marketing/SCM cross-functional integration on improving performance

There is a lack in literature related to qualitative and customer oriented performance measurements. The 28 PIs of the matrix are both quantitative and qualitative. The study revealed the importance of qualitative and customer oriented measurements as qualitative measures kept recurring to evaluate the integration impact on the different SCP attributes. The study emphasised the importance of quantitative and qualitative measurements to assess the effectiveness of cross-functional integration in rendering improved results.

All the previously mentioned contributions of this study are then assembled together to develop the main original contribution to knowledge of this research, an empirically tested comprehensive conceptual framework for a measured marketing/SCM cross-functional integration. Literature does not link marketing capabilities to SCP attributes and does not propose specific supply chain measurements to evaluate the suggested integrated relationship. The conceptual framework illustrates that the integrated marketing capabilities have an impact on each of the SCP attributes (RL, RS, AG, CO and AM) and that this impact can be measured by a marketing/SCP integrative matrix.

In order for the relationships in this framework to function properly, cross-functional integration processes and activities have to be undertaken effectively between the marketing department and the SCM department. The integrative measurement matrix will evaluate the effectiveness of these cross-functional integration practices. This proposed conceptual framework provides a novel detailed holistic perspective of an integrated

relationship between marketing and SCM. This suggested integrated marketing/SCM relationship can be useful to organisations as it can yield improved performance and can be a source of competitive advantage to support long-term success.

Another important contribution to knowledge is the development of a practical cross-functional integration process model. This model presents marketing and SCM executives with key cross-functional processes that facilitate implementing successful practices between the demand creation side of the organisation, the marketing department, and the demand fulfilment side of the organisation, the SCM department. The model is developed based on the case studies integration practices.

The studied cases follow the SnOP process to integrate demand and supply and each case improvises the execution methods. Nevertheless, the SnOP has been criticised in literature for simply balancing demand forecasts with production capacity. This confirms a lack of empirical studies reported in literature as some of the observed cases succeeded in reaching a very mature strategically integrated planning system involving the whole organization from strategic decision makers till the strategic objectives are translated in operational programmes. Thus, the developed model contributes to knowledge by incorporating strategic aspects within the SnOP process that clearly conceptualises the integrations of the demand-based activities and supply based activities.

Finally the research is also a contribution as it provides practical real evidence of the positive impact of the successful Demand/Supply integration model on SCP and business integrative KPIs of a real case study.

7.4 Limitations of the study

This research has provided valuable contributions to knowledge, however, several limitations exist to the developed marketing/SCM cross-functional integration framework:

- The research used five successful MNC case studies to ensure the participants are experts and are capable of understanding the research phenomenon. Specifically,

MNCs were selected to make sure they are implementing the same approaches worldwide. Nevertheless, the sample of interviewees is not large as the researcher was not able to involve more experts in the research because of accessibility and time constraints. Moreover, a number of organisations did not fit the research criteria or were unwilling to participate in the research.

- The measurement taxonomy presented incorporates practical, SCOR model, qualitative and customer oriented performance measurements, however, other important measurements may have been ignored. The study considered the top three measurements with the highest scores to reflect the impact of each integrated marketing capability on each of the five SCP attributes. Other measurements yield positive scores but they were not further investigated.

- The research identified eight integrative marketing capabilities using an exploratory qualitative approach. More capabilities may be also influential and need to be investigated using more structured approaches and a larger sample.

- The framework does not take other external factors into consideration. Other internal and external factors may have an impact on performance improvement or deterioration which is not solely the result of cross-functional integration. Examples of these factors may exist at the macro or micro level, such as improved/deteriorating economic conditions, entrance or exist of competition, increased/decreased manufacturing efficiency etc. The framework assumes that the level of performance is directly related to effective cross-functional integration.

7.5 Suggestions for future research

In the future a number of areas can be investigated for further research and study. The following are a number of suggestions for future research:

- Further research can also involve practical application of the proposed conceptual framework and the practical cross-functional integration process model to less developed organisations that do not have the expertise to apply cross-functional

integration processes. The impact of applications on SCP and business performance can then be observed.

- As the research followed a novel approach and attempted to close a number of gaps in literature and practice, it mainly followed inductive approaches. More deductive quantitative methods can be used in future work to confirm the impact of such cross-functional integration on SCP and business performance.

- Other measurements, that yield positive impact and were not further investigated, can be a main topic to future research. More measurements can be found integrative and capable of assessing the integration impact on performance. Moreover, other influential marketing capabilities may be investigated.

- Further research can cover more case studies (not solely in the Egyptian market) to investigate the usefulness of the integration processes between marketing and SCM and further investigate marketing capabilities and integrative practical performance measurements that can assess the integration impact. Thus, results can be compared.

- Further research may take more external factors into consideration (e.g. micro and macro environmental factors) in order to preciously measure the exact impact of the marketing/SCM integration on performance.

In summary, this research makes a number of novel important contributions in the area of cross-functional integration between marketing and SCM especially as it proposes specific marketing capabilities and specific SCP and business performance measurements to reflect the impact of such integration. Some limitations exist as the research is the first in this field and more studies should be conducted in this direction to close the significant gap in literature and practice. This research will encourage more researchers to consider investigating a measured impact of marketing/SCM cross-functional integration which will be useful and beneficial to many organisations that are not familiar with approaches to implement cross-functional integration. Moreover, mature developed organisations can now use specific integrative measurements to assess and evaluate the impact of their cross-functional integration processes on SCP and business performance.

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APPENDIX I

Case Study Protocol

1- An overview of the study

This research aims at investigating the impact of marketing/SCM cross-functional integration on SCP and business performance in the FMCG sector. In order to realise this aim and given the novelty of the research the study starts with an exploratory phase to investigate the cross-functional integration status at five MNCs chosen as case studies in this research. The study at the exploratory phase explores practical integrated marketing capabilities, integrative performance measurements and formulates a proposition to be tested at the later research phases (explanatory and descriptive phases).

The research proposition formulated based on the exploratory phase states: ***"Integrating the cross-functional capabilities and activities between the marketing and SCM domains can lead to improved SCP and business performance which can be assessed by an integrative set of measurements".***

In order to test this theoretical proposition an inductive research methodology is employed where a conceptual framework is developed incorporating the aspects of marketing capabilities and SCP attributes. The proposition and the conceptual framework are tested at the explanatory phase based on empirical study. This framework is developed to:

- Propose influential marketing capabilities that can impact SCP attributes.
- Develop a SCP measurement matrix to assess the impact of integrating marketing and SCM strategies and operations.

The framework proposes marketing capabilities that can influence the SCP attributes, namely, RL, RS, AG, CO and AM. Moreover, a measurement matrix, which is comprised of marketing/SCP integrative measures, is developed to evaluate and measure the impact of the integration on SCP and business performance. Through developing this framework, companies can evaluate the effectiveness of their marketing/SCM cross-functional integration in order to optimise SCP and overall business performance.

The research also develops a practical cross-functional integration process model based on the best practices of the five MNCs which provides marketing and SCM executives with key cross-functional schemes that facilitate implementing successful practices between the demand creation side of the organisation, the marketing department, and the demand fulfilment side of the organisation, the SCM department.

All the research phases are conducted based on the empirical study of the five FMCG MNCs used as case studies in this research. The proposition is believed to be true because previous research within both the marketing and SCM disciplines highlights the mutual benefits of the proposed integration. However, the proper implementation of cross-functional integration practices is an objective of the conceptual theory but not fully realised in practice (Esper et al., 2010; Mentzer and Gundluch, 2010).

Generally integration is referred to as the level of cooperation and coordination between separate parties working together in order to achieve mutually desired outcomes (O'Leary-Kelly and Flores's, 2002). There are two levels of integration between marketing and SCM. These two types or levels of integration are commonly called internal integration and external integration. Internal integration covers the collaboration and coordination between different departmental units within the organisation where the external integration examines the inter-organisational aspect (Chen *et al*., 2007). In this context, internal integration refers to cross-functional areas of the marketing and supply chain departments where they strive to unify strategies and processes. On the other hand, external integration relates to crossing organisational boundaries throughout out the supply chain (Gimenez and Ventura, 2005).

Although marketing/SCM integration was strongly supported in scholarly work, little empirical research has been done to identify measurements to assess the impact of this integration (Juettner et al., 2007; Esper et al., 2010; Haddad *et al*., 2012). A major obstacle, to cross-functional and inter-organisational cooperation/integration, is conflicting KPIs between marketing SCM (Juettner *et al*., 2007). Specifying cross-functional processes and providing integrative performance measurements could help

companies to evaluate the effectiveness of their marketing/SCM cross-functional integration processes and the corresponding impact on performance.

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2- Data collection procedures

This study uses five MNCs operating in the Egyptian FMCG market to conduct the empirical study and collect primary data related to the research topic. As the analysis is undertaken based on data collected from the experts' semi-interviews, companies' documentation and archival records, thus, multiple sources of evidence were used to ensure case construct validity. All interviews are audio taped and notes are written down after asking the interviewees to sign a written consent form. Moreover, one company, Unilever Mashreq, allowed the researcher access to its performance measurements and to observe its business practices. Therefore, a confidentiality agreement, also known as nondisclosure agreement (NDA), was formulated by Unilever's legal department and signed by the researcher and the company's legal representative to grant access to confidential data.

The following table illustrates a schedule of the data collection activities that are expected to be accomplished within different research phases:

Introductory phase		
Time	**Targeted output**	**Data collection method/ model /technique**
June 2011 - December 2011	Identification of multinational companies operating in the Egyptian FMCGs market regarded as SCM best practices.	1. Online references 2. Statistical reports 3. Industry reports 4. Periodicals and specialised journals
Case study design and analysis		
The exploratory phase		
Time	**Targeted output**	**Data collection method/ model /technique**
December 2011- December 2012	• Understanding the marketing/SCM cross-functional integration status with regard to the business culture • Identification of the marketing capabilities of the case studies that possess the ability to influence SCP. • Identification of the corresponding marketing/SCM performance measurements of the case studies. • Proposition generation.	1- Archival records 2- Interview (semi-structured/ individual and group) 3- Informants 4- Documentation
The explanatory phase		
Time	**Targeted output**	**Data collection method/ model /technique**
December 2012 – December 2013	• Analysing and ranking the strength of the relationship between the marketing capabilities and each SCP attribute. • Development of a **marketing/SCM measurement metrics** capable of assessing the integration impact. • Validated conceptual framework • Accept/reject proposition.	1- Structured Interview (formal survey) 2- SCOR Model version 9 3- Informants

The descriptive phase		
Time	**Targeted output**	**Data collection method/ model /technique**
February 2012 – January 2016	• Mapping the detailed cross-functional integration process between the marketing and the SCM departments at the case studies. • Creation of a practical cross-functional integration process model	1- Documentation 2- Archival records 3- Interview (unstructured) 4- Informants 5- Performance metrics 6- Observations

1- Case study questions

Introductory phase

- What are the criteria of the organisations to be used as case studies?

Case study design and analysis

The exploratory phase

- What is the status of cross-functional integration at the selected cases?
- What are the marketing capabilities that can affect SCP at the selected companies?
- What are the SCP metrics that might assess the impact of the marketing capabilities on SCP at the selected companies?

The explanatory phase

- How strong is the relationship between each identified marketing capability and each SCP attribute?
- Which SCP and business performance measures are the most capable of reflecting the integrated capabilities impact on each SCP attributes?

The descriptive phase

- How does the integration process function at the case studies?

2- Guide for the case study report

Introduction

- Research Background
- Research context
- Research aim and objectives

- Research Methodology
- Research Originality
- Structure of the thesis

Literature review

Part 1: **Chronicle Development of Concepts**

- Development of the marketing concept
  - RM
  - CRM
- Development of the SCM concept
  - Cross-functional
  - Inter-organisational

Part 2: **Integration Perspectives and Views**

- Development of different perspectives on marketing/SCM integration
- Cross-functional and inter-organisational development models

Part 3: **Gap Analysis**

- Measuring business performance
- Impact of Integration on performance
- Conflicting KPIs and measurements

Part 4: **Analysing Marketing Capabilities in Literature**

- Reviewing literature on marketing and SCM to identify marketing capabilities impacting performance
- Identification of a set of marketing capabilities in literature

Part 5: **SCP Frameworks**

- Focusing on process oriented SCP measurement frameworks
- Selection of the appropriate SCP measurement framework
- Considering customer-focused and qualitative measures

Part 6: **Development of a Marketing/SCM Conceptual Model**

- Considering marketing capabilities' impact SCP attributes
- Considering a set of integrative measurement to assess the impact on SCP and business performance
- Conceptualisation of a marketing/SCM measured relationship

Research approach

Part 1: Linking integrative marketing capabilities to SCP attributes

Part 2: Incorporating integrative measurement matrix to assess the impact of marketing/SCM integration on SCP and business performance

Research methodology

- Case design
- Preparation for data collection
- Data collection (introductory phase, exploratory phase, explanatory phase, descriptive phase)
- Data analysis
- Case study report

Findings from data collected and analysis

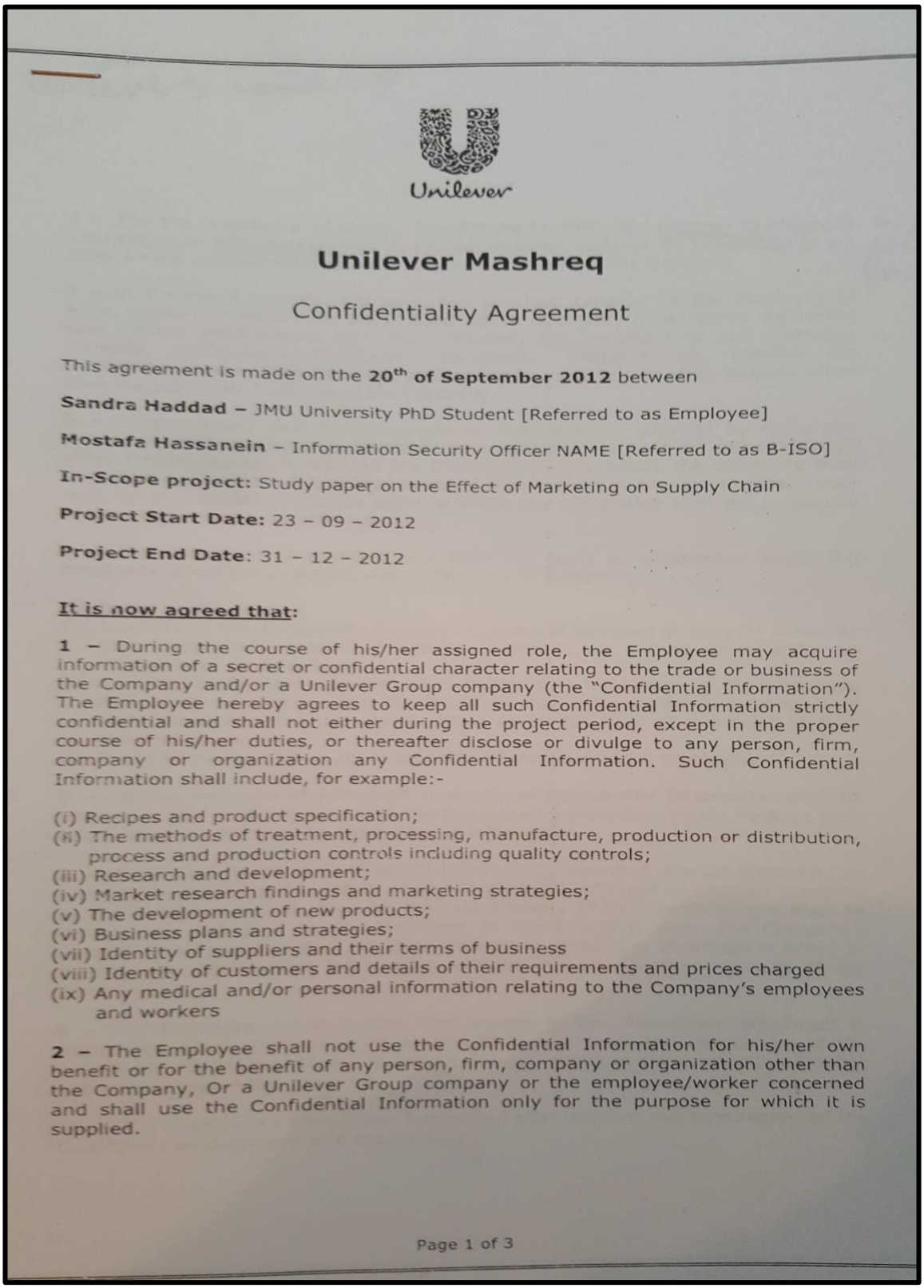
- Integrated set of marketing capabilities
- Strength of each link between marketing capabilities and SCP attributes
- Integrative performance measurement taxonomy for marketing/SCM integration impact
- A practical marketing/SCM integration process model

Conclusion and Recommendations for future work

- Research findings
- Research contributions
- Limitations of the study
- Suggestions for future research

APPENDIX II

Non Disclosure Agreement



Unilever

Unilever Mashreq

Confidentiality Agreement

This agreement is made on the **20th of September 2012** between

Sandra Haddad – JMU University PhD Student [Referred to as Employee]

Mostafa Hassanein – Information Security Officer NAME [Referred to as B-ISO]

In-Scope project: Study paper on the Effect of Marketing on Supply Chain

Project Start Date: 23 – 09 – 2012

Project End Date: 31 – 12 – 2012

It is now agreed that:

1 – During the course of his/her assigned role, the Employee may acquire information of a secret or confidential character relating to the trade or business of the Company and/or a Unilever Group company (the "Confidential Information"). The Employee hereby agrees to keep all such Confidential Information strictly confidential and shall not either during the project period, except in the proper course of his/her duties, or thereafter disclose or divulge to any person, firm, company or organization any Confidential Information. Such Confidential Information shall include, for example:-

(i) Recipes and product specification;
(ii) The methods of treatment, processing, manufacture, production or distribution, process and production controls including quality controls;
(iii) Research and development;
(iv) Market research findings and marketing strategies;
(v) The development of new products;
(vi) Business plans and strategies;
(vii) Identity of suppliers and their terms of business
(viii) Identity of customers and details of their requirements and prices charged
(ix) Any medical and/or personal information relating to the Company's employees and workers

2 – The Employee shall not use the Confidential Information for his/her own benefit or for the benefit of any person, firm, company or organization other than the Company, Or a Unilever Group company or the employee/worker concerned and shall use the Confidential Information only for the purpose for which it is supplied.

Page 1 of 3

Unilever

3 – For the avoidance of doubt, the Employee shall not disclose Confidential Information in published articles, speeches, lectures, radio or TV broadcasts or via other similar method without the prior written consent of the Company.

4 – In the event that the Company has provided consent for the Employee to write, publish or lecture on any subject which is directly or indirectly connected with his/her employment with the Company, the copyright of any Company manuals, publications, handbooks, documents, guidance, etc, remains the exclusive property of the Company and cannot be used for any other purpose other than the legitimate business of the Company.

5 – In the event that the Employee is requested or required by document subpoena, civil investigative demand, interrogatories, request for information or other similar process to disclose any Confidential Information, the Employee shall provide the Company with prompt notice of such request so that the Company may seek an appropriate protective order or waive any compliance with the provisions of this Agreement as appropriate.

6 – The obligation of confidentiality shall not apply to information which the Employee can prove in writing was, at the time of disclosure:-

(a) In the public domain;
(b) Lawfully in the Employee's possession, and not acquired directly or indirectly from a company associated with the Company, or a third party under an obligation of confidentiality;
(c) furnished to the Employee without restriction by a third party having a bonafide right to do so provided that the Employee shall have notified the Company of such knowledge and possession within seven (7) days after receipt of such information; or
(d) Public knowledge by an act or acts other than those of the Employee.

7 – For the purposes of paragraph 6 above, no Confidential Information shall be deemed in the public domain or in the Employee's possession merely because such information is embraced by more general information.

8 – All tangible forms of Confidential Information, including without limitation, all summaries, copies and excerpts of any Confidential Information whether prepared by the Company or not, shall be the sole property of the Company and shall be immediately delivered by the Employee to the Company upon the Company's request. The Employee shall not copy, reproduce, publish or distribute in whole or in part any Confidential Information without the prior written consent of the Company.

9 – The Employee acknowledges that breach of this Agreement will result in disciplinary action the nature of which will depend upon the seriousness of the breach and may if the offence is serious enough, result in dismissal without notice and without pay in lieu of notice.

10 – The Employee's obligations hereunder shall survive the termination of the Employee's employment with the Company.

Unilever

11 – The Employee acknowledges that any breach of this Agreement would injure the Company irreparably and that money damages alone would not be sufficient remedy for such breach. Accordingly, the Company shall be entitled to specific performance and injunctive relief without proof of damage from any court in any jurisdiction in addition to all other remedies available at law or in equity.

12 – In this Agreement any references to Unilever Group means Unilever PLC, Unilever N.V. and any company in which either or both directly or indirectly owns or controls

13 – No delay in exercising or non-exercise by the Company of any of its rights under or in connection with this Agreement will operate as a waiver or relief of that right. Rather, any such waiver or relief must be specifically granted in writing signed by the Company.

14 – This Agreement shall be construed in accordance with local law and shall be subject to the non-exclusive jurisdiction of the local courts.

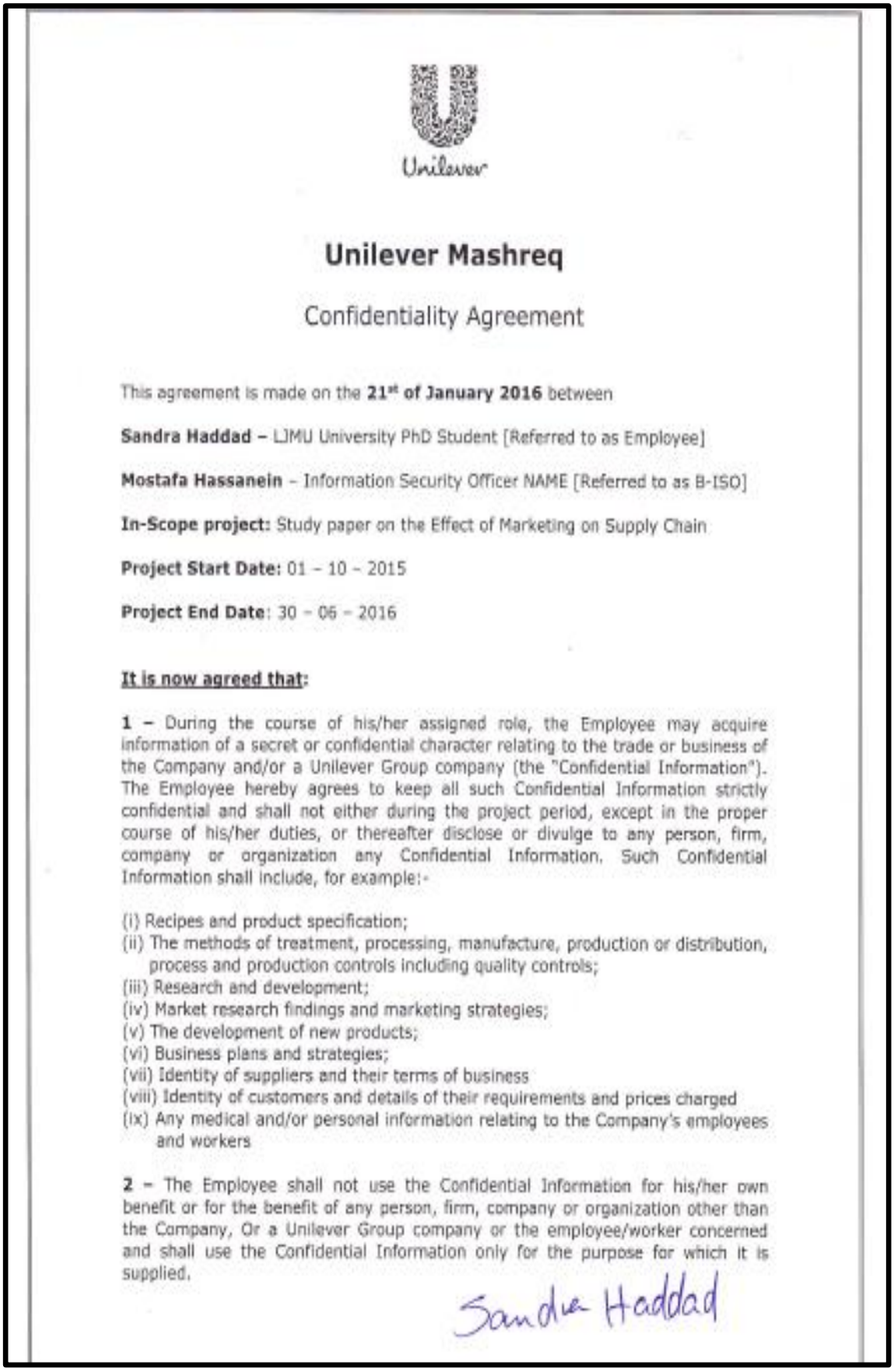
The parties have shown their acceptance of the terms of this Agreement by executing it below.

Sandra Haddad – Employee

Sandra Haddad

Mostafa Hassanein – BISO NAME

Unilever Mashreq
يونيليفر مشرق



Unilever

Unilever Mashreq

Confidentiality Agreement

This agreement is made on the **21st of January 2016** between

Sandra Haddad – LJMU University PhD Student [Referred to as Employee]

Mostafa Hassanein – Information Security Officer NAME [Referred to as B-ISO]

In-Scope project: Study paper on the Effect of Marketing on Supply Chain

Project Start Date: 01 – 10 – 2015

Project End Date: 30 – 06 – 2016

It is now agreed that:

1 – During the course of his/her assigned role, the Employee may acquire information of a secret or confidential character relating to the trade or business of the Company and/or a Unilever Group company (the "Confidential Information"). The Employee hereby agrees to keep all such Confidential Information strictly confidential and shall not either during the project period, except in the proper course of his/her duties, or thereafter disclose or divulge to any person, firm, company or organization any Confidential Information. Such Confidential Information shall include, for example:-

(i) Recipes and product specification;
(ii) The methods of treatment, processing, manufacture, production or distribution, process and production controls including quality controls;
(iii) Research and development;
(iv) Market research findings and marketing strategies;
(v) The development of new products;
(vi) Business plans and strategies;
(vii) Identity of suppliers and their terms of business
(viii) Identity of customers and details of their requirements and prices charged
(ix) Any medical and/or personal information relating to the Company's employees and workers

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Sandra Haddad

Unilever

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(a) In the public domain;
(b) Lawfully in the Employee's possession, and not acquired directly or indirectly from a company associated with the Company, or a third party under an obligation of confidentiality;
(c) furnished to the Employee without restriction by a third party having a bonafide right to do so provided that the Employee shall have notified the Company of such knowledge and possession within seven (7) days after receipt of such information; or
(d) Public knowledge by an act or acts other than those of the Employee.

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Sandra Haddad

Unilever

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The parties have shown their acceptance of the terms of this Agreement by executing it below.

Sandra Haddad – Employee

Sandra Haddad

Mostafa Hassanein – BISO NAME

APPENDIX III

LIVERPOOL JOHN MOORES UNIVERSITY

CONSENT FORM

A comprehensive study on marketing/SCM cross-functional integration impact on performance

Researcher: Sandra Haddad

Faculty: Engineering and Technology

1. I confirm that I have read and understand the information provided for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason and that this will not affect my legal rights. ☐
3. I understand that any personal information collected during the study will be anonymised and remain confidential. ☐
4. I agree to take part in the above mentioned PhD study and to share my insights related this research area according to my expertise during this interview. ☐
5. I understand that the interview will be audio recorded and I am happy to proceed. ☐
6. I understand that parts of our conversation may be used verbatim in future publications or presentations but that such quotes will be anonymised upon my request. ☐

Name of Participant Date Signature

Name of Researcher Date Signature

APPENDIX IV

A semi-structured interview with Marketing/SCM managers

A comprehensive study on marketing/SCM cross-functional integration impact on performance

1. Kindly introduce yourself and describe your job?

2. Explain the structure of your organisations in terms of departments and the hierarchy.

3. Explain the supply chain structure, boundaries and strategy in your company.

4. What is your perspective about the relationship between marketing and SCM?

5. Does your organisation support cross-functional integration between different functional domains such as marketing/sales and SCM? If yes how does this integration take place?

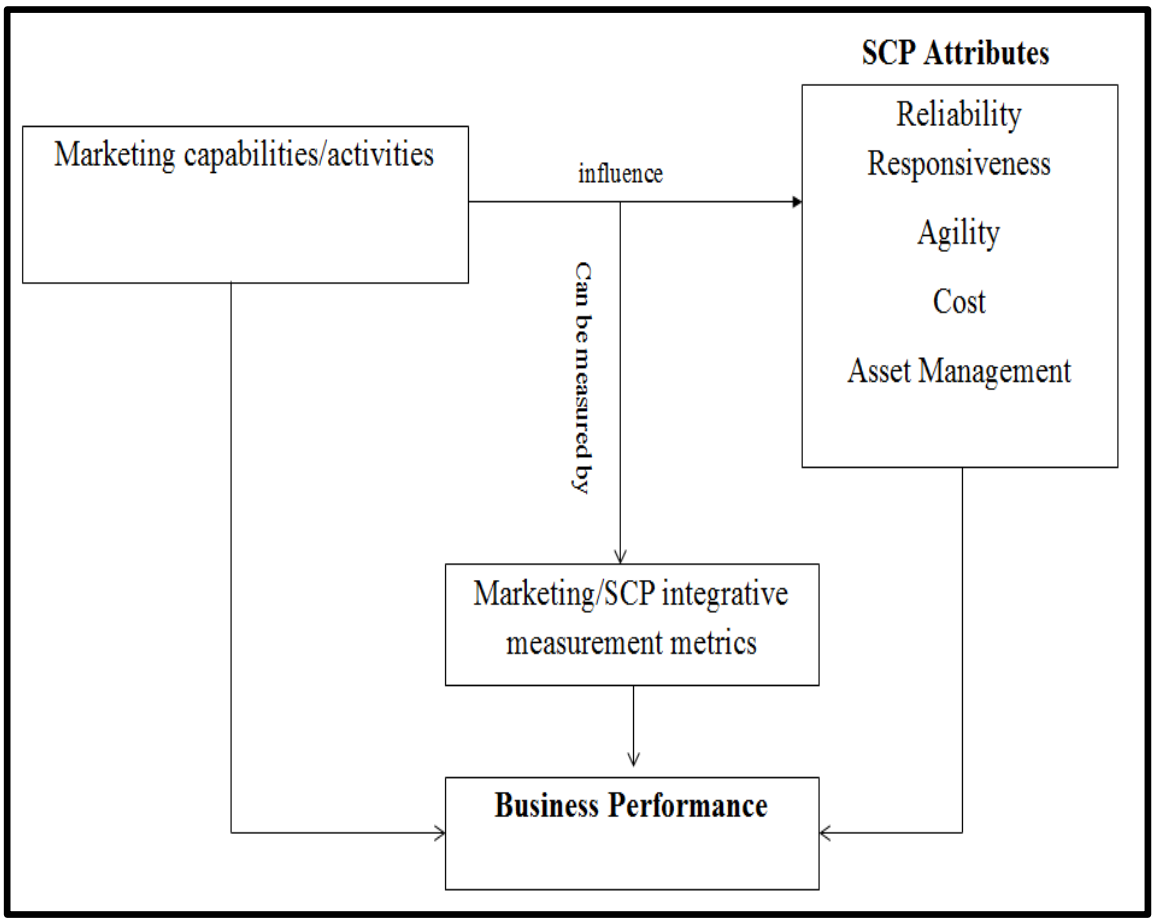
6. Do you think that supply chain performance attributes (Reliability, Responsiveness, Agility, Cost and Asset Management) might be affected by marketing capabilities and functions such as market research, marketing forecasts, segmentation and targeting, product development, pricing, promotion, marketing channels, sales activities, information sharing, CRM etc.?

7. What marketing functions/activities/capabilities do you think affect supply chain performance most? Kindly elaborate.

8. How do you measure SCP in your organisation? Are there any specific measures or KPIs? Do you measure the overall supply chain performance to the customer's customer or only to your direct customers?

9. Do any of these measures reflect the marketing SCM/integration? Are there other measures you can think of that are capable of assessing the impact of this cross-functional integration?

10. Kindly look at the following figure and give your feedback, comments and opinion regarding the relationships in this conceptual framework.


SCP Attributes
Reliability
Responsiveness
Agility
Cost
Asset Management
Marketing capabilities/activities
influence
Can be measured by
Marketing/SCP integrative measurement metrics
Business Performance

APPENDIX V

A Structured interview with Marketing/SCM managers

LIVERPOOL JOHN MOORES UNIVERSITY

A comprehensive study on marketing/SCM cross-functional integration impact on performance

Researcher: Sandra Haddad

Faculty: Engineering and Technology

Your company has been chosen as a case study for this research and you are being invited to take part in the research study. Before you proceed it is important that you understand why the research is being done and what it involves.

Introduction of the research aim, purpose and approach

The overall research aims at examining and assessing the impact cross-functional integration between marketing and Supply Chain Management (SCM) on Supply Chain Performance (SCP) and business performance. It is proposing a conceptual model to prove a measured relationship between integrated marketing capabilities (of the marketing, trade marketing and sales departments), and SCP attributes. The study explores the impact of integrating the demand creation side (marketing) and the demand fulfilment side of the organisation (SCM). The first part of the following interview questions was developed in an attempt to test the strengths of the suggested impact of the identified integrated marketing capabilities on the five SCP attributes (reliability, agility, responsiveness, cost and asset management). The second part of this interview investigates the performance measurements that could be used to assess and evaluated the proposed impact of each integrated marketing capability on each SCP attribute.

Participant's details

Name:

Company:

Department:

Position:

Part one: Relationship between marketing capabilities and SCP attributes

In case the answer is strong or moderate explain how or mention an example and in case the answer is weak or very weak explain why.

Marketing capability 1

Segmentation techniques have a _____ influence on:

Supply chain performance attributes	**strong**	**moderate**	**neutral**	**weak**	**very weak**
6. Supply chain reliability (quality)					
7. Supply chain agility (flexibility)					
8. Supply chain cost					
9. Supply chain responsiveness (speed)					
10. Supply chain asset management					

Marketing capability 2

Market forecasts and planning have a _____ influence on:

Supply chain performance attributes	**strong**	**moderate**	**neutral**	**weak**	**very weak**
1. Supply chain reliability (quality)					
2. Supply chain agility (flexibility)					
3. Supply chain cost					
4. Supply chain responsiveness (speed)					
5. Supply chain asset management					

Marketing capability 3

Marketing automated applications have a _____ influence on:

Supply chain performance attributes	**strong**	**moderate**	**neutral**	**weak**	**very weak**
1. Supply chain reliability (quality)					
2. Supply chain agility (flexibility)					
3. Supply chain cost					
4. Supply chain responsiveness (speed)					
5. Supply chain asset management					

Marketing capability 4

Targeted marketing mixes (product development, pricing, distribution and promotion) have a _____ influence on:

Supply chain performance attributes	**strong**	**moderate**	**neutral**	**weak**	**very weak**
1. Supply chain reliability (quality)					
2. Supply chain agility (flexibility)					
3. Supply chain cost					
4. Supply chain responsiveness (speed)					
5. Supply chain asset management					

Marketing capability 5

Managing marketing channels (Distribution channel) have a _____ influence on:

Supply chain performance attributes	**strong**	**moderate**	**neutral**	**weak**	**very weak**
1. Supply chain reliability (quality)					
2. Supply chain agility (flexibility)					
3. Supply chain cost					
4. Supply chain responsiveness (speed)					
5. Supply chain asset management					

Marketing capability 6

Customer involvement programmes have a _____ influence on:

Supply chain performance attributes	**strong**	**moderate**	**neutral**	**weak**	**very weak**
1. Supply chain reliability (quality)					
2. Supply chain agility (flexibility)					
3. Supply chain cost					
4. Supply chain responsiveness (speed)					
5. Supply chain asset management					

Marketing capability 7

Customer knowledge and relationships building have a _____ influence on:

Supply chain performance attributes	**strong**	**moderate**	**neutral**	**weak**	**very weak**
1. Supply chain reliability (quality)					
2. Supply chain agility (flexibility)					
3. Supply chain cost					
4. Supply chain responsiveness (speed)					
5. Supply chain asset management					

Marketing capability 8

Selling activities have a _____ influence on:

Supply chain performance attributes	**strong**	**moderate**	**neutral**	**weak**	**very weak**
1. Supply chain reliability (quality)					
2. Supply chain agility (flexibility)					
3. Supply chain cost					
4. Supply chain responsiveness (speed)					
5. Supply chain asset management					

Part two: Determining the relevant supply performance measures to assess the relationship between marketing capabilities and supply chain performance attributes.

Marketing capability 1

In case the answer is strongly agree or agree explain why or mention an example and in case the answer is no explain why not.

Segmentation techniques' influence on **supply chain reliability (quality)** can be measured by:

Supply chain performance measures	strongly agree	agree	neutral	disagree	strongly disagree
Perfect Order Fulfilment					
Forecast accuracy					
Range of products and services					
Level of customer perceived value					
Rate customers' complaints					
Customer satisfaction					
Customer churn (turnover)					
Level of information sharing					
Annual rate of customers retained					
Buyer–supplier partnership level					
Sales turnover					
Market Share					
Range of products and services					

Segmentation techniques' influence on supply chain **agility (flexibility)** can be measured by:

Supply chain performance measures	strongly agree	agree	neutral	disagree	strongly disagree
Upside Supply Chain Flexibility					
Upside Supply Chain Adaptability					
Downside Supply Chain Adaptability					
Upside Source Flexibility					
Upside Source Adaptability					
Upside Make Flexibility					
Upside Make Adaptability					
Upside Deliver Flexibility					
Upside Deliver Adaptability					
Downside Source Adaptability					
Downside Make Adaptability					
Downside Deliver Adaptability					
Level of customer perceived value					
Rate customers' complaints					
Customer satisfaction					
Customer churn (turnover)					
Level of information sharing					
Annual rate of customers retained					
Buyer–supplier partnership level					
Sales turnover					
Market Share					

Segmentation techniques' influence on supply chain **responsiveness (speed)** can be measured by:

Supply chain performance measures	**strongly agree**	**agree**	**neutral**	**disagree**	**strongly disagree**
Order Fulfilment Cycle Time					
Plan Cycle Time					
Source Cycle Time					
Make Cycle Time					
Deliver Cycle Time					
Frequency of delivery					
Responsiveness to urgent deliveries					
Level of customer perceived value					
Rate customers' complaints					
Customer satisfaction					
Customer churn (turnover)					
Level of information sharing					
Annual rate of customers retained					
Buyer–supplier partnership level					
Sales turnover					
Market Share					

Segmentation techniques' influence on **supply chain cost** can be measured by:

Supply chain performance measures	**strongly agree**	**agree**	**neutral**	**disagree**	**strongly disagree**
Supply Chain Management Cost					
Cost of Goods Sold					
Cost to Plan Supply Chain					
Cost to Source					
Cost to Make					
Cost to Deliver					
Order Management Costs					
Buyer–supplier partnership level					
Level of information sharing					

Segmentation techniques' influence on **supply chain asset management** can be measured by:

Supply chain performance measures	**strongly agree**	**agree**	**neutral**	**disagree**	**strongly disagree**
Cash-to-Cash Cycle Time					
Return on Supply Chain Fixed Assets					
Return on Working Capital					
Buyer–supplier partnership level					
Level of Information sharing					
Customer churn (turnover)					
Annual Rate customers retained					

Marketing capability 2

Market forecasts and planning influence on **supply chain reliability (quality)** can be measured by:

Supply chain performance measures	strongly agree	agree	neutral	disagree	strongly disagree
Perfect Order Fulfilment					
Forecast accuracy					
Range of products and services					
Level of customer perceived value					
Rate customers' complaints					
Customer satisfaction					
Customer churn (turnover)					
Level of information sharing					
Annual rate of customers retained					
Buyer–supplier partnership level					
Sales turnover					
Market Share					
Range of products and services					

Market forecasts and planning influence on supply chain **agility (flexibility)** can be measured by:

Supply chain performance measures	strongly agree	agree	neutral	disagree	strongly disagree
Upside Supply Chain Flexibility					
Upside Supply Chain Adaptability					
Downside Supply Chain Adaptability					
Upside Source Flexibility					
Upside Source Adaptability					
Upside Make Flexibility					
Upside Make Adaptability					
Upside Deliver Flexibility					
Upside Deliver Adaptability					
Downside Source Adaptability					
Downside Make Adaptability					
Downside Deliver Adaptability					
Level of customer perceived value					
Rate customers' complaints					
Customer satisfaction					
Customer churn (turnover)					
Level of information sharing					
Annual rate of customers retained					
Buyer–supplier partnership level					
Sales turnover					
Market Share					

Market forecasts and planning influence on supply chain **responsiveness (speed)** can be measured by:

Supply chain performance measures	**strongly agree**	**agree**	**neutral**	**disagree**	**strongly disagree**
Order Fulfilment Cycle Time					
Plan Cycle Time					
Source Cycle Time					
Make Cycle Time					
Deliver Cycle Time					
Frequency of delivery					
Responsiveness to urgent deliveries					
Level of customer perceived value					
Rate customers' complaints					
Customer satisfaction					
Customer churn (turnover)					
Level of information sharing					
Annual rate of customers retained					
Buyer–supplier partnership level					
Sales turnover					
Market Share					

Market forecasts and planning influence on **supply chain cost** can be measured by:

Supply chain performance measures	**strongly agree**	**agree**	**neutral**	**disagree**	**strongly disagree**
Supply Chain Management Cost					
Cost of Goods Sold					
Cost to Plan Supply Chain					
Cost to Source					
Cost to Make					
Cost to Deliver					
Order Management Costs					
Buyer–supplier partnership level					
Level of information sharing					

Market forecasts and planning influence on **supply chain asset management** can be measured by:

Supply chain performance measures	**strongly agree**	**agree**	**neutral**	**disagree**	**strongly disagree**
Cash-to-Cash Cycle Time					
Return on Supply Chain Fixed Assets					
Return on Working Capital					
Buyer–supplier partnership level					
Level of Information sharing					
Customer churn (turnover)					
Annual Rate customers retained					

Marketing capability 3

Marketing automated applications influence on **supply chain reliability (quality)** can be measured by:

Supply chain performance measures	strongly agree	agree	neutral	disagree	strongly disagree
Perfect Order Fulfilment					
Forecast accuracy					
Range of products and services					
Level of customer perceived value					
Rate customers' complaints					
Customer satisfaction					
Customer churn (turnover)					
Level of information sharing					
Annual rate of customers retained					
Buyer–supplier partnership level					
Sales turnover					
Market Share					
Range of products and services					

Marketing automated applications influence on supply chain **agility (flexibility)** can be measured by:

Supply chain performance measures	strongly agree	agree	neutral	disagree	strongly disagree
Upside Supply Chain Flexibility					
Upside Supply Chain Adaptability					
Downside Supply Chain Adaptability					
Upside Source Flexibility					
Upside Source Adaptability					
Upside Make Flexibility					
Upside Make Adaptability					
Upside Deliver Flexibility					
Upside Deliver Adaptability					
Downside Source Adaptability					
Downside Make Adaptability					
Downside Deliver Adaptability					
Level of customer perceived value					
Rate customers' complaints					
Customer satisfaction					
Customer churn (turnover)					
Level of information sharing					
Annual rate of customers retained					
Buyer–supplier partnership level					
Sales turnover					
Market Share					

Marketing automated applications influence on supply chain **responsiveness (speed)** can be measured by:

Supply chain performance measures	**strongly agree**	**agree**	**neutral**	**disagree**	**strongly disagree**
Order Fulfilment Cycle Time					
Plan Cycle Time					
Source Cycle Time					
Make Cycle Time					
Deliver Cycle Time					
Frequency of delivery					
Responsiveness to urgent deliveries					
Level of customer perceived value					
Rate customers' complaints					
Customer satisfaction					
Customer churn (turnover)					
Level of information sharing					
Annual rate of customers retained					
Buyer–supplier partnership level					
Sales turnover					
Market Share					

Marketing automated applications influence on **supply chain cost** can be measured by:

Supply chain performance measures	**strongly agree**	**agree**	**neutral**	**disagree**	**strongly disagree**
Supply Chain Management Cost					
Cost of Goods Sold					
Cost to Plan Supply Chain					
Cost to Source					
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Cost to Deliver					
Order Management Costs					
Buyer–supplier partnership level					
Level of information sharing					

Marketing automated applications influence on **supply chain asset management** can be measured by:

Supply chain performance measures	**strongly agree**	**agree**	**neutral**	**disagree**	**strongly disagree**
Cash-to-Cash Cycle Time					
Return on Supply Chain Fixed Assets					
Return on Working Capital					
Buyer–supplier partnership level					
Level of Information sharing					
Customer churn (turnover)					
Annual Rate customers retained					

Marketing capability 4

Targeted marketing mixes (product development, pricing, distribution and promotion) influence on **supply chain reliability (quality)** can be measured by:

Supply chain performance measures	strongly agree	agree	neutral	disagree	strongly disagree
Perfect Order Fulfilment					
Forecast accuracy					
Range of products and services					
Level of customer perceived value					
Rate customers' complaints					
Customer satisfaction					
Customer churn (turnover)					
Level of information sharing					
Annual rate of customers retained					
Buyer–supplier partnership level					
Sales turnover					
Market Share					
Range of products and services					

Targeted marketing mixes influence on supply chain **agility (flexibility)** can be measured by:

Supply chain performance measures	strongly agree	agree	neutral	disagree	strongly disagree
Upside Supply Chain Flexibility					
Upside Supply Chain Adaptability					
Downside Supply Chain Adaptability					
Upside Source Flexibility					
Upside Source Adaptability					
Upside Make Flexibility					
Upside Make Adaptability					
Upside Deliver Flexibility					
Upside Deliver Adaptability					
Downside Source Adaptability					
Downside Make Adaptability					
Downside Deliver Adaptability					
Level of customer perceived value					
Rate customers' complaints					
Customer satisfaction					
Customer churn (turnover)					
Level of information sharing					
Annual rate of customers retained					
Buyer–supplier partnership level					
Sales turnover					
Market Share					

Targeted marketing mixes influence on supply chain **responsiveness (speed)** can be measured by:

Supply chain performance measures	**strongly agree**	**agree**	**neutral**	**disagree**	**strongly disagree**
Order Fulfilment Cycle Time					
Plan Cycle Time					
Source Cycle Time					
Make Cycle Time					
Deliver Cycle Time					
Frequency of delivery					
Responsiveness to urgent deliveries					
Level of customer perceived value					
Rate customers' complaints					
Customer satisfaction					
Customer churn (turnover)					
Level of information sharing					
Annual rate of customers retained					
Buyer–supplier partnership level					
Sales turnover					
Market Share					

Targeted marketing mixes influence on **supply chain cost** can be measured by:

Supply chain performance measures	**strongly agree**	**agree**	**neutral**	**disagree**	**strongly disagree**
Supply Chain Management Cost					
Cost of Goods Sold					
Cost to Plan Supply Chain					
Cost to Source					
Cost to Make					
Cost to Deliver					
Order Management Costs					
Buyer–supplier partnership level					
Level of information sharing					

Targeted marketing mixes influence on **supply chain asset management** can be measured by:

Supply chain performance measures	**strongly agree**	**agree**	**neutral**	**disagree**	**strongly disagree**
Cash-to-Cash Cycle Time					
Return on Supply Chain Fixed Assets					
Return on Working Capital					
Buyer–supplier partnership level					
Level of Information sharing					
Customer churn (turnover)					
Annual Rate customers retained					

Marketing capability 5

Managing marketing channels (Distribution channel) influence on **supply chain reliability (quality)** can be measured by:

Supply chain performance measures	strongly agree	agree	neutral	disagree	strongly disagree
Perfect Order Fulfilment					
Forecast accuracy					
Range of products and services					
Level of customer perceived value					
Rate customers' complaints					
Customer satisfaction					
Customer churn (turnover)					
Level of information sharing					
Annual rate of customers retained					
Buyer–supplier partnership level					
Sales turnover					
Market Share					
Range of products and services					

Managing marketing channels (Distribution channel) influence on supply chain **agility (flexibility)** can be measured by:

Supply chain performance measures	strongly agree	agree	neutral	disagree	strongly disagree
Upside Supply Chain Flexibility					
Upside Supply Chain Adaptability					
Downside Supply Chain Adaptability					
Upside Source Flexibility					
Upside Source Adaptability					
Upside Make Flexibility					
Upside Make Adaptability					
Upside Deliver Flexibility					
Upside Deliver Adaptability					
Downside Source Adaptability					
Downside Make Adaptability					
Downside Deliver Adaptability					
Level of customer perceived value					
Rate customers' complaints					
Customer satisfaction					
Customer churn (turnover)					
Level of information sharing					
Annual rate of customers retained					
Buyer–supplier partnership level					
Sales turnover					
Market Share					

Managing marketing channels (Distribution channel) influence on supply chain **responsiveness (speed)** can be measured by:

Supply chain performance measures	strongly agree	agree	neutral	disagree	strongly disagree
Order Fulfilment Cycle Time					
Plan Cycle Time					
Source Cycle Time					
Make Cycle Time					
Deliver Cycle Time					
Frequency of delivery					
Responsiveness to urgent deliveries					
Level of customer perceived value					
Rate customers' complaints					
Customer satisfaction					
Customer churn (turnover)					
Level of information sharing					
Annual rate of customers retained					
Buyer–supplier partnership level					
Sales turnover					
Market Share					

Managing marketing channels (Distribution channel) influence on **supply chain cost** can be measured by:

Supply chain performance measures	strongly agree	agree	neutral	disagree	strongly disagree
Supply Chain Management Cost					
Cost of Goods Sold					
Cost to Plan Supply Chain					
Cost to Source					
Cost to Make					
Cost to Deliver					
Order Management Costs					
Buyer–supplier partnership level					
Level of information sharing					

Managing marketing channels (Distribution channel) influence on **supply chain asset management** can be measured by:

Supply chain performance measures	strongly agree	agree	neutral	disagree	strongly disagree
Cash-to-Cash Cycle Time					
Return on Supply Chain Fixed Assets					
Return on Working Capital					
Buyer–supplier partnership level					
Level of Information sharing					
Customer churn (turnover)					
Annual Rate customers retained					

Marketing capability 6

Customer involvement programmes influence on **supply chain reliability (quality)** can be measured by:

Supply chain performance measures	strongly agree	agree	neutral	disagree	strongly disagree
Perfect Order Fulfilment					
Forecast accuracy					
Range of products and services					
Level of customer perceived value					
Rate customers' complaints					
Customer satisfaction					
Customer churn (turnover)					
Level of information sharing					
Annual rate of customers retained					
Buyer–supplier partnership level					
Sales turnover					
Market Share					
Range of products and services					

Customer involvement programmes influence on supply chain **agility (flexibility)** can be measured by:

Supply chain performance measures	strongly agree	agree	neutral	disagree	strongly disagree
Upside Supply Chain Flexibility					
Upside Supply Chain Adaptability					
Downside Supply Chain Adaptability					
Upside Source Flexibility					
Upside Source Adaptability					
Upside Make Flexibility					
Upside Make Adaptability					
Upside Deliver Flexibility					
Upside Deliver Adaptability					
Downside Source Adaptability					
Downside Make Adaptability					
Downside Deliver Adaptability					
Level of customer perceived value					
Rate customers' complaints					
Customer satisfaction					
Customer churn (turnover)					
Level of information sharing					
Annual rate of customers retained					
Buyer–supplier partnership level					
Sales turnover					
Market Share					

Customer involvement programmes influence on supply chain **responsiveness (speed)** can be measured by:

Supply chain performance measures	**strongly agree**	**agree**	**neutral**	**disagree**	**strongly disagree**
Order Fulfilment Cycle Time					
Plan Cycle Time					
Source Cycle Time					
Make Cycle Time					
Deliver Cycle Time					
Frequency of delivery					
Responsiveness to urgent deliveries					
Level of customer perceived value					
Rate customers' complaints					
Customer satisfaction					
Customer churn (turnover)					
Level of information sharing					
Annual rate of customers retained					
Buyer–supplier partnership level					
Sales turnover					
Market Share					

Customer involvement programmes influence on **supply chain cost** can be measured by:

Supply chain performance measures	**strongly agree**	**agree**	**neutral**	**disagree**	**strongly disagree**
Supply Chain Management Cost					
Cost of Goods Sold					
Cost to Plan Supply Chain					
Cost to Source					
Cost to Make					
Cost to Deliver					
Order Management Costs					
Buyer–supplier partnership level					
Level of information sharing					

Customer involvement programmes influence on **supply chain asset management** can be measured by:

Supply chain performance measures	**strongly agree**	**agree**	**neutral**	**disagree**	**strongly disagree**
Cash-to-Cash Cycle Time					
Return on Supply Chain Fixed Assets					
Return on Working Capital					
Buyer–supplier partnership level					
Level of Information sharing					
Customer churn (turnover)					
Annual Rate customers retained					

Marketing capability 7

Customer knowledge and relationships building influence on **supply chain reliability (quality)** can be measured by:

Supply chain performance measures	strongly agree	agree	neutral	disagree	strongly disagree
Perfect Order Fulfilment					
Forecast accuracy					
Range of products and services					
Level of customer perceived value					
Rate customers' complaints					
Customer satisfaction					
Customer churn (turnover)					
Level of information sharing					
Annual rate of customers retained					
Buyer–supplier partnership level					
Sales turnover					
Market Share					
Range of products and services					

Customer knowledge and relationships building influence on supply chain **agility (flexibility)** can be measured by:

Supply chain performance measures	strongly agree	agree	neutral	disagree	strongly disagree
Upside Supply Chain Flexibility					
Upside Supply Chain Adaptability					
Downside Supply Chain Adaptability					
Upside Source Flexibility					
Upside Source Adaptability					
Upside Make Flexibility					
Upside Make Adaptability					
Upside Deliver Flexibility					
Upside Deliver Adaptability					
Downside Source Adaptability					
Downside Make Adaptability					
Downside Deliver Adaptability					
Level of customer perceived value					
Rate customers' complaints					
Customer satisfaction					
Customer churn (turnover)					
Level of information sharing					
Annual rate of customers retained					
Buyer–supplier partnership level					
Sales turnover					
Market Share					

Customer knowledge and relationships building influence on supply chain **responsiveness (speed)** can be measured by:

Supply chain performance measures	**strongly agree**	**agree**	**neutral**	**disagree**	**strongly disagree**
Order Fulfilment Cycle Time					
Plan Cycle Time					
Source Cycle Time					
Make Cycle Time					
Deliver Cycle Time					
Frequency of delivery					
Responsiveness to urgent deliveries					
Level of customer perceived value					
Rate customers' complaints					
Customer satisfaction					
Customer churn (turnover)					
Level of information sharing					
Annual rate of customers retained					
Buyer–supplier partnership level					
Sales turnover					
Market Share					

Customer knowledge and relationships building influence on **supply chain cost** can be measured by:

Supply chain performance measures	**strongly agree**	**agree**	**neutral**	**disagree**	**strongly disagree**
Supply Chain Management Cost					
Cost of Goods Sold					
Cost to Plan Supply Chain					
Cost to Source					
Cost to Make					
Cost to Deliver					
Order Management Costs					
Buyer–supplier partnership level					
Level of information sharing					

Customer knowledge and relationships building influence on supply chain **asset management** can be measured by:

Supply chain performance measures	**strongly agree**	**agree**	**neutral**	**disagree**	**strongly disagree**
Cash-to-Cash Cycle Time					
Return on Supply Chain Fixed Assets					
Return on Working Capital					
Buyer–supplier partnership level					
Level of Information sharing					
Customer churn (turnover)					
Annual Rate customers retained					

Marketing capability 8

Selling activities influence on **supply chain reliability (quality)** can be measured by:

Supply chain performance measures	strongly agree	agree	neutral	disagree	strongly disagree
Perfect Order Fulfilment					
Forecast accuracy					
Range of products and services					
Level of customer perceived value					
Rate customers' complaints					
Customer satisfaction					
Customer churn (turnover)					
Level of information sharing					
Annual rate of customers retained					
Buyer–supplier partnership level					
Sales turnover					
Market Share					
Range of products and services					

Selling activities influence on supply chain **agility (flexibility)** can be measured by:

Supply chain performance measures	strongly agree	agree	neutral	disagree	strongly disagree
Upside Supply Chain Flexibility					
Upside Supply Chain Adaptability					
Downside Supply Chain Adaptability					
Upside Source Flexibility					
Upside Source Adaptability					
Upside Make Flexibility					
Upside Make Adaptability					
Upside Deliver Flexibility					
Upside Deliver Adaptability					
Downside Source Adaptability					
Downside Make Adaptability					
Downside Deliver Adaptability					
Level of customer perceived value					
Rate customers' complaints					
Customer satisfaction					
Customer churn (turnover)					
Level of information sharing					
Annual rate of customers retained					
Buyer–supplier partnership level					
Sales turnover					
Market Share					

Selling activities influence on supply chain **responsiveness (speed)** can be measured by:

Supply chain performance measures	**strongly agree**	**agree**	**neutral**	**disagree**	**strongly disagree**
Order Fulfilment Cycle Time					
Plan Cycle Time					
Source Cycle Time					
Make Cycle Time					
Deliver Cycle Time					
Frequency of delivery					
Responsiveness to urgent deliveries					
Level of customer perceived value					
Rate customers' complaints					
Customer satisfaction					
Customer churn (turnover)					
Level of information sharing					
Annual rate of customers retained					
Buyer–supplier partnership level					
Sales turnover					
Market Share					

Selling activities influence on **supply chain cost** can be measured by:

Supply chain performance measures	**strongly agree**	**agree**	**neutral**	**disagree**	**strongly disagree**
Supply Chain Management Cost					
Cost of Goods Sold					
Cost to Plan Supply Chain					
Cost to Source					
Cost to Make					
Cost to Deliver					
Order Management Costs					
Buyer–supplier partnership level					
Level of information sharing					

Selling activities influence on **supply chain asset management** can be measured by:

Supply chain performance measures	**strongly agree**	**agree**	**neutral**	**disagree**	**strongly disagree**
Cash-to-Cash Cycle Time					
Return on Supply Chain Fixed Assets					
Return on Working Capital					
Buyer–supplier partnership level					
Level of Information sharing					
Customer churn (turnover)					
Annual Rate customers retained					

APPENDIX VI

Structured interview glossary

Performance attributes definition list (SCOR, 2006):

Supply Chain Reliability: The performance of the supply chain in delivering: the correct product, to the correct place, at the correct time, in the correct condition and packaging, in the correct quantity, with the correct documentation, to the correct customer.

Supply Chain Responsiveness: The speed at which a supply chain provides products to the customer.

Supply Chain Flexibility: The agility of a supply chain in responding to marketplace changes to gain or maintain competitive advantage.

Supply Chain Costs: The costs associated with operating the supply chain.

Supply Chain Asset Management: The effectiveness of an organization in managing assets to support demand satisfaction. This includes the management of all assets: fixed and working capital.

Performance measurements definition list (SCOR, 2006):

Perfect Order Fulfillment: The percentage of orders meeting delivery performance with complete and accurate documentation and no delivery damage. Components include all items and quantities on-time using the customer's definition of on-time, and documentation – packing slips, bills of lading, invoices, etc. Also includes % of Orders Delivered in Full, Delivery Performance to Customer Commit Date, Perfect Condition and Documentation Accuracy. (Delivery efficiency, Percent of on-time deliveries, Number of on-time deliveries). Also called case fill rate or case fill on time and includes % of ordered mix accuracy.

Order Fulfillment Cycle Time: The average actual cycle time consistently achieved to fulfill customer orders. For each individual order, this cycle time starts from the order receipt and ends with customer acceptance of the order. Components include Source Cycle Time, make Cycle Time and deliver Cycle Time.

Plan Cycle Time: The average time associated with planning source activities

Source Cycle Time: The average time associated with Source Processes

Make Cycle Time The average time associated with Make Processes

Deliver Cycle Time The average time associated with Deliver Processes

Upside Supply Chain Flexibility: The number of days required to achieve an unplanned sustainable 20% increase in quantities delivered.Note - 20% is a number provided for benchmarking purposes. For some industries and some organizations 20% may be in some cases unobtainable or in others too conservative.

Note - component metrics (Upside Source Flexibility, Upside Make Flexibility, etc) can be improved in parallel and as a result, this calculation requires the result to be the least amount of time to achieve the desired result).

Upside Supply Chain Adaptability: The maximum sustainable percentage increase in quantity delivered that can be achieved in 30 days. **Note:** 30 days is an arbitrary number provided for benchmarking purposes. For some industries and some organizations 30 days may be in some cases unobtainable or in others too conservative. **Note:** Component metrics (Upside Source Adaptability, Upside Make Adaptability, etc) can be improved in parallel and as a result, this calculation requires the result to be the least increase in quantity sustainable in 30 days>

Downside Supply Chain Adaptability: The reduction in quantities ordered sustainable at 30 days prior to delivery with no inventory or cost penalties. **Note:** 30 days is an arbitrary number provided for benchmarking purposes. For some industries and some organizations 30 days may be in some cases unobtainable or in others too conservative.

Upside Make Adaptability The maximum sustainable percentage increase in production that can be achieved in 30 days with the assumption of no raw material constraints.

Upside Make Flexibility The number of days required to achieve an unplanned sustainable 20% increase in production with the assumption of no raw material constraints.

Downside Deliver Adaptability The reduction in delivered quantities sustainable at 30 days prior to delivery with no inventory or cost penalties.

Upside Deliver Adaptability The maximum sustainable percentage increase in quantities delivered thatcan be achieved in 30 days with the assumption of unconstrained finished good availability.

Upside Deliver Flexibility The number of days required to achieve an unplanned sustainable 20% increase in quantity delivered with the assumption of no other constraints.

Supply Chain Management Cost: The sum of the costs associated with the SCOR Level 2 processes to Plan, Source, Deliver, and Return. **Note** - Cost of Raw Material and Make Costs are generally accounted for in COGS. It is recognized that there is likely to be overlap/ redundancy between supply chain management costs and COGS.

Cost to Plan Supply Chain: The sum of the costs associated with planning supply chain activities.

Cost of Goods Sold: The cost associated with buying raw materials and producing finished goods. This cost includes direct costs (labor, materials) and indirect costs (overhead). **Note** - Cost of Raw Material and Make Costs are generally accounted for in COGS. It is recognized that there is likely to be overlap/ redundancy between supply chain management costs and COGS.

Cost to Plan Supply Chain: The sum of the costs associated with planning supply chain activities.

Cost to Source: The sum of the costs associated with Source.

Cost to Make: The sum of the costs associated with make.

Cost to Deliver: The sum of the costs associated with deliver

Return on Working Capital: Return on working capital is a measurement which assesses the magnitude of investment relative to a company's working capital position verses the revenue generated from a supply chain. Components include accounts receivable, accounts payable, inventory, supply chain revenue, cost of goods sold and supply chain management costs.

Cash-to-Cash Cycle Time: The time it takes for an investment made to flow back into a company after it has been spent for raw materials. [Inventory Days of Supply + Days Sales Outstanding - Days Payable Outstanding].

Return on Supply Chain Fixed Assets Return on Supply Chain Fixed Assets measures the return an organization receives on its invested capital in supply chain fixed assets. This includes the fixed assets used in Plan, Source, Make, Deliver, and Return.

Inventory Days of Supply (Raw Material): Value of raw materials ÷ (COGS ÷ 365).

Finished Goods Inventory Days of Supply Plant finished goods inventory days of supply are calculated as gross plant finished goods inventory ÷ (value of transfers/365 days).

Customer churn: customer turnover, customers leaving the organization.