

Fast Fashion: Supply-Chain Management as the Basis for Disruptive Business Model Innovation

A Case Study in the Context of the Theory of the Firm

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Abstract

Supply Chain Management has been traditionally understood as the management and optimisation of logistic processes regarding the management of flows of goods. Business research recognises the Supply Chain as mainly a support service for its key activities, and which is generally examined in regard to the technical and engineering aspects with the sole objective of finding the minimum cost solution. This research argues instead that, in the fashion industry at least, Supply Chain Management becomes a key activity in Value Chain management and therefore in the business model. As a consequence, this study is not a Supply Chain Management Study in the traditional sense but rather examines the disruptive fashion business model focusing on innovation, starting with the restructuring of the Supply Chain, based on information technology revolutionising the retail business and, particularly, the fashion industry. Information technology has generated a completely new Supply Chain Management model, leading to disruptive competitive advantage.

This research focuses on the exploration of the Supply Chain at the level of the theory of the firm and the concept of the business model, rather than at a technical or operational level. The theoretical lens is at firm level examining the concept of the business model. The empirical part of this study applies qualitative and quantitative methods, as indicated. The main quantitative method is financial analysis, which enables the examination of fifteen industry-leading companies within the fashion industry. Additionally, descriptive and bivariate statistical analysis are applied to examine the statistical strength and significance of relationships between Supply Chain and business performance variables. The second part of the empirical research uses expert interviews with industry professionals to verify or falsify the findings of the statistical analysis, and to develop the findings further.

The classical Supply Chain research approach is also questionable and should be revisited; typical Supply Chain research variables include efficiency, effectiveness, cycle time, postponement, whereas the main objective of Supply

Chain research is the optimum configuration and design of a Supply Chain. This research study makes a unique contribution to knowledge situating the supply chain within the context of the theory of the firm and provides evidence that the Supply Chain is more than a support function, it represents a key business activity to increase competitiveness providing the infrastructure for disruptive business model innovations. The overall result of the industry case study and the expert interviews is that digitalisation changes the possibilities in the Supply Chain configuration considerably. New Supply Chain configurations enabled by digitalisation have led to disruptive business model innovations, so that Supply Chain Management has become a key business activity because it is the basis of the reorganising of the relationship between the firm's purchase markets, product development, manufacturing, distribution channels, and the consumer market. This development represents a restricted change at a lower level of business operations but a major one at the strategic level, with implications for the theory of the firm and the theory of a firm's growth.

In this regard, the main issues of future Supply Chain research may therefore be the challenges of delivering the right goods at the right time to the right location and how to deliver the right data regarding commodity flows to the right decision maker, within the right time. The Supply Chain department may gradually become a Value Chain Management department, the business model development department, at least in the industrial firm. However, the term management may be somewhat misleading in this context because management means controlling, implementing and supervising network-centric operations in which defined production processes, reporting, distribution processes and decisions almost always initiated by real-time POS data leading to a highly responsive value chain.

Declaration

No portion of the work referred to in this thesis has been submitted in support of an application for another degree or qualification at this or any other university or institute of learning.

Signed

Daniel Neukirchen

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1. Introduction

The purpose of this Chapter is to provide an overview of the entire thesis, such that the researcher has a robust structure to follow, which enables focus on answering the research problem, and the reader to understand how the research will progress. The problem statement is presented in this Chapter, and hence the gap in current knowledge is identified, allowing the research objectives and research question to be formulated. An outline of the importance of the research and the research design is provided as well as key facts relating to the global fashion sector and the structure the thesis will adopt.

1.1 Problem Statement

Supply Chain Management has been traditionally understood as the management and optimisation of logistic processes regarding the management of flows of goods. Business research recognises the Supply Chain as mainly a support service for its key activities, and which is generally examined in regard to the technical and engineering aspects with the sole objective of finding the minimum cost solution (Farahani et al., 2011, p. 277). This research argues instead that, in the fashion industry at least, Supply Chain Management becomes a key activity in Value Chain management and therefore in the business model. As a consequence, this study is not a Supply Chain Management Study in the traditional sense but rather examines the disruptive fashion business model focusing on innovation, starting with the restructuring of the Supply Chain, based on information technology revolutionising the retail business and, particularly, the fashion industry. Information technology has generated a completely new Supply Chain Management model, leading to disruptive competitive advantage. This connection between Supply Chain restructuring and disruptive business model innovation became particularly apparent in ZARA, which is the main reference point for this study. This case represents the paradigm for disruptive business model innovation based on restructuring of the Supply Chain.

Several traditional business models have been questioned by new challengers in many industries, whose main innovation was to build a superior, information driven Supply Chain based on information and communication technologies, which allow optimisation of the whole Value Chain. They succeeded in penetrating mature markets and, within a very short time, represented the most successful companies in their industry; major examples are Amazon, ZARA and Walmart (Kamath, 2016, p. XVI). These exemplars show that the Supply Chain cannot be simply perceived as logistics, but as the possible core of new business models, which have the aim of making a company's value chain not only efficient but responsive, as has been intended since the 1990s under titles, such as Quick Response and Efficient Consumer Response (Liebrecht, 2010, p. 1). The archetype companies have shown that high speed, low cost Supply Chains are able to respond to consumer demand and go beyond traditional Supply Chain practices. Therefore, the traditional Supply Chain research approach will be widened in this study and the research will focus on Supply Chains at the strategic rather than the operational level, such as is common in the mainstream Supply Chain research (Aboutalebi, 2016, p. 7). Traditionally Supply Chain Management is an operational function to optimise the supplier manufacturing warehouse retailer network, calculating the optimum network density and profit output for different network configurations (Kachitvichynaukul et al., 2015, pp. 5, 13, 15). In that model, the main determinants of Supply Chain research are costs, supply and demand, performance, and so on (Aboutalebi, 2016, p. 7). Instead, as mentioned, this study's perspective is not the operational level of the supply chain but the strategic level, as proposed by Hines (2013).

1.2 Research Gap

The objective of this study, exemplified by companies such as ZARA, Amazon and Walmart, is to examine a development, which started in the field of Supply Chain Management, and gained such momentum that it is possible to regard a specific Supply Chain configuration as an instrument of disruptive business

model innovation (Christensen, 1997). In the case of ZARA, Amazon and Walmart, the Supply Chain is not a support function of the business operation, instead, it is the business model at the core of these companies representing their competitive advantage, and enabling them to disrupt the existing market balance and to grow exponentially, with revenue rates incomparable to classical growth paths such as organic growth or external growth (Ray, 2010, p. V). Therefore, in this thesis, it is assumed that the organisation of the Supply Chain could at least be of strategic relevance, beyond the operational dimensions of the classical Supply Chain research, It could also be of relevance to the specific economics of whole industry sectors, because Supply Chain organisation has evolved from an operational support function to the core of Value Chain organisation in some industries, or in terms of business model research, to a key business activity (Lee, 2004).

The importance of Supply Chain Management in the retail sector become particularly evident when the examples of Walmart and ZARA are considered because these companies emphasise the extent to which Supply Chain Management is a fundamental part of the disruptive business model, and therefore business success. Supply Chain theory shows that academic theory in this field has not moved far beyond general modelling Supply Chain factors, whereas operational management practice and initiatives, such as ECR, CPFR, and QR demonstrate that very specific models of Supply Chain management exist, which have not influenced theory. This gap between academic theory and organisational practice exposes two issues, the function of theory and the position of empirical studies in Supply Chain Management. Theory is described as a system of statements used to explain reality and to make predictions and, is employed differently depending on the chosen point of view, which may be scientific or interpretivist. In general, a theory provides a model of reality, referred to as ontology, usually a specific perception of reality. Theory typically contains exploratory/descriptive and explanatory/causal statements about reality and, predictions become possible on this basis (Saunders, Lewis, & Thornhill, 2008, p. 119). The academic research models related to Supply Chain Management, if measured from this perspective are generally descriptive because they allow no prognosis.

Consequently, the contribution that theory can afford is questionable, in the context of the application oriented models of Supply Chain management practice modeling reality in a more credible manner. This gap may also indicate a feedback problem between theory and empirical research, since empirical research, in the form of grounded theory, does not normally proceed from theoretical models, theory building takes place without reference to existing management models and concepts (Saunders, Lewis, & Thornhill, 2008, pp.148-149).

1.3 Research Question and Research Contribution

The evidence in the extant literature suggests that it is appropriate to examine the Supply Chain issue from this new strategic perspective. This research focuses on the exploration of the Supply Chain at the level of the theory of the firm and the concept of the business model, rather than at a technical or operational level. The theoretical lens is at firm level examining the concept of the business model.

The objectives of this research are:

- to examine the fashion industry as an example for disruptive business model innovation by implementing a Supply Chain concept which goes beyond classic Supply Chain Management concepts (RO1);
- to demonstrate how previous research studies in Supply Chain Management have ignored the strategic role of developing disruptive business models (RO2);
- to analyse the possible effect of Supply Chain Management in the context of disruptive business models on the traditional theory of the firm (RO3);
- to evaluate the nature of competitive Supply Chain Management strategies in the fashion industry (RO4);

- to reconceptualise the Theory of the Firm based on Supply Chain Management concepts establishing a disruptive business model (RO5).

The research questions are:

- (1) Is Supply Chain Management merely a support function of business activities, or is it a future key business activity?

This question is linked to RO1 and RO2 since the supply chain concept must be appraised as a stand alone concept and in the traditional retail sector.

- (2) Could a new form of Supply Chain Management change the business models in an industry by altering supply chain economics, which in turn has an impact on how we conceptualise the firm in theory?

Research question two also has a role in achieving RO1 since the findings of research question one are relevant to answering this question. RO3, RO4 and RO5 are accomplished by the answer to research question two because they all focus on finding evidence of whether a specific new form of Supply Chain Management associated with disruptive business models is altering the theory of the firm in the fashion sector.

In some industries, specific Supply Chain configurations are becoming a key business activity, which is reorganising the relationship between the purchase market, production and the consumer market in such a fundamental way that the Supply Chain has evolved as the business model core.

The traditional concept of the firm as factor allocator must, therefore, be abandoned for a network theory of the firm based on information. This concept is contrary to the microeconomic theory of the firm, according to which the firm adapts its input output structure by price signals. Instead, the firm is no longer a cost-price adaptor but the coordination centre establishing and orchestrating a firm-specific network linking purchase markets and consumer markets,

based on the managed flow of information. This concept of the firm is contrary to the traditional concept of the market based view and the resource based theory of firm growth; both concepts claim to provide the explanation for firm growth whereas the resource-based theory of firm growth explains firm growth as a result of the firm's specific combination of resources, physical and non-physical assets, whereas the market-based theory of firm growth explains growth as a result of market positioning (Poser, 2003, p. 13).

In contrast, the information based theory of firm growth, developed in this thesis, on the basis of an industry case study, is established on a network-theory of the firm, which is also developed in this study on the assumption that firm-specific information-based networking of purchasing markets and consumer markets must be integrated into a contemporary model of the firm as well as firm-specific resources and firm-specific market positioning.

To develop this approach, the retail industry and, in particular, the fashion industry is selected to examine whether this approach may be empirically justified. This approach generates further sub-questions from the main research questions:

- (1) What distinguishes fast growing companies such as Amazon, Walmart and ZARA from other companies in their industries?
- (2) What are the specific differences, merely operational details or substantial differences justifying the further development of the theory of the firm's growth in the context of the theory of the firm?

1.4 Research Design and Research Contribution

The empirical part of this study applies qualitative and quantitative methods, as indicated. The main quantitative method is financial analysis, which enables the examination of fifteen industry-leading companies within the fashion industry. Additionally, descriptive and bivariate statistical analysis are applied to examine the statistical strength and significance of relationships between Supply Chain and business performance variables. The second part of the

empirical research uses interviews with industry professionals to verify or falsify the findings of the statistical analysis, and to develop the findings further.

The qualitative interviews and the statistical analysis of financial data focus on the meaning of business model innovation, Value Chain key performance indicators and firm performance. Both the research approach and the theoretical framework are seen as the main contribution to theory and research in the field of the Supply Chain because the research approach in this study goes beyond the mainstream Supply Chain research. This is a consequence of its interdisciplinary approach, which includes financial analysis and quantitative statistical tests plus qualitative instruments, which are not common in the field of Supply Chain research (Golicic et al., 2005, pp. 17-18, 24).

Furthermore, this research goes beyond the traditional Supply Chain focus, since it extends further than the operational level (Prockl, 2005, p. 402; Müller, 2005, p. 358), since it argues that in the fashion industry at least, the Supply Chain becomes a key business activity and must be seen as the infrastructure of advanced Value Chain management, leading to disruptive business model innovation. Therefore an additional interdisciplinary input in the form of the theory of the firm and the business model research concept is required.

However, beyond this methodological and model-theoretical innovativeness in the field of Supply Chain research, the applied theoretical framework may also be perceived as a main research contribution besides this study's empirical findings. This study argues that a specific Supply Chain configuration, the fast fashion approach, is not merely an efficient logistical solution but questions the classical view of the theory of the firm leading to a reconceptualisation of the theory by adopting a strategic supply chain centric approach. This is necessary as a result of the responsive Supply Chain representing a paradigm shift in its utilisation of information, in which data and information are seen as a further production factor, which is neglected in the classical theory of the firm.

Therefore, this thesis makes another major research contribution, the development of an information-based view of the firm, as a necessary further development of the classical theory of the firm and firm growth. In this context,

the responsive Supply Chain in its different forms, such as the Efficient Consumer Response Concept (ECR), Collaborative Planning, Forecasting and Replenishment (CPFR) and Quick Response (QR) represents a new way of organising the Supply Chain and a new approach to structuring and positioning a firm. The responsive Supply Chain not only manages the flow of commodities, but also the flow of information along the complete Value Chain. Hence, the responsive Supply Chain establishes a framework for the virtual real-time interconnection of consumer markets and purchase markets, and rejects the linearity of traditional business models and firm theories. The approach to research is supported by Hines (2013) who is rejecting traditional supply chain models pointing to a future where they need to be responsive to customers' and market driven:

"contemporary supply chains can be complex systems that must adapt to the changing environment in which they exist [...] in the interconnected economy, integration and interdependence present opportunities that supply chain strategies can seize and sustain". (p. xvii)

1.5 Overview of the Global Fashion Sector

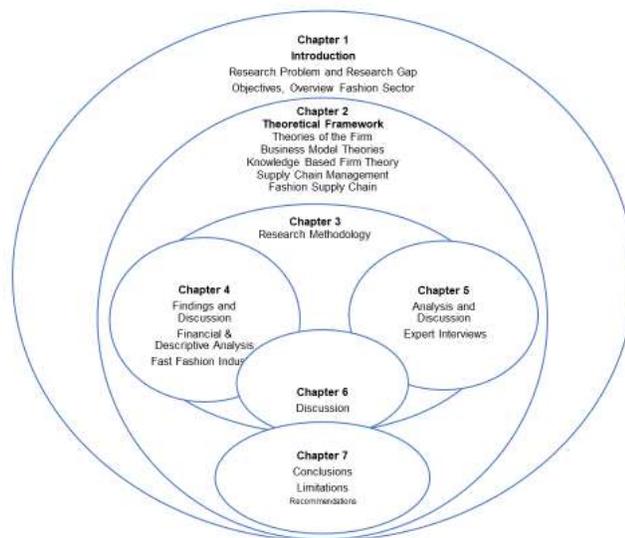
The global apparel industry realised a compound annual growth rate of 4.3% from 2000 to 2012, with a market size of \$US 1,700bn in 2012 (Caro & Martinez-de-Albeniz, 2014, p. 1). The larger part of continuous revenue growth is a consequence of the emergence of new industry players in the form of the fast-fashion retailers, which have achieved extremely high growth since 2000 (Caro & Martinez-de-Albeniz, 2015, p. 237). This new business model has prospered since 2010, pioneered by ZARA/Inditex, H&M, and GAP, which have become the largest retailers in the world, as a consequence of introducing this completely new business model (Caro & Martinez-de-Albeniz, 2015, p. 237). Therefore, companies such as Esprit try to close the gap between the market changers and their more traditional business, which becomes manifest in the assignment of the Supply Chain hero, José Manuel Martínez Gutiérrez, as the new CEO, and who is a former ZARA (Inditex) manager (Baldwin, 2013). Martínez Gutiérrez considers the redesign of the

Supply Chain as his main task, in order to restore the competitiveness of Esprit (Baldwin, 2013). Since this announcement, Esprit focuses on what it refers to as a vertically integrated business model that will facilitate rapid, cost efficient management of the product range and as its transformation strategy for the wholesale and retail channels (Esprit, 2014).

1.6 Thesis Structure

A flow diagram of the thesis is shown in figure 1, which demonstrates a broad approach converging to focus on the issue and resolution of the problem.

Figure 1: Thesis Flowchart



Source: Own Presentation

Chapter 2 commences with a discussion of the theory of the firm and the theory of a firm's growth. The theory of the firm is an inconsistent field of models and theories concerning the firm as an entity within the economic system (Haric et al., 2015, p. 26). The theory of the firm aims at the explanation of the origins, the development and the performance of the firm in the context of its

relationship to the market on a theoretical level, and should in principle be applicable to all companies in all industries (Haric et al., 2015, p. 26).

A specific theory of the firm is the theory of a firm's growth, which aims to explain the origins of the firm's growth to the highest possibly abstraction level, such as the theory of the firm. However, while the theory of the firm and the theory of a firm's growth describe the firm on the level of its main components in relationship to the market, and therefore on the macroeconomic and microeconomic level, the business model approach could be seen as the theory of the firm on the business research level. Since the business model approach combines such microeconomic approaches as the market based view and the resource based view, to distinguish the firm according to its specific characteristics, the business model approach is seen as a practice orientated theory of the firm (Rasmusen, 2010, p. 15). This model is also included in the first part of this study with the extremely abstract approaches of the theory of the firm and the theory of a firm's growth.

Whilst the microeconomic and the macroeconomic approaches only consider certain factors, for instance the firm's resources and market signals, and exclude concepts such as different types of value chains, the business model approach provides the basis for the differentiation of specific Value Chain configurations. Therefore, the second part of Chapter 2 analyses the retail sector and particularly the fashion industry, starting with a general introduction regarding Supply Chain theory. In the subsequent sections, specific Supply Chain concepts, such as the Efficient Consumer Response Concept (ECR), Collaborative Planning, Forecasting and Replenishment (CPFR) and Quick Response (QR) are introduced as Supply Chains configurations, representing a Supply Chain and a business model concept. Furthermore, the Fast Fashion concept is introduced by means of the fashion company ZARA as the industry specific example of the responsive Supply Chain. On the basis of this case, the Supply Chain concept is demonstrated as a disruptive business model innovation rather than a Supply Chain Management process. The concepts could also be perceived as more efficient Supply Chain operational modes, because Fast Fashion has led to a completely new form of Value Chain

organisation, in which the reactive Supply Chain is the key business activity. This example demonstrates that the Supply Chain could evolve beyond its role as a business service function.

Chapter 3 defines the research approach and sets out the research objectives. The thesis applies both qualitative and quantitative methods. The first analysis applies a quantitative approach by analysing corporate financial data of the 15 biggest stock-listed fashion companies. The general research approach adopted is that of a case-study for justifying the selection of organizations included. The sample is necessarily a small sample, which is analysed not only by statistical methods but also by qualitative methods such as content analysis of annual reports while the second part of the empirical research uses expert interviews with managers from one company out of this sample although it is important to draw attention to the fact that they all have experience of working for other fashion retailers which makes these findings valid in wider discussions. Accordingly, Chapter 3 justifies the application of the case-study approach.

Chapter 4 develops the research design in detail step by step in the process of the analysis, justifying the choice of methods and instruments which is mainly the financial analysis to investigate the measurable differences among leading companies in the fashion industry regarding the relationship between financial performance and Supply Chain parameters. The data for the quantitative part of this study is collected from a financial database, and includes key performance indicators and Annual Statement data, which are analysed using statistical methods, such as descriptive statistics and bivariate statistics.

Chapter 5 presents the development of the questionnaire, which is used in the qualitative part of the empirical research. The questionnaire serves as the basis for the interviews with industry expert, conducted with top management team members of Esprit, a fashion company challenging the industry leader ZARA. The objectives of the empirical research in Chapter 4 are to analyse the relationship between Supply Chain variables and firm performance variables leading to the finding, that ZARA's performance is mainly based on

a specific Supply Chain configuration. The performance will be evident by the high, significant correlations between firm growth parameters and Supply Chain parameters, and significant differences in comparison to most other companies in the sample. The questionnaire-based interviews with fashion industry experts support the results of the financial data analysis and provide evidence concerning the paradigm breaking influence of data-driven Supply Chains as the infrastructure for disruptive business model innovation, which characterises the development of the fashion industry in recent decades.

Chapter 6 discusses the findings of the empirical research on the background of the theory of the firm and the theory of firm growth developed in Chapter 2, answering, thus, the research questions. In this Chapter, the empirical findings are the basis for discussion of whether digitalisation in the Supply Chain may be more than just an efficiency driver in business operations. This Chapter discusses the findings of the empirical research related to the research questions. The discussion concerns whether the digitalised responsive fashion industry Supply Chain is the manifestation of a paradigm shift not only in the field of traditional fashion business models but potentially opens up new perspectives on the discourse of the theory of the firm and its specific expression in the form of the theory of firm growth. From this framework, Chapter 6 develops a first concept of an information based theory of the firm. This represents an addition to the existing theories and models, such as the market based view, the resource-based view and the general theory of the firm.

Chapter 7 summarises the reached objectives, discusses the limitations of this research and provides recommendations for future research as far as it can be concluded from this research.

2. Theoretical Framework

Chapter Two comprises elements of the theoretical framework that underpins answering the research questions, the most important theories and concepts. It comprises: theories of the firm and of organisational growth, including the business model and knowledge based model as theories of the firm. The supply chain is then considered as a general concept, specifically as a fashion industry concept and as disruptive business model innovation.

Supply Chain Management has traditionally been understood as optimisation of logistical processes regarding the management of flows of goods (Prockl, 2005, p. 402; Müller, 2005, p. 358). In this sense, Supply Chain processes are considered as activities external to the company and, in general, minimum cost logistics solutions are the goal of Supply Chain Management research (Afshari & Benam, 2011, p. 277). This research argues, that, in the fashion industry at minimum, and in the retail industry generally, Supply Chain Management is a key activity in Value Chain management and therefore a strategic instrument for disruptive business model innovation, in the context of strategic management.

This Chapter argues that, in the context of digitisation, the Supply Chain has become a significant competitive factor and an instrument for market positioning in the last 20 years, leading to that traditional business models in many industries being questioned by new competitors in the industry. These challengers innovated to build superior, information driven Supply Chains based on information and communication technologies, which allow completely new forms of data management and predictive analysis to optimise both the Supply Chain and the entire Value Chain. The firms adopting such Supply Chain models succeeded in penetrating mature markets and becoming the most successful companies in their industry in a very short time. Classic examples discussed in this Chapter are Amazon, Walmart and ZARA. Therefore, the role of the Supply Chain as merely a business support function in the context of business models, must be challenged. The perception of the Supply Chain configuration as a key business activity in modern manufacturing

and retail business needs to be seriously considered such as Gattorna (2009, p. 157), Mason and Evans (2015, p. 70) and Cammann et al. (2017, p. 74) have recently done.

The term Value Chain explains corporate value creation (Porter, 1980, pp. 207-208; Hines, 2013, p. 207), primarily in the context of the provision of goods and services; a company cannot survive permanently without Value Chain Management and value is added if revenues exceed costs. In the production and trade of goods, Supply Chain Management is essential to the success of the company. In this respect, a discussion is required of whether the Supply Chain is irrelevant or of increasing meaning to competitive advantage in the framework of the theory of the firm and in the theory of firm growth, in particular. The classic theory of the firm, as it is presented in the following section, describes the firm as a bundle of resources in the network of supply and demand markets, reacting to price signals which leads to cost minimisation and hence to revenue maximisation, in other words to higher profitability. When considering the growing significance of the Supply Chain as the value chain integrator, the question arises as to whether the classic theory of the firm must be supplemented by factors that were previously irrelevant. The fashion industry, one of the oldest industries in the history of capitalism, was traditionally explained by classical theories of the firm, and in terms of industrial economics (Belussi & Caldari, 2011). In this framework, a fashion industry company was the prototype of a cost minimiser and market signal adjusters. However, as the section on the Supply Chain in the fashion industry in this Chapter suggests, this industry provides much evidence for the knowledge based theory of the firm as the necessary further extension of the classical theory of the firm creating an information based theory of the firm.

2.1 The Theory of the Firm and the Theory of Firm Growth

The following two sections present and discuss the theory of the firm and the theory of a firm's growth, constituting the theoretical framework of this study. The result of this discussion is that both theories are incomplete and need to be supplemented to match the realities of current business, as suggested in Section 1.2 by introducing the business model approach.

2.1.1 Classical and Neoclassical Theories of the Firm

The classical theory of the firm, which is still based on the concept of Adam Smith (Williams, 2014), determines the objective function of the entrepreneur as the objective function of the company. The maximisation of invested capital is assumed to be the firm's objective (Kuhn, 2000, p. 139). The classical theory of the firm is based on the assumption of a friction free internal structure of the company, without transaction costs and data being completely available, so that there are no information costs (Boisot et al., 2007, pp. 10-11); no organisational friction, no incentive and control problems such as the principal agent issue, and costs for information search exist (Williamson, 1990, p. 90). The rationale for forming a company is found in the positive effects of the division of labour and the resulting comparative advantage due to specialisation (Spulber, 2009, pp. 75-76, 461). In this respect, in the classical theory of the firm, the company is virtually a result of successful cost optimisation, which leads to profitability and therefore to firm value maximisation (Jensen & Meckling, 2000, p. 403). Therefore, the microeconomic and industrial economic theory of the firm derived from the neo-classical theory of the firm, which perceives the firm as a homogeneous decision unit, in which external effects do not exist. The external effects could include friction in the sales and/or distribution processes, or in the decision making process, in the framework of competing firm agencies, such as business departments, management and supervisory board conflicts. In this respect, the microeconomic theory of the firm is pure theory of production (Tewari, 2003, p. 91).

Differences between companies, which produce the same product, occur by different combinations of input factors and their specific different cost structures, whilst the efficiency of the market leads to an equilibrium price between supply and demand so that the external signals for the company are identical. Hence the differences between companies because firms are price takers cannot be explained (Becerra, 2009, pp. 12, 46-47). Consequently, the company's success is a result of the company specific adjustment of the cost structure to the prevailing market price of the product (Spulber, 1999, p. 48). The entrepreneur must determine the output level, which is determined by the existing capacity and the resulting maximum sales volume, in which revenues exceed costs and align with the entrepreneur's objective function, which is the result of the entrepreneur's specific utility function. The fulfilment of the entrepreneur's objective function in the form of the maximisation of profit leads to the company-specific best possible combination of pricing and sales volume. Overall, the optimum price to sales, and quantity to cost ratios, lead to a firm's success and not the organisational structure and strategy devised by the entrepreneur/management (Spulber, 1999, p. 269). Therefore, the company is viewed as a production machine, which can be optimised. However, the classic microeconomic theory does not address factors for determining the ideal size of the company. In principle, firm size, and therefore firm growth, only depends on the size of the market and the decisions of the entrepreneur or manager in respect to the best possible combination of production factors. If s/he optimises them, the average costs are reduced and the product price can be lowered to less than the equilibrium price in the market, possibly leading to a higher market share and benefits from economies of scale. In this perspective, the entrepreneur or manager is merely a cost optimiser and not a creative, strategic agent so that critics of the classical and neoclassical theory of the firm state that the entrepreneur has disappeared (Barreto, 2007, pp. 47-53).

The neoclassical theory of the firm extends the classical theory by emphasising the relevance of the market for firm development, beyond the role as a signal provider in the form of the equilibrium price. While the classical theory views the market as a signal generator, which the firm must adapt to,

neoclassical theory introduces a typology of markets. It distinguishes between different conditions of competition, perfect competition, monopolistic competition, oligopoly, and monopoly; in perfect competition products are homogeneous, in monopoly and oligopoly there is some product differentiation, but in monopoly complete product differentiation (Lipczynski et al., 2005, pp. 4, 65). Therefore, a firm in markets with perfect competition can be successful not only through cost leadership but also through a strategy of quality leadership, or it may opt for a market niche strategy to escape intensive competition and, by establishing a virtual monopoly, to make use of its pricing power and maximise profit (Becerra, 2009, pp. 12, 18). In contrast a company in a quasi-monopolistic market does not grow through cost leadership and does not find its limits of growth within those of cost optimisation, but can generate a certain degree of growth by raising the price. The limit of growth is reached when the increasing customer price sensitivity leads to a decreasing sales volume, meaning that the firm should only raise the price to the level, where profitability/marginal revenue, begins to decrease (Lipczynski et al., 2005, p. 73). Therefore, the neoclassical theory of the firm perceives the firm as signal taker and not as a strategic decision maker.

A significant assumption of both theories is their basis on an ideal, typical one product company (Coase, 2000, p. 250). This infers that the entrepreneur, the firm, has chosen a product, with the best factor combination to maximise profit, resulting from the price signals in the market in relation to the average costs, which are determined by procurement market costs and internal costs. To maximize profits, the firm must then combine prices into the best possible ratio (Spulber, 1999, p. 269; Barreto, 2007, pp. 47-53).

The range of options is reduced to the 'triangle' of price, sales volume and costs: the entrepreneur is a price-taker but can determine the product price within a certain range above or below the equilibrium price, and can therefore influence sales volume, whilst the production costs limit pricing power and the ability to expand production. In the context of the neoclassical theory, the entrepreneur may choose a market position in the overall market: specific niche segments with higher prices and margins, or mass-market and cost

leadership positioning. Therefore, the ideal size of the company results from the calculation of marginal costs, that is, additional costs arising from the production of additional units. If the average costs are below the marginal cost, the production is not profitable, the company's business does not cover its costs. Only when the marginal cost function intersects with the average cost function, fixed plus variable costs, is the company profitable. In order to maximize profits, a firm chooses the output, in which the difference between costs and revenues is at its highest.

2.1.2 Theories of Firm Growth

Since the 1960s, the so-called theory of firm growth approach has established a competitive view to the classical approach. Theories of firm growth consider the firm not only as an entity adjusting only the cost structure to market signals, the outside-in view, but also the potentials inside the company, an inside-out view, as an explanatory factor for firm development. From this approach, the concept of core competencies was also derived in the 1980s (Clegg et al., 2011, p. 93).

2.1.2.1 Resource Based View of the Firm

The resource-based view of the firm is the starting point for the subsequent theories of a firm's growth. All theories of firms' growth go beyond the view of the reactive, cost maximising firm, and supplement the classical theories of the firm with additional factors to explain the formation, development and failure of the firm. According to the resource based models of a firm's growth, company development depends on the configuration of internal resources and competencies (Clegg et al., 2011, p. 17), such as the human capital of employees and the social capital of managers or entrepreneurs, the physical capital in the form of plant and, machinery, for example, and, financial capital such as private equity or debt capital, and organisational capital as

incorporated knowledge. Resource based models are, generally, descriptive models, since they do not measure any relationships between variables.

Penrose (1959, p. 1) defines growth as “increase in size or an improvement in quality because of a process of development” and explains growth as a result of a firm’s internal activities and by means of opportunities, changes, and actions that are external to the firm (Penrose, 1959, p. 2). As a firm grows, it requires more inputs, such as physical and human resources, to match the increased demand for its products. Companies attempt to change the conditions under which they operate in markets and must avoid both spare capacity and excess demand and, therefore, managers spend considerable time aligning the supply of resources with demand.

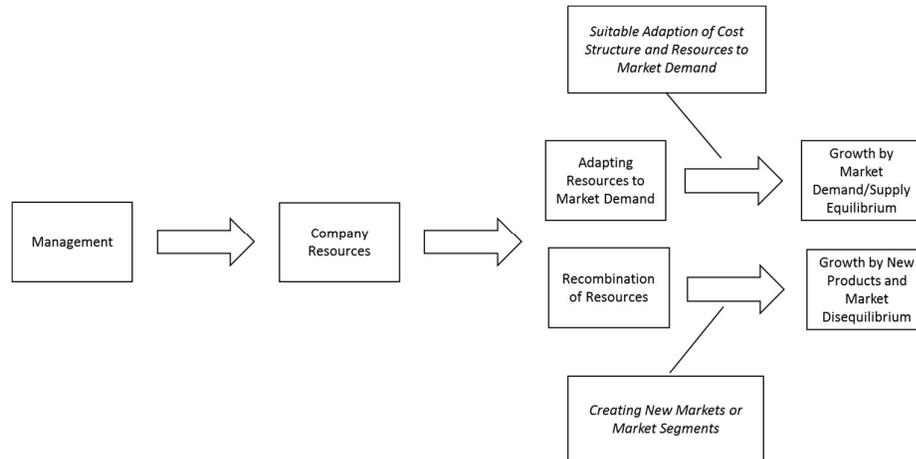
A company is, in terms of Penrose’s model, a portfolio of physical and intangible resources and its management can therefore be equated with the management of a resource portfolio, however, an identical resource is not the same for any two companies (Penrose, 1959, p. 5). The differences between two companies are based on both different resources and dissimilar use of the same resources (Penrose, 1959, p. 25). The company’s growth is created by utilising previously unused resources in a productive manner or from the company specific use of resources. Management’s task is to exploit unused resources and to discover and integrate new resources, especially in the case of mergers and acquisitions (M&A) or the recombination of existing resources for new products and services (Penrose, 1959, pp. 85, 145).

Although Penrose’s theory of a firm’s growth gained limited influence in mainstream economics (Petilis, 2010, p. 2), virtually all schools of the resource-based view quote Penrose as their starting point. The intangible assets concept (Itami & Roehl, 1987), the core competencies theory (Hamel & Prahalad, 1990, 1994), and the knowledge-based view (Spender, 1994; Nonaka & Takeuchi, 1995) are based on Penrose’s approach.

Hence Penrose (1959) developed the basis for the managerial theories of company growth. The neoclassical view is that a company’s growth depends mainly on market development and price signals so that, if a company

combines production factors effectively, it can benefit from economies of scale and scope. However, Penrose (1959) states that the success of the firm is not determined by the invisible hand of the market but by the visible hands of managers, who determine the allocation of the firm's resources and therefore generate success or failure (see Figure 2).

Figure 2: Firm Growth Process (Penrose)



Source: Adapted from Coad (2009, p. 110).

2.1.2.2 Market Based View of the Firm

A complementary approach to the resource based view developed in the form of a market based view, which initially was strongly reminiscent of the deterministic, neoclassical theories. According to this concept, the firm's growth is a result of various external and internal factors, which are identifiable. The basic assumption of such deterministic theories of growth is that elements are identifiable and explain growth by bi-variate and multivariate techniques, and cross-sector data analysis (Barnes & Hershon, 1994; Davidsson & Klofsten, 2003; Barringer & Jones 2004; Davidsson et al., 2002), The number of deterministic studies has grown larger in recent times (Dobbs & Hamilton, 2007, p. 299) and may therefore be perceived as a developing market. The main proponents of this view on firm growth are Schumpeter (1934), Buzzell,

Gale and Sultan, (1975), Barnes and Hershon, (1994), Davidsson and Klofsten (2003) and Barringer and Jones (2004).

Deterministic models propose that the firm with the highest market share in the industry sector has the lowest unit costs, and therefore the highest profitability (Buzzell, Gale, & Sultan, 1975), owing to the effects of economies of scale. Therefore, Porter (1980), suggests that the main bases of a firm's growth are cost advantages and positioning; firms with appropriate strategic decisions concerning cost efficiency and positioning can survive whilst others are forced to leave markets. The most suitable decisions in both strategic areas lead to profitable growth. Therefore, the firm's size directly mirrors productivity differences that lead to larger market share, suitable decisions for entering new high growth markets and avoiding decreasing returns of scale caused by downward sloping demand curves in mature markets, since a positive relationship between industry market growth ratios and profitability exists (Capon et al., 1990). Therefore, deterministic models align with industrial economics theory and neoclassical theory, which define maximising profits, and minimising costs as main drivers of a firm's success.

The objective of searching for and finding growth markets reinforces Schumpeter's (1934) concept of the entrepreneur, which was that the entrepreneur actively seeks and finds business opportunities, and therefore leads the company to growth. Therefore, deterministic concepts and managerial models of a firm's growth are contradictory, because the term deterministic does not mean that the firm's growth is determined by external factors alone, such as market growth rates. In contrast, in the market-based view, the firm's growth is also determined by suitable management or entrepreneurial decisions for the most appropriate market positioning regarding profitability and market growth rates, and by consequent application of economic laws, such as the concept of the economies of scale.

Many management instruments were developed on the basis of the deterministic concept of industrial economics, for instance Profit Impact of Market Share (PIMS) the Boston Consulting Group (BCG) Portfolio Matrix, Porter's five force analysis (Narayanan et al., 1993, p. 265; Ollig, 2001, p. 133).

All of these concepts operationalise the basic concept of deterministic models and can be subsumed under the concept of market based view, in which the industry structure determines firm performance (Graf, 2008, p. 97). The structure of the industry sector is the invariant nature to which the internal structure of the firm must adapt, whereas management must find the best market positioning, and the industry determines the average profitability. In this framework, the firm only has a certain range of options with which to outperform the market (Graf, 2008, p. 98).

The occurrence of the market-based view as the direct opposite to the resource-based view may be explained by the fact that in the 1970s, companies had to cope with market saturation, shrinking demand and intensifying competition (Pine, 1993, p. 64) since the 1970s marked the end of the long term post-war upward economic cycle (Bilginsoy, 2015, p. 301). Therefore, the focus gradually shifted to an interest in growth, which was feasible even in saturated markets, since growth was no longer only possible by cost efficient allocation of the company's resources to varying, but increasing demand. Consequently, the focus of business and management research shifted from a resource-based view to a market based view. No longer was the most efficient combination of production factors or the specific recombination of the specific internal resources to meet the rising demand and the route to realising a firm's growth, instead, the challenge was how to break through a natural saturation limit, in conditions of intense competition and consumer bargaining power (Pine, 1993, pp. 63-64).

The main research problem was not why some companies grow and others do not, but how growth was still possible in weak or mature markets (Pine, 1993, p. 64), requiring a new paradigm. Therefore, a growing interest in strategic management emerged, and operations management issues became secondary (Godfrey, 2016, p. 97). The basis for the market based view emerged in the 1960s with the works of Drucker (1954) and Ansoff (1965). According to Drucker (1954), business was not concerned with the allocation of resources to produce products but that companies generated customers. Hence Drucker (1954, p. 37) proposed that the sole purpose of business was

to satisfy customers, because they determined what the business represented, and consequently business had two functions marketing and innovation:

“There is only one valid definition of business purpose: to create a satisfied customer. The customer determines what the business is. Because it is the purpose to create a customer, any business enterprise has [...] only [...] two basic functions: marketing and innovation” (Drucker, 1954, p. 37).

However, that the company ‘revolves not around itself’ and its resources, but ‘around the customers’ needs’ was a ‘Copernican Revolution’, which was not necessary for ‘automatically’ growing supply-driven markets. The same goes for Ansoff’s approach. He developed the notorious matrix model for growth strategies. The product-market matrix (also called the Ansoff Matrix) is conceptualized as a strategic management tool. It is intended as a tool for planning growth for companies opting for a growth strategy. Ansoff determines four ‘generic’ strategies: (1) market penetration, (2) market development, (3) diversification, and (4) product development (Ansoff, 1965, pp. 98-99). Ansoff’s product-market matrix was the first analytical strategy selection framework, and became the predominant strategic paradigm of the 1960s and 1970s, later modified by Kotler’s marketing matrix for growth companies (Kotler, 1999, p. 47). Additional complementary approaches, based on the Ansoff’s concept, occurred up until the 1990s, all of which supported strategic decision making, which generated additional growth approaches (see Table 1).

Table 1: Growth Strategies and Types of Growth According to Ansoff et al.

Growth Focus	Type of Growth
Product–Market Relationship	<ul style="list-style-type: none"> - Market penetration (known product known market), - Product development (new product, known market), - Market development (new markets, known product) - Diversification (new product, new market)
Expansion Direction	<ul style="list-style-type: none"> - Horizontal (range extension to similar products) - Vertically (increasing the depth of range), - Concentric (diversification into new industry with similar products) - Conglomerate (diversification into new industry with new products)
Capacity Extension	<ul style="list-style-type: none"> - External extension (acquisition of existing capacity), - Internal extension (additional capacity created by the company itself)
Reference Value	<ul style="list-style-type: none"> - Quantity (e.g., sales increase), - Quality (e.g., improving performance)

Source: Adapted from Ansoff (1965, p.132); Graumann (1994, p.501); Schoppe et al. (1995, p. 23).

Generally, these growth concepts focus on management practice, they are not concerned with explaining growth, but with managing growth, so that they are more concerned with the success of different strategies, rather than exploring microeconomic laws of growth.

The 1980s perhaps showed the most advanced extensions of Ansoff's concept of growth strategies; the competitive advantage concept (Porter, 1980), was another growth strategy model. The Porter (1980) model systemised possible strategies that a company should pursue to gain competitive advantage, leading to growth, and arranges competitive strategies according to the possible strategic goal, the company purpose and by its strategic advantage, how it achieved its goal. Hence the basic generic strategies evolved: two broad strategies of cost leadership and differentiation and two narrow strategies of cost focus and niche (Porter, 1980, pp. 34-44).

Porter's (1980) generic strategies can be viewed in line with industrial economics, which postulates that a specific goal-means combination fitting to the company's market environment leads to a competitive advantage. Porter's (1980) concept of generic strategic linking firm specific resources, positioning decision, and market environment, inspired the concept of core competencies. The theory of core competencies (Hamel & Prahalad, 1990), was the company specific combination of skills and resources competencies, which enabled the company to occupy a market position to realise a competitive advantage resulting in growth.

The concept of core competencies is entirely based on the resource-based view, whereas, Porter's (1980) models embrace both concepts. This becomes evident in the Five Forces Model, which is industry sector structure analysis, developed as a corporate planning and strategic decision-making tool and also based on industrial economics. The model fundamentally considers that the attractiveness of the market and therefore the growth possibilities in it, are mostly determined by the market structure, which influences the strategic behaviour of firms, that is, their competitive strategies, which determine their success in their market sector; the firm's success indirectly depends on the market structure (Porter, 1980). Hence Porter (1980) reinforces Penrose's

(1959) approach, and emphasises the visible hand of managers as a determinant in explaining a firm's growth but re-establishes the market as a separate force.

The model presented by Porter (1980) is based in the context of traditional microeconomics since industrial economics deals with the interaction between the market and companies. In order to explain the development of companies, the competitive process must be considered and, therefore, industrial economics employs microeconomic methods and concepts, but differs by focusing on partial analysis and imperfect competition. Industrial economics is concerned with market mechanisms, whereas markets are characterised by market demarcations, the market concentration and market definitions, which includes both functional requirements and competitive and innovation processes. This concept for explaining the development of markets and companies is based on that developed by Bain (1956, 1968), who investigated the development of different markets or sectors along three parameters: (1) the degree of supplier concentration, (2) the degree of product differentiation, and (3) the height of barriers to entry to the industry or market (Bain, 1956). Companies benefit from market development through (1) economies of scale, (2) absolute cost advantages, and (3) product differentiation (Bain, 1968). These factors are all present in Porter's (1980) model of industry structure but in a more developed form, as discussed earlier.

The PIMS approach is particularly important because the original research project was conducted by the Marketing Science Institute, which aimed to link academia with practising managers, enabling investigations into what makes one business different from others (Ferris and Moore, 2004), which is the theme in this thesis. The original project involved a huge number of firms and strategic business units, 400 and 2600 respectively, which contributed diverse data, for instance on financial outcomes, marketing strategies, technological change, customers and competitors over six years and from eight different business sectors dominated by manufacturing. The fact that the contributions to the database continue, infers that data is current and robust.

The PIMS approach also has its roots in industrial economics in the 1960s, when very large enterprises were dominant, and was the starting point for Porter's (1980) competitive advantage research (Thomas & Gup, 2010, p. 23; Woywode, 2004, p. 16) and for empirical success factor research (Woywode, 2004, p. 17; Haenecke, 2002, p. 166). The PIMS research project was based on database research, rather than on any model and was a cross-industry study to determine the influence of specific factors on the success of businesses. The origin of the study was a project conducted by the General Electric (GE) Group, as an attempt to identify variables influencing earnings and cash flow, by the use of statistical methods. GE gathered a large amount of information from different industrial sectors to identify cross-industry determinants of earnings and cash flow (Neubauer, 1997, p. 437). The PIMS findings are mostly generated by surveying large enterprises in mature markets or at the corporate lifecycle maturity stage (Thomas & Gup, 2010 p. 23; Woywode, 2004, p. 16), and considers the acquisition of market share in mass markets as a strategy for growth. The market share paradigm, based on economies of scale, remains a key concept of strategic management (Ungson & Wong, 2008, pp. 481-482). The PIMS approach relies on the Structure Conduct Performance paradigm (SCP) (Olderog, 2003, p. 82). Market structure and the conduct of the firm are linked in a feedback loop, and the fit between the factors is the origin of the firm's performance. The performance accomplished is a consequence of management decisions and actions (Olderog, 2003, pp. 81-82), comprising not merely the simple price-quantity adjustment loop, but also microeconomic models of a firm's growth. The main strategic objective is to gain competitive advantage and therefore a higher market share; the effects of economies of scale result in outperforming the market, owing to superior profitability.

PIMS does not analyse companies, Strategic Business Units (SBU), which it defines as a division, a product line, or profit centre of an enterprise. The measures of success are exemplified by Return on Sales (ROS), cash flow, and Return On Investment (ROI). The average values of multi-year periods are used to counteract annual fluctuations in profitability ratios, which often result from changing economic conditions or accounting practices (Buzzell & Gale,

1989, p. 23). However, the key questions which the PIMS programme utilises (Malik, 2008, pp. 148-149) are:

- (1) What are the key strategic factors relating to the profit potential of a company and how can they be measured?
- (2) How do these factors integrate, and how can they be influenced and exploited by the company?
- (3) What quantifiable effects do acquisitions have and what are the quantifiable synergy effects?
- (4) How high must marketing, research, and development expenses be, and what is their marginal benefit?
- (5) How high must the added value, vertical integration, productivity and capital intensity be per employee for the long-term, sustainable health of a company, and what is their marginal benefit?

The findings resulting from the analysis of the data are relatively modest and critics of the PIMS approach propose that successful industrial companies are mostly included in the database, while smaller companies and firms in the service sector are significantly under-represented (Homburg, 2000, p. 70). The main problem is that determinants were operationalised with different sub variables. The influence of single external and internal factors remains unclear, whereas the impact of highly aggregated variables is weak (see).

).

Figure 3: PIMS: Factors Explaining Variation in Firms' Performance



Source: Malik (2008, p. 152)

The PIMS conclusions are rather unsurprising, for instance high quality and high market share having the highest impact on the ROI or high investment intensity under the conditions of weak market position, relative market share having a highly negative impact on profitability and a firm's growth. However, the PIMS programme claims to identify 37 independent variables overall, which together explain approximately 80% of the ROI variance (Schoeffler, 1977, pp. 111–112). The relative market share is identified as the most important success factor, defined relative to the market share of the three largest competitors, and explained 12% of the variance in the ROI (Luchs & Müller, 1985, p. 88). The market share has the strongest positive correlation with the ROI (Buzzell, Gale, & Sultan, 1975, p. 98). However, a high market share does not include a high ROI; the chances of a high ROI escalate with increasing market share (Neubauer, 1997, p. 442). Economies of scale and market power are potential explanations for the relationship between market share and ROI (Buzzell, Gale, & Sultan, 1975, p. 98). Companies, characterised by high market share, have high manufacturing volumes and can use the advantage of scale with cost efficiency, and consequently can increase ROI. A higher market share is also associated with greater market power, and therefore bargaining power can be used as purchasing power for example (Homburg, 2000, p. 63).

Product quality is identified as a second important success factor to explain a firm's growth (Buzzell & Gale, 1989, p. 7), it is measured in relation to competitors' product quality, rather than in absolute terms, and is therefore relative quality. The relative product quality has a similarly high effect on ROI to the relative market share. A small to medium company's market share, which has a negative effect on success and therefore on growth, can be almost completely compensated by relatively high quality (Zäpfel, 2000, p. 56).

2.1.3 An Integrated Firm Growth Model

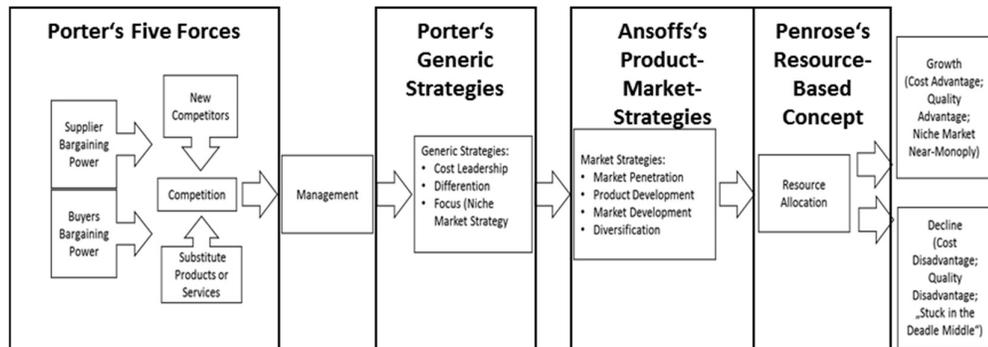
An integrated business model combines elements from different contexts that increase the effectiveness of the original model as emphasised by a recent study conducted by Hacklin, Bjorkdahl and Wallin (2017). The practice of proactively integrating new elements into the primary business model, which reflected the changing concept of value creation was found to more effective than devising secondary business models in parallel with the original primary model, particularly in sectors in which value is rapidly migrating across industries and between firms, as is the situation in the fashion sector. This section appraises the limitations of single firm growth models and development of integrated models that reflect new environmental demands.

The market based theory of firm growth can be summarised as a synthesis of the microeconomic approach and the theory of a firm's growth. The interaction between the market conditions, industry structure and management's positioning decisions determine a firm's growth, with market share and product quality as the key variables, which impact on it. The bargaining power of buyers and suppliers, the substitutability of products, the entry barriers for new competitors and the existing competitors in a given market constitute the environment in which the firm's management must decide the firm's optimum market position, in terms of a generic strategy (Porter, 1980). In contrast, the resource-based view of firm growth focuses on the specific firm resources as the source of growth.

However, attempting a synthesis of the market based theory and the resource based view theory of a firm's growth in a linear sequence and applying a management view, the firm's environment represents the first consideration (Porter, 1980) since it determines the firm's economics. Therefore, Porter's Five Forces are employed to determine the basic situation of the firm in the environment of its competitors, suppliers and customers, figure 4. These are the conditions under which the firm's management must make decisions, and which cannot be changed in the short term, but represent the natural environment of the firm in the medium term at least. Given these conditions,

management has three general positioning options in terms of generic strategies, Porter (1980) (see Figure 4).

Figure 4: Integrated Firm Growth Model



Source: Adapted from (Porter, 1980; Ansoff, 1965; Penrose, 1959).

Companies active in more than one market may have a portfolio of generic strategies, for example, a car manufacturer may follow a mass-market approach in the low price car segment employing a cost leadership strategy, while it simultaneously follows a premium niche market strategy due to the acquisition of a luxury car manufacturer. In mature markets, the company has to decide its next step based on Ansoff's (1965) product market approach, on the basis of its existing markets and their specific product cycles (see Figure 3). This approach may generate the decision to develop a new market, based on a new product, leading to stronger penetration of a company's existing market. The decision selected also determines the resources a company must dispose of or the nature of new resources, which must be acquired to enter or develop new markets.

A synthetic model, which includes both views of the firm may, therefore be designed. However, the main difference to the theory of the firm is its complete contradiction of the microeconomic approach since the theory of the firm dispenses with strategic decision making. According to the theory of the firm, the company is an entity adapting to price signals without any choice, whereas the theory of a firm's growth is developed as a theory that includes the factors of price and production quantity adaptation. In contrast, the theories of a firm's growth presented, discuss growth only as related to strategic decision making

in the form of selecting a market position, a generic strategy, product market strategies and resource decisions.

2.2 Knowledge-Based Theories of the Firm

While the theories of the firm previously presented, the theories of firm growth and the value chain model of the firm, respectively, the design theory of the firm, which claims to develop a general theory of the firm to explain firm growth or to provide matrix to design a value chain, the knowledge-based theory of the firm is different in some respects. This approach could also be classified as another theory of a firm's growth because it is objective and also explains the reasons for and sources of a firm's growth. However, the knowledge-based theories focus on a special resource and cannot therefore be classified as general theories. In the context of this study, the knowledge-based theory of firm growth has a bridging function for two reasons:

- (1) Whilst the resource-based and the market-based views mainly recognise resources as tangible assets, the knowledge-based view focuses on intangible assets tradable or transferable only with difficulty, if at all, and knowledge must be seen as a firm specific, non-replicable entity outside of the firm.
- (2) Knowledge was merely perceived as the missing link between resources, assets, production factors or other tangible components mentioned in theories and models previously appraised; this factor will be discussed further in section 2.4 on Supply Chain Management. In this context of knowledge theories, it becomes apparent that Supply Chain management is not only a business support function but has developed into a key business activity (Osterwalder & Pigneur, 2010, p. 18). This becomes even clearer in Section 2.4 discussing the relationship between supply chain management, information and knowledge.

The market-based view or resource-based view propose that reasons for growth rely mainly on the unique combination of tangible resources that can be acquired/purchased in the market. The knowledge based theory of a firm's growth could be deemed as a specific theory of the firm because, by contrast. this approach begins with the premise that only one specific factor is the core of firm growth. Although both approaches seem to be almost identical, they are slightly different in one aspect, whilst the learning theory of growth regards information and skills from the process perspective, the knowledge-based theory of a firm's growth regards knowledge as more of an asset. The learning theory of growth is a relatively new approach in the theory of the firm discourse and proposes that organisational learning is the critical factor for increasing efficiency and therefore growth (Deakins & Freel, 1998; Dalley & Hamilton, 2000; Bessant et al., 2005). Organisational learning also increases the capability to cope with crises in organisational development, so as to overcome growth barriers (Macpherson, 2005). The central idea of this concept is that the learning of members of an organisation continuously transform the members and the organisation. This knowledge-based view of the firm establishes a new managerial growth theory, summarised by the concept of the learning organisation, and is a result of the rising service economy and the pressures modern organisations face, owing too intensifying competition and the increasing meaning of information and knowledge particularly in terms of technological know-how; the firm's intellectual capital.

Knowledge was defined as one of the most relevant resources for firm success and growth by Penrose (1959) and Drucker (1959). They additional input from the industrial economy, in the form of the learning curve concept (Solow; 1956; Arrow, 1962). Nonaka and Takeuchi (1995) established the idea of the knowledge-based firm in contradiction to Porter's (1980) industrial economics view of a firm, as a result of 'Five Forces'. The management challenges arising from the Five Forces model also infer that a manager should view knowledge as the main source of competitive advantage and the firm's success. Although this concept is initially intuitively convincing, the nature of knowledge relevant to competition and how can it be defined or measured is not well defined. The approaches such as Human Resource Accounting (HRA) to quantify the

economic value of organisational knowledge as a basis for managerial decision-making failed (Bontis, 1999). Therefore, the general problem with all learning models of the firm, and specifically those related to learning theories of a firm's growth, is that they are difficult to verify. Hence these theories appear to have descriptive value only and are currently hard to operationalise in terms of empirical research design and compared to all other models presented in this section, are purely theoretical interest.

However, the knowledge-based view of the firm also tries to resolve the issue of why firms are different, and how this matters, in terms of company development (Nelson, 1991), but it focuses less on market transactions and more on value generation within the firm, and in terms of intangible resources. Companies exist because they can generate unique and company-specific resource bundles which are difficult to imitate (Barney, 1991), in contrast to markets, according to the knowledge-based view. Therefore, the resources relevant to success in the sense of the knowledge-based view, have different properties compared to resources in the sense of the market-based or resource-based view; resources that are non-tradable and produced within the company. In addition, these resources have their origins in the history of the company, characterised by path dependency or routines. A third characteristic is that the resources are based on accumulated efficiencies that can be more easily acquired if a certain stock of these resources already exists within the company (Dierickx & Cool, 1989). They are also characterised by diffuse causal relationships. These resource properties apply particularly to organisational knowledge, data and information (Grant, 1991; Spender, 1994); they cannot be bought in the market since the firm has to develop them from existing firm-specific knowledge (Cohen & Levinthal, 1990).

The knowledge-based theory of the firm, therefore, assumes that the appropriation of profit from technical innovations allows the appropriation of information goods and knowledge accumulation. Therefore, it is not just the optimum combination of internal and external goods and services, which are drivers of growth and the reasons for differences between companies. The knowledge-based theory of the firm proposes the importance of information

goods, which are the core of the models and research. Consequently, the knowledge-based theory of the firm supplements the existing industrial-economic, resource-based and market-based approaches by adding a new factor, which explains firm growth through the company-specific data, information and knowledge.

2.3 The Business Model Concept as a Design Theory of the Firm

Section 2.1 demonstrated that two opposing perspectives on the basics of the firm and a firm's growth exist, however, the preceding subsection suggested that both approaches were also compatible. The business model concept has developed in the last two decades as a form of design theory of the firm (Rasmussen, 2010, p. 15). Some analytical instruments are extracted from this discourse, to explore the object of this study; the interviews with fashion industry experts, in particular, focus on questions regarding the Value Chain trends and business model trends in the fashion industry. Therefore, the business model research is presented and discussed in more detail in the following sections, in order to define a business model, which components constitute a business model, and the nature of existing diverse business models.

2.2.1 Business Model Definitions and Concepts

The definition of a business model attributed to Elliot (2002) is relatively generic:

“Business models specify the relationships between different participants in a commercial venture, the benefits and costs of each and the flows of revenues.” (p. 7)

However, neither the scientific nor the practical business literature define the term business model consistently, not least because the business model

concept represents an analytical tool, and remains a relatively new phenomenon. The development of business model concept is closely connected with the digitisation of the economy (Stähler, 2002, p. 37), and the resulting questionable nature of existing business models in the context of disruptive technologies, is evidenced in the media and retail industries (Burkhart et al., 2012, pp. 1-19). The development of information and communication technologies has changed or queried the principles and success factors of existing business models and has lowered barriers to entry in existing markets. Modern markets, service providers and the internet allow small companies and one person businesses to market new ideas and products with calculable financial outlay (Faltin, 2008, p. 167), owing to the ability to test new business models without large initial investments (Faltin, 2008, p. 167). This fact also leads to the new phenomenon of serial entrepreneurs, whose main expertise lies in the continuous development of new business models and the serial foundation of new companies (Allen, 2009, p. 29).

A business model structure is a framework that enables all its major functions to be integrated, and therefore represent its characteristics and Chesbrough and Rosenbloom (2000, p.7) suggest that its components should be: Provide a concise, accurate and articulate statement of how value is created for the user by means of the incorporated technology; identify the group(s) of users that will find the technology useful and for what reasons; establish the value chain structure that will create and distribute the product/service; estimate the costs and profit potential generated by the stated value chain; determine the organisation's position within the value network, which links suppliers and consumers, and identifies potential collaborators and competitors; devise the competitive strategy that will accomplish significant, sustainable competitive advantage.

According to Timmers (1998), a business model is a logical structure which groups such elements as stakeholders, products, transactions and services together, linked through transfer of resources and benefits along a value chain (Timmers, 1998, pp. 3-8; Selz, 1999, p. 106). If a business model is determined

as a logical structure, it is implicitly assumed that a business model is derived as a consequence of management decisions, and developed on the basis of logic, and therefore can also be designed through systematic process using analytical instruments such as business model concepts (Hax, 2005, p. 39).

The process model approach, the revenue model approach and core competencies approach are classical instruments for the analysis and hence the development of a business model (Paul & Wollny, 2011, p. 66).

- (1) The revenue model approach analyzes the revenue stream of the company and explains through which services or products the company generates revenue and with which customers the revenue is generated (Bodendorf & Robra-Bissantz, 2003, p. 165).
- (2) The process model approach analyzes the core processes that determine the business success of the company with the intention to design these core processes and to optimize the use of metrics to manage these core processes (Adam, 2009, p. 20).
- (3) The core competence approach identifies the causes of business success for the systematic revision or restructuring and to decide on the ways to strategically outsource less relevant processes or services specified in a make-or-buy decision (Xaver & Hass, 2009, p. 32).

In this context, the question arises about the elements of a business model. Hoppe und Breitner (2003b) identify three essential components of a business model: An activities model, a funding model and a market model (Hoppe & Breitner, 2003b, p. 199). These three ingredients are generically: (1) A business model requires a funding model that explains how the business model or the product will be financed until it reaches the market. (2) The activity model modulates the internal value creation, i.e. the provision of services using the company's resources and skills. (3) The market model analyzes the market competition and demand situation. Also, the concept of revenue model is discussed as a key component of a business model in the literature (Bodendorf & Robra-Bissantz, 2003, p. 165).

The Hoppe and Breitner (2003b) model can, therefore, be understood as a combination of elements, as it brings together and analyzes different business model elements. Also, it combines the 'classical' approaches mentioned above together: Thus, the revenue model is already incorporated in the financing model, the process model is included in the activity model and the core competency approach is included in the market model. Yet, neither the funding model nor the activity model or market model explains how revenue sources can be opened up. The essential question of the systematic development and analysis of the revenue model will be solved only in newer approaches.

The three original models (revenue model, process model and the core competence model) could be described as classical approaches, because they constitute an internal view of a business, and the classical approaches also consider the value chain as an internal mechanism. Value is therefore created by the internal organisation of production factors, services and core competencies, with suppliers, customers and service providers being on the periphery, as environmental conditions impacting on the Value Chain, and executing factors of no relevance to the firm's competitiveness. Therefore, Clement and Schreiber (2013) enlarge the business model approach by incorporating an external view, which also includes the Supply Chain partners, competitors and target customers, whilst the market, the firm, the funding and the core competence components are linked by the utility function (Clement & Schreiber, 2013, p. 305).

Recent models replace this analytical separation of components or partial models by a network topography since the increasing capacities of information and communication technology, negate the need for internal and external resources and stakeholders to be considered in a disconnected fashion. Digitalisation and information and communication technologies have resolved the boundaries between the firm and its corporate environment, its procurement and sales markets, as well as internal firm boundaries so that value chain relationships have changed significantly (Tapscott et al., 2000, p. 198). This change infers that the business model should no longer be conceptualised along a linear value chain, and instead Tapscott et al. (2000,

p. 198) propose a web model. This concept arises from the growth of the internet, which facilitated new models of the firm generated by the capacity to interact differently with external entities, and destroying old wealth creation processes. Hence the Business Web (B-Web) related to a complex network of suppliers, distributors, service providers and customers, which were able to conduct their business communications and transactions over the internet and other electronic devices, enhancing the value created for the customer and between the members of the network:

„Based on the Internet, fundamentally new [business] models of the firm and its interaction with external entities have emerged. Industry by industry these new net-enabled models are destroying the old models of wealth creation. Call the new model of wealth the business web. A B-web is an elaborate network of suppliers, distributors, commerce services providers, and customers that conduct business communications and transactions on the Internet and other electronic media in order to produce value for end-customers and for one another.”
(Tapscott et al., 2000, p. 198)

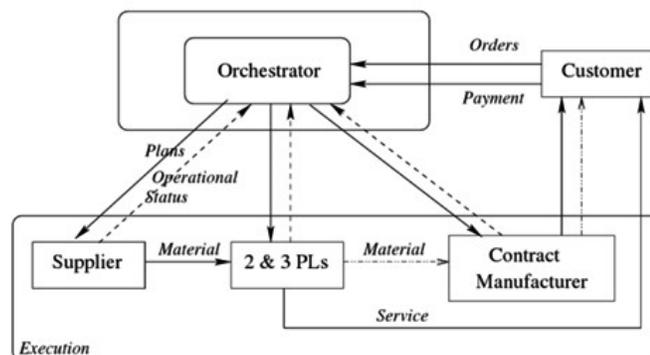
Therefore Tapscott et al. (2000) replaced the classical business model concept organised along a value chain with the concept of a B-web, by shifting the perspective from internal factors such as core competence, revenue model or processes, to the network of service providers, suppliers, distributors and end users, which are perceived as the essential components of the Value Chain. The B-Web abandons the company-specific view of classical business model approaches. This network of suppliers, distributors, service providers and customers are the factors generating value, instead of resources, processes or core competencies and referred to as the Orchestrator Business Model or the Network Orchestrator model. This model comprises a network of companies operating a type of peer to peer interactions and sharing ideas in order to optimise value creation. Their business activities vary and include examples such as Trip Advisor which facilitates the sharing of tourism information between consumers, and Uber which sells its services to consumers by building a network of taxi providers. Orchestrator networkers accomplish higher levels of performance than other business models, in terms of higher market valuations compared with their revenues, faster growth rates and higher profit margins (Wind, 2012; Libert, Wind & Beck, 2014).

The main management challenge has moved to relationships with suppliers, distributors and customers, which could be conceived as the main core competence, in other words, the dynamic network of external and internal resources must be optimised to fulfil customer needs (Tapscott et al., 2000). This type of business model, with the firm as a network organisation, is defined by Viswanadham and Kameshwaran (2013, p. 105) in terms of a group of independent companies forming an alliance, which resembles a single commercial entity, often referred to as a virtual company, in order to accomplish a specific goal:

“a number of independent companies, each concentrating on its core business, form an alliance towards a specific goal. They act together as though they were a single corporation performing activities along an industry’s value chain. They are also called the virtual corporation. The basic organization or management challenge in such networks is the selection of partners for fulfilling the customer order and then coordination of their activities in sourcing, design, production, distributions and service, and monitoring their performance. Thus, partner selection, coordination and control are particular importance in global value chains. It refers to how some lead firms determine and coordinate the activities of the actors in the supply chain.” (Viswanadham & Kameshwaran, 2013, p. 100)

Viswanadham & Kameshwaran (2013, p. 105) resembles the B-Web model (Tapscott et al., 2000). The major difference is that the Orchestrator model takes a normative view, whereas the business web model is more generic in the sense of the theory of the firm.

Figure 5: Orchestrator Business Model according to Viswanadham and Kameshwaran



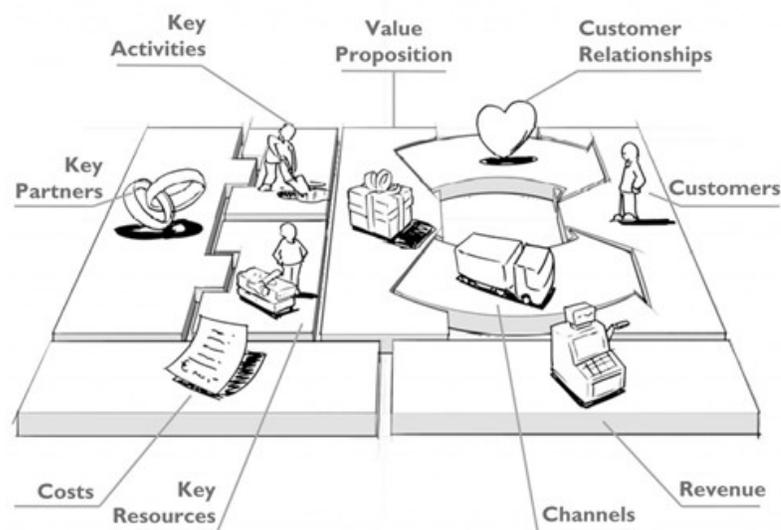
Source: Viswanadham & Kameshwaran, 2013, p. 105.

However, both approaches illustrate that the development of business models is a consequence of the development of information and communication technologies. It is difficult to imagine a typical 20th century manufacturing company, such as General Motors or GE, as an orchestrator of a customer supplier network, owing to the fact, that both companies incorporated almost the total industrial Value Chain within their businesses, which meant that the value added was predominantly generated internally. Hence classical business model approaches may better describe manufacturing companies; analysis employing the process and revenue models. Therefore, the business model approaches previously discussed do not represent a general theory of the business model, but the dominant business model at its time of origin. Nevertheless, in the analysis of the retail industry and the fashion industry conducted in the sections that follow, it becomes apparent that some companies have moved from the classic industrial business model to a business model, which more resembles the orchestrator business model by replacing the sequential model of business operation with a network-centric value chain. However, the classification system proposed by Wirtz (2001) may be seen as a time-dependent concept of the firm. He distinguishes six partial models as value-chain components constituting the business model: (1) the market model including the demand side and the competition side of a company, (2) the purchase model, (3) the production process model, (4) the supply model (product policy), (5) the distribution model and the (6) funding model (Wirtz, 2001, p. 215). This fine structuring of the original coarser structuring of classical business model concepts fulfils, in principle, the requirements of Tapscott et al. (2000) by further subdividing the major classical business model concepts by adding elements of the procurement model and distribution model as important components ignored by the classical models. Nevertheless, the approaches and models for the management practice and therefore also for the analysis of business models initially remain difficult to operationalise. To solve this problem Osterwalder et al. (2005) developed an approach to make the logic of business models available as a management tool by providing an analytical framework with the explicit aim of restructuring existing business models in a systematic way. However, their goal is not to develop a scientific definition or model, but to provide a practical tool for

business modeling. Nevertheless, this instrument fits well with the components Wirtz (2001) identified, whereas Osterwalder et al. (2005) provide a more detailed description of what exactly the partial model and the business model components are, what relevance they have for business success, and which relationships exist between the system components. Therefore, the approach of Osterwalder et al. (2005) is more appropriate as a framework for the description of a business model and hence it is presented in the following paragraphs in detail.

Osterwalder and Pigneur (2010) define the following core elements of a business model (see Figure 6) through partly integrating explicitly components of classical business models (Osterwalder & Pigneur, 2010, pp. 16-39) (see Figure 6).

Figure 6: Business Model Structure



Source: Osterwalder & Pigneur (2010, p. 18).

- (1) The key activities component covers all processes, functions and operations for the fulfilment of the value proposition and includes the production, sales and innovation processes. In this respect, this

business model component includes the essential part of a company's Value Chain.

- (2) Key partners are strategic partners, those essentially relevant suppliers and other partners, for example sales channel partners, which provide a significant contribution to value creation and value added for the customer. Consequently, key partners included suppliers and collaborative partners, for instance for Research & Development. These partners are relevant to the strategic processes and transactions, without which key activities would not be feasible, because they supply strategically relevant resources and services, which are not produced or provided by the company, owing to skills gaps, or as a result of a make or buy decision. This strategically relevant key partners from the corporate network, which enables optimisation of processes and focus on the core competencies, cost reduction and inefficiency avoidance.
- (3) The Key Resources are all type of assets such as fixed assets, financial capital, and human capital and the intangibles, the non-measurable assets for instance, patents, know-how, trademarks, Customer Charter, which are relevant to fulfilment of the value proposition.
- (4) The value proposition is the reason why customers buy a product, it defines the product's benefits, the consumer needs that the product or service meet in relation to respective individual customer segments.
- (5) Channels refer to the diverse distribution/sales channels through which a company provides its value proposition. This element does not refer to classical problems, such as how distribution channels should be structured to guarantee the most efficient distribution of goods and services, but to the entire value proposition provided to the customer. In this respect, the term channel relates to the overall sales and distribution process, rather than to a specific channel, to determine how services or products are sold, which distribution

strategy is chosen and what after-sales services are offered to increase customer value, in compliance with the value proposition.

- (6) The customer component includes all markets, submarkets and customer segments.
- (7) The objective of customer relationship management is the development of sustainable customer relationships, and is less about tactical sales management issues than the fundamental customer relationship structure: identifying the channels, which are core to effective customer communication; the strength of customer relationship in individual customer segments, focus on acquiring new customers or increasing the value of existing customers' business; the differentiation requirement regarding the depth of service provided different customer segments such as self-service or automated services, individual advice.
- (8) Cost structure refers to the relative proportion of fixed and variable costs that must be taken into account in the provision of a service, or in creation of a product. The concept of cost structure in classical business administration is a tool to determine product prices and to control costs, reducing them if possible. In advanced forms of accounting, transaction costs, sunk costs, marginal costs and opportunity costs are also included in cost accounting. The concept of the cost structure by Osterwalder and Pigneur (2010) goes beyond this classical concept in respect to determining cost structure or price positioning. The two main options are low price value or a premium value proposition; the premium price strategy implies quality leadership and the low price/high quantity strategy infers that economies of scope and scale operate and cost leadership is the model. As a consequence, different approaches to managing the cost structure are devised.
- (9) The revenue stream component refers to the sales model, which generates the company's cash flow at the level of individual customer

segments, by means of royalties, user fees, subscription fees and rent, for instance.

Therefore, the systems component model (Osterwalder & Pigneur, 2010) describes and analyses the existing business models or affords a means to design and to develop new business models, in other word to re-structure existing business models. This approach moves beyond traditional approaches in the sense that the company is not divided into its functional parts but conceptualised as a network of stakeholders linked through specific core processes. Hence, Osterwalder and Pigneur (2010) offer an alternative view to the classical theory of the firm, because factors such as firm resources, core competencies and production process, form only some of its constituent parts. These components represent the surface level of the firm. However, what is more decisive in improving the firm's performance, is the way these constituents are linked and work together.

2.2.2 Business Model, Innovation and Firm Growth

Despite the fact that business models have gained much attention in theory and practice in recent years, as yet there is no generally accepted business model concept or theory (Schallmo, 2013, p. VII). The Osterwalder and Pigneur (2010) systems model of the firm cannot explain business growth by determining one, two or three key growth components, which represent an advantage and a disadvantage. Whilst Osterwalder and Pigneur (2010) provide a general model, which can be applied to all companies regardless of their economic sector, size and, ownership structure, for example, this approach fails to explain firm growth. Therefore, Osterwalder and Pigneur (2010) tried to derive generic business model strategies from their business model framework, resulting in three strategies: (1) product innovation, (2) customer-relationship and (3) infrastructure management.

Figure 7: Generic Business Model Strategies According to Osterwalder & Pigneur

	Product Innovation	Customer Relationship-Management	Infrastructure Management
Economics	Early market entry enables charging premium prices and acquiring large market share, speed is key	High cost of customer acquisition makes it imperative to gain large wallet share - economies of scope are key	High fixed costs make large volumes essential to achieve low unit costs; economics of scale are key
Culture	Battle for talent; low barriers to entry; many small players thrive	Battle for scope; rapid consolidation; a few big players dominate	Battle for scale; rapid consolidation; a few big players dominate
Competition	Employee centered, coddling the creative stars	Highly service oriented; customer comes-first mentality	Cost focused; stresses standardization, predictability and efficiency

Source: Osterwalder & Pigneur (2010, p. 59).

All three generic business model strategies show different economics, require a different corporate culture and lead to a different competitive behaviour. Therefore, the success of a product innovation business model requires early market entry for example, which enables a company to acquire a large market share and to benefit from a premium price (Osterwalder & Pigneur, 2010, p. 59). However, the innovation advantage requires more talent and an employee centred culture, which leads to a battle for talent between rival companies.

The degree to which innovation is possible was considered by Schallmo (2013, pp. 23-24). According to Schallmo (2013) innovations can be process innovation, market innovation, social innovation and performance innovation:

1. Process innovation aims at more efficient production;
2. Market innovation aims at the identification of new markets and the further development of existing markets
3. Social innovation aims at development of organizational and human resources;
4. Performance innovation aims at the renewal and improvement of product performance (Schallmo, 2013, pp. 23-24).

In this respect, business model innovation could initially consist of the development of individual elements of business models, whereas the customer benefits orientation required by Osterwalder and Pigneur (2010) does not necessarily need to be the starting point of business model innovation. Innovation could also be the focus on the company's partners or the further development of its own resources or core competencies, according to Schallmo (2013, p. 29), so that the customer was not the first and immediate goal of business model innovation. The initial stage for creating a business model innovation should be the business environment, which should be analysed by means of corporate environmental analysis, including industry analysis, competitive analysis and the analysis of industry drivers, such as technological, social and cultural factors, as well as the analysis of macroeconomic and social trends (Schallmo, 2013, pp. 33-35). However the reference point of this analysis and its findings is the corporate strategy (Schallmo, 2013, p. 44). The corporate strategy should transfer the corporate environment analysis findings into the definition of strategic activities, targeting an increase in competitive advantage, customer loyalty and customer benefits, whilst also attending to risk management and cost reduction activities (Schallmo, 2013, p. 39).

In addition to incremental innovation, such as process, market, social and performance forms of innovation, disruptive business model innovation is possible. This innovation model does not involve launching new products with new features in existing markets or the acquisition of new customer segments, instead it refers to radical change in the sense of disrupting market equilibrium. The term disruptive innovation is defined by Christensen (1997) as innovation that creates a new market and value network, or disrupts an existing market and value network, displacing established market leaders and alliances. In this sense, the disruptive business model innovation represents revolutionary change in existing markets leading to creating completely new customer and market segments, or the establishment of new collaborations to open up new markets and customer segments, outside of the existing business or existing markets (Schallmo, 2013, p. 61).

The business model concept can therefore be considered to be more of descriptive than of analytical value, however, since this research approach is relatively new its imprecise definitions, which do not enable specific measurement or identification processes, may be explained (Amit & Zott, 2001, p. 494; Osterwalder et al., 2005, p. 19). The relatively recent emergence of the model may also account for the few scientific works, which deal with business models on an empirical level. The existing studies could be divided into quantitative and qualitative studies; quantitative studies applying the analysis of data using different statistical methods and qualitative studies generally include a very limited number of case studies. Studies with larger data sets have usually developed in recent years and most quantitative research studies have been concerned with the typology or classification of business models and their different impact on business success. An example of quantitative study is the research conducted by Malone et al. (2006), which examined the performance differences between the sixteen variants of four business model basic types, finding that the most successful business models were based on knowledge intensive physical products. These researchers based their study on a large database of 10,979 U.S. companies listed on the stock market. A similar study conducted by Pecha (2004) employed a much smaller sample, including 118 publicly traded e-business companies, from which business model types and their success factors were then derived. One of the study findings was that e-commerce business models were successful if they organised an entire Value Chain, instead of being merely a sales outlet for other companies. The success factors of business model design dimensions were examined by Zott and Amit (2007) who found that novelty and efficiency are the main success factors of business models; the study included 170 stock market listed companies. In a second study of 190 companies, Zott and Amit (2008, pp. 19-20) investigated the complementary interaction of business models and corporate strategy and provided empirical evidence that if strategy and business model are handled by a company as separate entities, business success was more likely. In contrast, companies understanding their business model as being their strategy are too fixated on the existing business model that, in the case of business model crises, they hesitate to abandon it and lose their strategic capacity to act.

The qualitative approach to empirical research on business model research is based on case studies for instance studies by Winter and Szulansky (2001), Dubasson-Torbay et al. (2002), Chesbrough and Rosenbloom (2002), and Rajala and Westerlund (2007). These provide very limited evidence regarding business model success factors, where a factor is contributor to a particular outcome but when the factor is critical to success it is referred to as a driver (Regan, Lee & Victor, 2017) (see Table 2).

Table 2: Findings of Empirical Studies on Business Model Success Factors

Researcher	Dataset	Research Aim	Results and Findings
Amit & Zott (2001)	59 listed e-business companies	Identifying success drivers	Four key success drivers are identified: (1) efficiency, (2) novelty, (3) lock-in and (4) complementarity
Winter & Szulansky (2001)	Case studies of banks	Identification of the success factors of business models	Success drivers are only the value-added parts of a business model and not individual departments or complete operational units
Dubasson-Torbay et al. (2002)	Case studies of 8 e-commerce companies	Derivation of a business model typology	Success drivers of business models can be found in the area of Sales and Marketing
Chesbrough & Rosenbloom (2002)	Case studies of 7 technology companies	Identifying success drivers of business models	Not all types of business models are equally successful. The higher the company's innovativeness, the higher is the likelihood of business success
Pecha (2004)	118 listed e-business companies	Development and empirical verification of business model typology based on performance-related components	There is the possibility of classification of homogeneous business model types that can be distinguished by success factors.

Malone et al. (2006)	10,979 listed companies	Identification of business models and their success factors	Classification of 16 archetypal business models, whereas the most successful can be found in the area of knowledge-intensive physical products.
Andries & Debackere (2007)	117 technology companies and business units with technology focus	Importance of business model changes to business success	Companies with at least one business model change are the most successful.
Rajala & Westerlund (2007)	Case studies of 6 software company	Identification of strategic success drivers in business models	Only a small number of resource types such as knowledge and skills are relevant to the success of business models.
Zott & Amit (2007); Zott & Amit (2008)	170 respectively 190 listed companies in the internet industry	Importance of efficiency and innovation in business models and the role of product-market strategy	Innovations and product-market strategy are success drivers.
Bornemann (2010)	2,418 SME growth companies	Success effectiveness of business model designs	The plasticity (flexibility) of business models explains the company's success.

Source: Own presentation.

The most extensive empirical study is provided by Malone et al. (2006) on the basis of a dataset of 10,979 companies, a business model typology consisting of 16 business models is applied, which differs in terms of property rights, asset ownership with significant transformation, asset ownership with limited transformation, use of assets without transformation, trading of assets with no asset ownership and dominant asset, money-capital, property and fixed assets, intangible assets and human capital. The study findings are that physical product creators generate the largest share of revenues in the U.S., 49.6% of the total revenues (see .

). In Table 3, physical creators are typically manufacturers of physical goods, whereas physical distributors are usually wholesale and retail companies and financial brokers are generally insurance companies and financial service.

The most successful business models in terms of profitability and cash flow are knowledge and labour intensive business models, business models based on intangible assets or human capital. However capital-intensive business models, business models with high investments in tangible and investment capital are less profitable and generate less cash flow (Malone et al., 2006, p. 24).

Table 3: Findings of Empirical Studies on Business Model Success Factors

		What type of asset is involved?				Total by Asset Right
		Financial	Physical	Intangible	Human	
What rights are being sold?	Creator (ownership of asset with significant transformation)	0.0% (\$4) 0.0% (\$0)	49.6% (\$6250) 49.6% (\$6863)	0.0% (\$0) 0.0% (\$0)	-	49.6% (\$6254) 49.6% (\$6863)
	Distributor (ownership of asset with limited transformation)	0.2% (\$20) 0.3% (\$46)	14.6% (\$1836) 14.9% (\$2063)	0.0% (\$0) 0.0% (\$0)	-	14.7% (\$1856) 15.2% (\$2108)
	Landlord (use of asset)	14.4% (\$1811) 12.5% (\$1723)	8.8% (\$1106) 8.9% (\$1230)	2.4% (\$305) 3.0% (\$412)	9.6% (\$1205) 9.9% (\$1372)	35.1% (\$4427) 34.3% (\$4737)
	Broker (matching of buyer and seller)	0.4% (\$54) 0.7% (\$96)	0.1% (\$13) 0.2% (\$22)	0.0% (\$0) 0.0% (\$0)	0.0% (\$4) 0.0% (\$1)	0.6% (\$71) 0.9% (\$120)
	Total by Asset Type	15.0% (\$1889) 13.5% (\$1865)	73.0% (\$9206) 73.6% (\$10178)	2.4% (\$305) 3.0% (\$412)	9.6% (\$1209) 9.9% (\$1373)	100.0% (\$12608) 100.0% (\$13828)

Source: Malone et al. (2006, p. 32); Note: Physical creators are typically producers of physical goods (manufacturers), physical distributors are typically wholesale and retail companies, financial broker are typically insurance companies and financial service)

The research into the field of business model success factors therefore consists of a few quantitative empirical studies predominantly devoted to the generation of different business model typologies and different performance measures and of some qualitative studies based on a relatively small dataset, which must be regarded as conceptual studies. However, it should be noted that studies based on quantitative data or quantifiable factors, so that they differ significantly from the majority of the business model literature, which is

descriptive, for instance Osterwalder and Pigneur (2010). Nevertheless, the model theoretical or descriptive research can be understood as a further development of the theory of the firm, because its aim is to dissect the complexity of the firm and to identify the essential parts of the firm, for example the key activities and elements explaining business success or failure. Therefore, the business model approach represents another variation of the design theory of the firm, due to its objective of identifying the essential elements of the firm and their relevance to firm growth, with the intention of developing an instrument to design and further develop business models.

2.4 Supply Chain

Classical Supply Chain research is not included in the framework of the theory of the firm. However, this section demonstrates that the Supply Chain is the initiator of disruptive innovation of the classical retail business model, and particularly the fashion industry models. Therefore, the Supply Chain must be defined either as a support function of the business or as the core of the value chain providing the basis and the infrastructure for a new type of business model, no longer based on the production process as it is the classical fashion industry model.

Hence, the aim of this section is to develop the Supply Chain Management concept from the general to the specific. In Section 2.4.1, the term Supply Chain is defined, and the two main paradigms of recent academic research, Supply Chain versus Demand Chain, are appraised. Section 2.4.2 provides an overview of the evolution of Supply Chain Management concepts in recent decades. Sections 2.4.3 and 2.4.4 focus on the growing importance of Supply Chain management in the context of the strategic management literature. Section 2.5 analyses the Supply Chain management challenges peculiar to retail and fashion business.

The overall conclusion of this Chapter is that, in the retail industry and fashion industry at least, the Supply Chain and Supply Chain Management have

become a strategic business activity, which is not sufficiently appreciated if the Supply Chain is perceived as a mere logistic function of the firm. In contrast, it appears that the reorganisation of the Supply Chain, based on the possibilities generated by digitalisation have led to these specific Supply Chain concepts presenting completely new business models, which can be described in terms of disruptive innovation.

2.4.1 Supply Chain Basic Concepts

Companies from all sectors of the economy are experiencing an increasingly complex environment characterized by (1) escalating globalisation, with advanced procurement and sales markets, (2) an intensifying worldwide division of labour, (3) an increase in customer requirements in terms of quality, time and price, and (4) exponential improvement of information and communication technology as an opportunity to tackle the increasing complexity (Hahn, 2000, p. 11). Against this background, Supply Chain Management gains ever more academic interest in recent years. The term Supply Chain is defined, in the strict sense, as a flow of goods, services, information and money along a chain (Hahn, 2000, p. 12); the direction of flow can be towards the customer referred to as downstream, or towards the supplier and entitled upstream, or in both directions. Although, in practice, a Supply Chain is usually a network of different organisations since a company usually works with more than one supplier and customer, this generic concept of Supply Chain has prevailed, even though it may tend to be simplistic (Busch & Dangelmaier, 2002, p. 4). However, Cox (1999a, p. 211) remarks that a Supply Chain is far from simplistic since it relates to a complex process of transforming raw materials into useful end products, which resembles of web of inter-relationships; the term is useful in presenting a complex process in an easily understood manner:

„It is an easy criticism to argue that the idea of a supply chain is simplistic. This is because the process by which raw materials are turned into end products and services is rarely a simple linear process chain, and much more like a spaghetti web of complex interconnecting

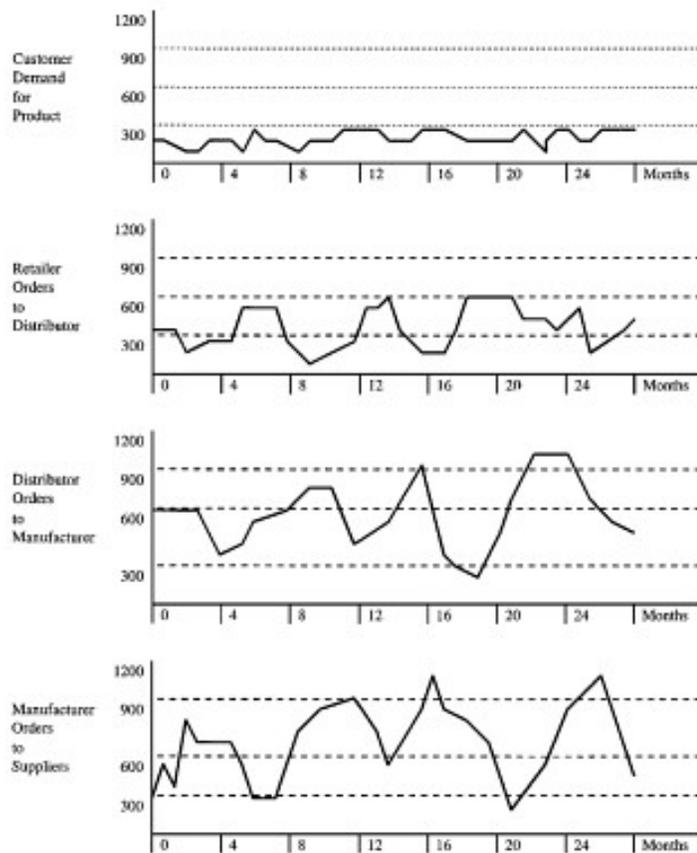
relationships. To argue in this way, however, is to miss the point. The supply chain concept is a powerful metaphor. It simplifies a complex reality." (Cox, 1999a, p. 211)

A simple Supply Chain ideally extends from the origin of a product or its transformed components to the end customer at the point of consumption (Cooper et al., 1997, p. 2) and, according to Göpfert (2002, p. 30), the typical Supply Chain comprises the steps pre-supplier → supplier → manufacturer → retailer → end user. These individual stages are linked by logistics service providers, which are also part of a Supply Chain. Consideration of the Supply Chain in the upstream perspective suggests that the management challenges are very fundamental, since the need for raw materials and supplies in a company generally arise in accordance with the operating plan. When perceived from such a resource-based operational perspective, the requirements can easily be planned in advance but a change of perspective, could catalyse a number of problems.

Due to the ever stronger alignment of the strategic and operational management to the sales market away from the resources and the procurement market, the term "demand chain" is established to stress the orientation of supply chain management to the needs of customers even more strongly (Corsten & Gössinger, 2001, p. 85). This new view leads to new challenges regarding Supply Chain efficiency. From the internal operations perspective, ultimately the only design parameter is the utilisation of production since machines stoppages are costly, but if the perspective shifts to downstream the demand factor becomes the determining factor resulting in the problem that demand is difficult to forecast.

Therefore, an entirely different challenge occurs for planning and organisation, in academic research, this issue is described as the Bullwhip Effect (Forrester, 1961, p. 24). Demand swings develop as a product demand distortion and moves from the customer to the retailer, to the distributor and finally to the manufacturer (see Figure 9).

Figure 8: Product Demand Distortion - Bullwhip Effect



Source: Hugos (2011, p. 186).

This distortion gains visible momentum along the Demand Chain from the customer to the manufacturer. It is a self-reinforcing phenomenon, which makes effective demand-focused Supply Chain Management more complex as it is the case with a simple supply-side Supply Chain Management. Furthermore, in the case of transforming a fashion industry organisation from a traditional wholesale pre-order company to a vertical fast fashion retailer, this effect is likely a very major issue.

2.4.2 Supply Chain Management

The term Supply Chain Management was first used in the academic literature in the early 1980s, in the context of the reduction of inventory levels on an individual company and cross company level (Cooper et al., 1997, p. 1). This logistics-oriented understanding was augmented over time by aspects of cooperation and integration. In the last decade, the concept of Supply Chain Management has developed into a strategic cooperation oriented and enterprise wide management concept that goes beyond the logistics dimension (Kotzab, 2000, p. 27). However, a uniform definition does not exist in theory or in practice (Busch & Dangelmaier, 2002, p. 5; Cooper et al., 1997, p. 1; Corsten & Gössinger, 2001, p. 96; Kotzab, 2000, p. 24; Dobhan, 2012, pp. 47-48). One reason for this inconsistency is the fact that the concept of Supply Chain Management developed in business practice rather than in economic theory (Corsten & Gössinger, 2001, p. 95). Cooper et al. (1997, p.1) notes that "*generally, academia is following rather than leading business practice regarding SCM*" (Cooper et al., 1997, p. 1).

Supply Chain Management has been used interchangeably with Logistics Management (Corsten & Gössinger, 2001, p. 94), although narrowing of the concept to only logistical issues appears to be problematic (Seuring & Schneidewing, 2000, p 230). Supply Chain Management regarded as an extension of a company's logistics function, leads to inappropriate preliminary strategic processes, especially the enterprise wide tasks of product development (Hahn, 2000, p 13; Cooper et al., 1997, p. 2) as well as the meaning of Supply Chain Management as a means of achieving competitive advantage on the market side of the Supply Chain.

A complete overview of the various definitions of Supply Chain Management in the academic literature is not practical since there are so many. However, in the context of this thesis, a selection of definitions, relevant to this study and reflecting the evolution of the Supply Chain concept is considered in chronological order:

(1) Cooper et al. (1997, p. 2) define SCM as “*the integration of business processes across the supply chain*” while Cox (1999b) emphasises its strategic importance rather than just the operational significance: “*Most writing in the area is primarily focused on the supply chain at operational level [...] the supply chain concept has both a strategic as well as an operational importance*” (Cox, 1999b, p. 169).

(2) Corsten and Gössinger (2001, p. 96) cites as tasks of SCM at the strategic level the design (configuration) of the supply chain, i.e. the selection of suppliers and logistic services, and the choice of location for production, storage and distribution. According to Van der Vorst (2000), Supply Chain Management is the planned integration and controlling of relevant business processes and activities, cost controlling, the creation of superior customer value to satisfy all the stakeholders comprising the Supply Chain. Supply Chain Management

“is the integrated planning, co-ordination and control of all logistical business processes and activities in the SC to deliver superior consumer value at less cost to the SC as a whole whilst satisfying requirements of other stakeholders in the SC.” (Van der Vorst, 2000, p. 26)

(3) Hahn (2000, p. 12) defines Supply Chain Management as the planning, management and control of the entire material and service flow, including the flow of information and cash. These flows constitute a network of companies working together in the value chain to develop, create and utilise material goods and/or services to achieve effectiveness and efficiency.

(4) According to Eastham et al. (2001) the purpose of Supply Chain Management is to eliminate barriers between the constituent elements of the Supply Chain, creating a seamless flow, in order to enhance service levels, whilst concurrently reducing cost. The companies in such as Supply Chain comprised organisational department:

“Supply Chain Management seeks to break down the barriers that exist between each of the units in the supply chain to achieve higher levels of service and substantial savings in costs.

Successful supply chain management coordinates and integrates all of these activities into a seamless process. It embraces the different partners in the chain. In addition to the departments within the organization, these partners include suppliers, distributors and transportation carriers, third party logistics companies and information systems providers." (Eastham et al., 2001, p. 330)

- (5) Göpfert (2002, p.32) determines Supply Chain Management as the design of enterprise networks for the development of company-wide success potential through the development, design and control of goods, information and money flows in an efficient and effective way.
- (6) A more extensive description of Supply Chain Management was developed by Basu and Wright (2010), which perceives the process as integrating suppliers at upstream first, second and third tiers, which had impact on the manufacturing process, and downstream to a diverse customer group comprising distributors, wholesalers, retailers and end user variety:

"With an integrated supply chain approach the responsibility for all elements of supply is now with operations management or supply chain management. In many businesses the integrated approach is being extended to include all suppliers (including 'upstream' first, second and third tier suppliers) through the manufacturing process 'downstream' to each level of customer including distributors, wholesalers and retailers through to the end user or customer." (Basu & Wright, 2010, p. 6).

It becomes evident that in the course of the evolution of the Supply Chain Management concept more and more upstream and downstream areas of a company are integrated. The objectives of Supply Chain Management increasingly expand from the flow of goods, information and cash to strategic functions, such as the improvement of the competitive position and the creation of potential for future business success. This is also reflected in the definition by Cai-feng (2009), which summarises the objectives of Supply Chain Management for the fashion industry as the definitive fashion industry success factor, and which extended beyond direct customers and their suppliers, to their customer and supplier respectively as well the flow of raw material to their consumption as finished products by the end-user. Supply Chain Management was regarded as the very core of the value proposition

and with both intangible and tangible elements such as time, place, form and function inferring that timing and location were crucial elements.

“Supply Chain Management (SCM) is the success factor in fast fashion business. It deals with suppliers, with supplier’s suppliers, with customers and sometimes even customer’s customers. It looks at the process from raw materials origin to customer consumption. The output of supply chain is not just a physical product, but a combination of time, place, form and function of a product/service proposition.” (Cai-feng, 2009, p. 61)

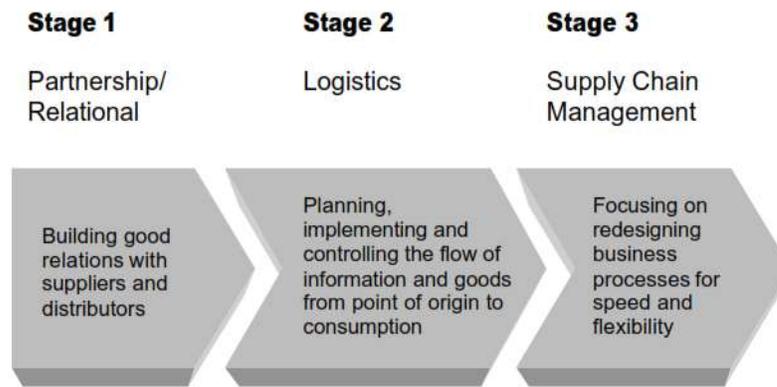
The definition of Supply Chain Management applied to this thesis is: a vital strategic intervention, which integrates all major aspects of business operations in order to generate optimum value creation for the firm, its suppliers at every level, partners, customers and society. Optimum Supply Chain Management therefore relies on the most effective employment of the relevant technology to generate seamless multichannel communication and transactions, leading to exceptional coordination and collaboration between stakeholders, as well as enabling superlative cost, inventory and quality control and compliance stakeholder expectations of flawless ethical principles.

Whilst this definition includes many of the aspects cited in this section, it also focuses on ethical business principles, which are of increasing importance to many stakeholder groups (Blanchard, 2007).

2.4.3 Supply Chain Management and Strategic Management

This evolution of Supply Chain Management concepts in a company can be seen in the context of the corporate lifecycle: growing companies initiate development of their Supply Chain with suppliers and distributors and according to the market development, then at the later stage of the corporate lifecycle, they integrate a logistics management system, either the company’s own or via logistics companies in the market. The last, most advanced stage may be a collaborative eco-system suppliers, distributors and logistics companies (see Table 10).

Figure 9: Evolution of Supply Chain Management Concept



Source: Adapted from Guinipero & Brand (1996, p. 31).

This model generated three distinct forms of coordination (see Table 4).

Table 4: Coordination Concepts in Supply Chain Management

Concept	Coordination Instruments	Structure	Coordination Principle
Market-mediated Supply Chain Organization	Price on a full-cost or marginal-cost basis	Non-hierarchical	Price
In-house Logistics	Instructions Plans Programmes	Hierarchical	Specifications/Orders
Cooperative Supply Chain Management	Negotiations Occasional Regulations Target Agreements Sanction Mechanisms	Non-hierarchical and Hierarchical	Self-Tuning in the Cooperation

Source: Adapted from Busch & Dangelmaier (2002, p. 12).

Collaboration is a form of coordination between companies and between the extremes of market coordination and a vertical integration, which Bea and Haas (2001, p. 419) define as being between several companies in which the economic independence in the affected areas of cooperation is limited to the duration of cooperation, and the legal independence of the partners remains intact. In the context of Supply Chain Management, Lambert et al. (1996) define cooperation as partnerships as customised relations that have the

purpose of leveraging competitive advantage by enhancing performance for the partner companies beyond what they could achieve alone; their basis relied on mutual trust, shared risk and reward and openness:

“A partnership is a tailored business relationship based on mutual trust, openness, shared risk and shared rewards that yield a competitive advantage, resulting in business performance greater than would be achieved by the firms individually.” (Lambert et al., 1996, p. 2)

Three forms of cooperation have been identified; horizontal, vertical and diagonal (Picot et al., 2001, pp. 305-306; Kuhn & Hellingrath, 2002, p. 51). In the horizontal model the partners share the same value and industry sector, whereas in the vertical format, it is companies in the successive stages that are partners, suppliers and customers. Diagonal or complementary cooperation refers to companies in different industry sectors and value chain stages forming a collaborative association, for instance virtual enterprises.

The strategies of vertical cooperation are considered a prerequisite and essential part of Supply Chain Management (Specht & Hellmich, 2000, p. 94), they combine elements of market and hierarchy, in terms of vertical integration, and therefore represent a hybrid of both elements. Vertical Cooperation occurs in the form of licensing and contract manufacturing, franchising, strategic alliances and joint ventures (Boon, 1999, pp. 23-24); an example of vertical cooperation is network, as a form of multilateral cooperation (Galizzi & Venturini, 1999, p 63).

The general aim of the cooperation is to improve the competitive position of the companies involved. The derivable sub-goals of cooperation are (1) Risk reduction, (2) economies of speed (creation of time benefits), (3) economies of scale (achieving cost efficiencies), (4) economies of scope (achieving synergy effects), (5) know-how transfer and (6) positive effects on competitiveness (Kuhn & Hellingrath, 2002, pp. 41-45).

The aspiration is that, through inter-firm cooperation, cost reduction potential can be tapped and flexibility in the provision of services can be increased, whilst focusing on core competencies whilst both parties remain legally and economically independent (Specht & Hellmich, 2000, pp. 92-93).

The favourability of a cooperative form of organisation in the context of Supply Chain Management can be partly explained by Transaction Cost Theory (Bea & Haas, 2001); coordination through markets usually represents a very efficient way of organising production processes and relevant transaction information is available via the price mechanism. However, transactions that are subject to uncertainty, particularly those of a complex nature or associated with specific investments, produce high transaction costs, for example formulating and monitoring contract details. Therefore, the classical market mechanism may emerge as inefficient (Picot & Dietl, 1990, p. 181). In such a case, a hierarchical organisation of transaction relationships provides advantages, however, the vertical integration of adjacent value activities by a company generates acquisition costs, costs related to building management capacity for organising and monitoring, and increased administrative costs, for instance. Therefore, the concentration on core competencies cannot be realised. In this case, cooperative forms of organisation represent a solution:

“Organizational alternative forms of quasi-integration between the market and the firm make sense when high transaction costs preclude a market relationship, and high internal organizing costs preclude vertical integration. In this situation, firms that desire to coordinate adjacent activities, exploiting their interdependence, can do so using forms involving more flexibility.” (Galizzi & Venturini, 1996, p. 63)

From the perspective of strategic management in the context of Supply Chain Management, at least, two dimensions are of meaning in the context of corporate planning and management: the degree or absence of hierarchical organisational structure of the Supply Chain, and the Supply Chain driver. In regard to Supply Chain drivers, five structures can be distinguished (Zäpfel, 1996, p. 266; Van der Vorst, 2000, p. 59; Corsten & Gössinger, 2001, p. 101):

- (1) Make-to-Stock Supply Chain relating to end products, which is strongly forecast-driven and less customer demand driven, products are produced and held in stock, so that customer orders are served directly from the warehouse. Supply Chain Management and production are forecast driven so that lack of end products is highly possible if there is sudden increased customer demand, which triggers remanufacturing.

- (2) Make-to-Stock Supply Chain for generic products, a more customer driven than forecast driven approach.
- (3) The Assemble-to-Order Supply Chain, which is significantly more customer driven than forecast driven and typically employed for customised products using standard components in which the assembly of the final products is triggered by customer orders.
- (4) Make-to-Order Supply Chain, a significantly stronger customer driven with little forecasting and employed for customised products, when the assembly of end products and parts production are initiated by customer orders.
- (5) Purchase and Make-to-Order Supply Chain, this is characterised by being completely customer driven with no forecasting possible. The entire production and procurement of materials and semi-finished products are dependent on receipt of customer orders.

Originating in production economics, these ideal/typical categories are intended to differentiate Supply Chain structures by the types of products. Production economics therefore assumes that the ratio of forecast driven to customer driven focus is determined by the production logic. Even the just-in-time concept of the 1990s, has moved the focus in the production of end products away from the make-to-stock towards the assemble-to-order principle.

The production of complex end products such as cars has already become much more customer-driven than this was the case in the past. In particular, the car industry was dominated by the make-to-stock principle based on long-range planning and forecasts for a long period of time. It is likely that further possibilities in the context of increasing information relating to the classical industrial model, the customer driven Supply Chain will dominate even the end products industry. Therefore, the decision for a specific Supply Chain structure is not determined by the product category but by strategic management and, therefore it is for strategic management to decide for a less or a more hierarchical Supply Chain Management organisation.

A make-to-order Supply Chain is currently useful for tailor-made products but can also be realised, for end products, owing to progressive digitisation facilitating more rapid access to information, for example for fast moving consumer goods such as fashion. Therefore, the decision for a specific Supply Chain management system relies on strategic decision making and the establishment of appropriate Supply Chain organisation. The following chapter shows how flexible, customer-driven Supply Chain management systems in the area of end products are organized in practice which are less forecast-driven, but much more customer-driven.

2.4.4 Recent Supply Chain Management Approaches

According to Lee (2002), at least, four different Supply Chain configurations can be defined under the aspect of uncertainty: the efficient Supply Chain; the risk-hedging Supply Chain; the agile Supply Chain; the responsive Supply Chain (see Figure 10).

Figure 10: Supply Chain Configurations

		Demand Uncertainty	
		<i>Low (Functional Products)</i>	<i>High (Innovative Products)</i>
Supply Incertainty	<i>Low (Stable Process)</i>	<p>Efficient supply chains (Grocery, basic apparel, food, oil and gas)</p>	<p>Responsive supply chains (Fashion apparel, computers, pop music)</p>
	<i>High (Evolving Process)</i>	<p>Risk-hedging supply chains (Hydro-electric power, some food products)</p>	<p>Agile supply chains (Telecom, high-end computers, semiconductor)</p>

Source: Neher (2005, p. 82).

In the retail industry, two major standards have prevailed in the past twenty years and gained wide acceptance: the Efficient Consumer Response (ECR) concept and the Collaborative Planning Forecasting, and Replenishment

(CPFR) concept (Weele, 2010, p. 374). The CPFR approach developed from the ECR approach (Baumgarten & Darkow, 2002, pp. 101-103) and is the basis of the the Quick Response (QR) model (Setaputra et al., 2010, p. 30; Hopper, Northcott, & Scapes, 2007, p. 39). QR represents the strandard from which the fast fashion business model emerged and disrupted the traditional fashion business model (Caro & Martinez-de-Albeniz, 2014, pp. 11, 14). However, both the ECR and the CPFR concepts aim to overcome hierarchical Supply Chain management approaches, the ECR can be perceived as the manifestation of the efficient Supply Chain concept whilst the CPFR represents the responsive Supply Chain concept. The following sections provide the rational for the CPFR concept, and therefore the QR concept, being considered to more than just a Supply Chain management concept.

2.4.4.1 Efficient Consumer Response Concept (ECR)

The Supply Chains can be organised within a continuum between market and hierarchy with the extremes of non-hierarchical and hierarchical coordination focus; Supply Chains with hierarchical coordination focus are guided by a single company. The single company defines all the requirements concerning the nature and content of marketing and distribution strategy, as well as the inter-organisational relations in the Supply Chain. Heterarchically, non-hierarchically, coordinated Supply Chains are characterised by a more equitable relationship between parties, in which target definition is accomplished by Supply Chain partner consensus. Different coordination instruments are available for the alignment of autonomous and semi-autonomous units in the Supply Chain, one of these instruments is the Efficient Consumer Response (ECR) concept, which comprises four key components: efficient replenishment, efficient store administration, efficient promotion and efficient product introduction (Eggers, 2000, pp. 227-228):

- (1) The efficient replenishment components refer to the case in which the order is spontaneous and takes place at the Point-Of-Sale (POS), for instance the shop checkout. The scanner data obtained, by detection of

bar codes, is transmitted via the Electronic Data Interchange (EDI) to the suppliers and reinforced by Just-In-Time logistics, the replenishment process is aligned with the actual customer demand. Therefore, the stock of goods is reduced, and zero stock, out-of-stock situations are avoided.

- (2) Efficient store assortment relates to the situation when shelf productivity can be increased by an enhanced turnover rate, as well as by a balanced mix of strategic articles, known as frequency increasers, and profitable articles.
- (3) Efficient promotion occurs as a result of better understanding of consumer behaviour, measures between suppliers and retailers are coordinated to promote sales.
- (4) The efficient product introduction component is characterised by the retailers and suppliers combining their expertise to introduce new products that optimise sales revenues, and reduction in the proportion of products that fail to sell.

The ECR concept is based on the combination of logistical and marketing-oriented approaches and represents a response to high competitive pressure, owing to largely saturated, fragmented markets, which increase fluctuations in demand including inconsistent customer demands made to the manufacturers. (Wildemann, 2000, p 72). The basis of ECR is detailed information about the flow of goods at the POS, and therefore customer purchasing behaviour, plus data transmission via EDI.

Since the EDI infrastructure is connected with high costs, small and medium-sized companies in particular, are increasingly using cost-effective transmission of information via the Internet. The use of the Internet also offers the option to convert the original bilateral information channels in multilateral networks to electronic marketplaces, in which transactions and information exchange are executed (Meier & Hahnenkamp, 2002, p. 124; Wildemann, 2000, p. 69). The ECR ideal was described by Senauer and Kinsey (1999, p. 443) citing the original source the consulting firm, Kurt Salmon Associates, which developed the concept. The purpose of ECR was to enable the most

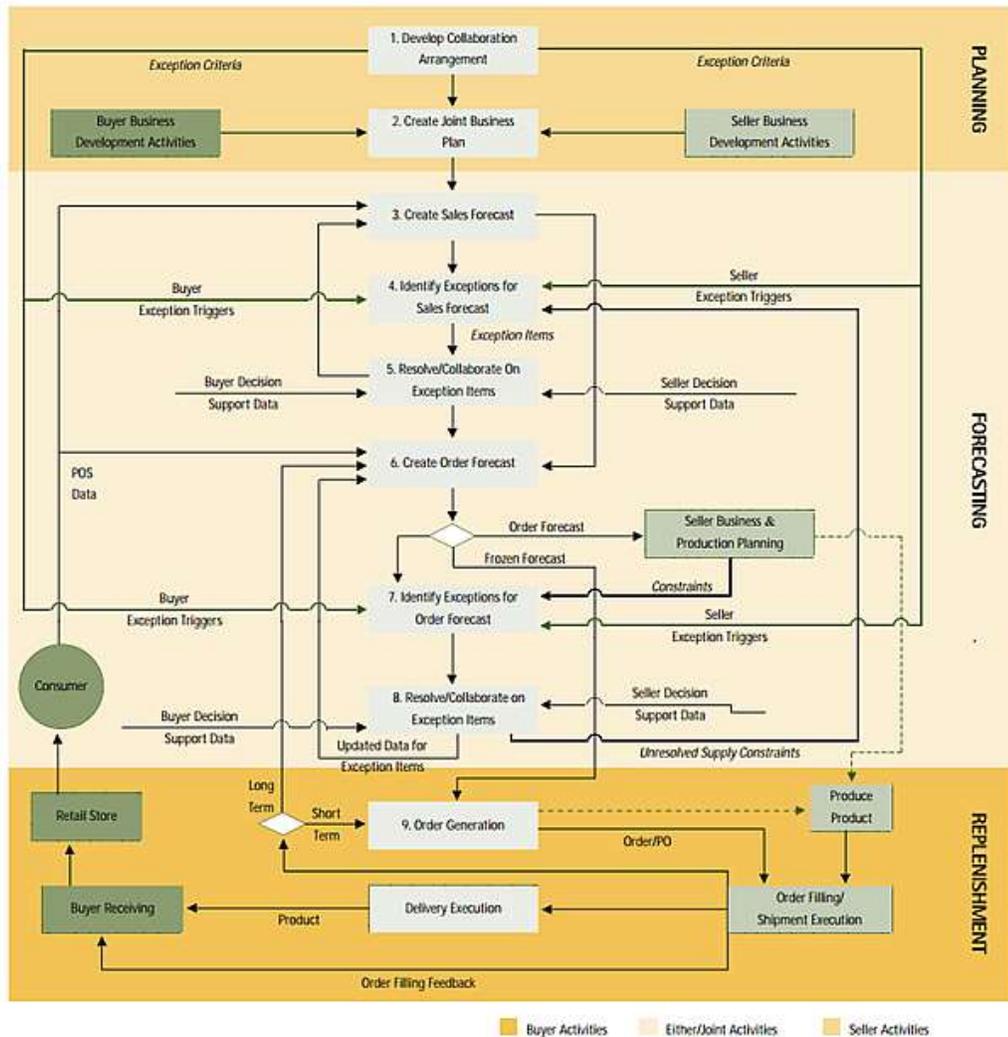
responsive, customer driven system characterised by high collaboration between suppliers and distributors leading to cost minimisation and the optimum level of customer satisfaction:

"The ultimate goal of ECR is a responsive, consumer-driven system in which distributors and suppliers work together as business allies to maximize consumer satisfaction and minimize cost. Accurate information and high-quality products flow through a paperless system between manufacturing line and check-out counter with minimum degradation or interruption both within and between trading partners."
(Kurt Salomon Associates, quoted by Senauer & Kinsey, 1999, p. 443)

2.4.4.2 Collaborative Planning, Forecasting and Replenishment (CPFR)

CPFR, which represents an enhanced ECR model, is based on the joint planning and forecasting of sales and order volumes, as well as cooperative inventory management. Hence CPFR is also characterised by the equitable cooperation of industry, trade and logistics service providers and one limitation of ECR based projects should be resolved (Baumgarten & Darkow, 2002, pp. 101-103). The CPFR concept originated in the United States and its voluntary guidelines were first published by the Voluntary Interindustry Commerce Standards Association (VICS) in 1998. They were elaborated by the CPFR Committee, in which numerous well-known companies from different industry sectors are represented. The major goal of CPFR is described by VICS (2002, p. I2) as providing high levels of customer satisfaction by accurately balancing supply and demand, by means of accurate, systematic trading partner collaboration, which removes the constraints to effective operations, and is underpinned by information exchange and focus on cases that do not meet the required standard, in other words exception based management. The data and documents necessary for the implementation and operation of the CPFR activities were standardised in a nine-stage process model in the VICS-Guidelines (VICS, 2002, S. II-4).

Figure 11: The CPFR Process Model



Source: Accenture and ECR Europe (2001, p. 18).

The CPFR implementation process starts with three steps (see VICS, 2002, pp. II-3, and Figure 11):

- Step 1 ‘Planning’ (see stage 1 and 2 in Figure 10): The collaborative output of this step are at least two documents: collaboration arrangements and a joint business plan. These documents also include indicators for measuring the impact of cooperation on the partners’ business activities and their results. The CPFR Guidelines provides templates customizable to the individual case model agreement. The

business plan includes the definition of department roles, department goals and department tactics (Seifert, 2001, pp. 356-357). In this plan, proposed sales promotion measures are included.

- Step 2: 'Forecasting' (see stages 3 to 8 in Figure 10) In this phase of the CPFR process purchase order and sales forecasts are created by both parties, exceptions to these forecasts are to identify and further collaboration requirements are to clarify by the partners.
- Step 3: 'Replenishment' (see stage 9 in Figure 10): The third and final phase of the CPFR process is triggered by orders. The process is from order generation to delivery execution is implemented according to the results of Step 1 and 2.

Rode (2002, p. 32) summarises the advantages and improvements through the use of CPFR as follows: (1) Better forecasts, (2) less out-of-stocks, (3) smaller stocks, (4) less non-seller, (5) lower transport costs, (6) better factory utilization, (7) less overtime; (8) less capital commitment due to lesser risk provisions, and (9) higher customer satisfaction with increased sales. Also, the already mentioned bullwhip effect should be minimized by CPFR (VICS, 2002, pp. V-2).

2.4.4.3 Contemporary Development in Supply Chain Management

Two important relatively new elements of Supply Chain Management, which are relevant to this research are rapidly emerging, the use of more advanced technology artificial intelligence and the associated algorithms for planning and management and demand for sustainable supply chains (Scheider-Maul, 2017; EYGM 2016).

Algorithmic supply chain planning means that many processes will be automated, the planning function can be optimised accompanied by faster decision making and the opportunity to test various risk scenarios. This development is particularly important in fast moving goods sector, characterised by peaks and troughs of demand, and because it will be possible

to better understand customer demand patterns; these aspects represent a means to competitive advantage in the fashion sector. Management will have the responsibility of selecting the most appropriate data sources (Schneider-Maul, 2017; Hashimoto and Kubo, 2016).

Sustainability has become a major issue in Supply Chain Management for a number of reasons, and crucial to this research are the concepts of organisational reputation as a responsible company, which is increasingly important to end users and other stakeholder groups and reduction in corporate risk (EYGM, 2016). Various aspects of sustainability such as geopolitical conflict, optimum use of raw materials, workforce health and safety, exploitation of labour such as child labour, new legislation and environmental disasters, impact on both reputation and risk (EGYM, 2016); environmental, economic and societal aspects representing an integrated approach to Sustainable Supply Chain Management (Zhu and Hu, 2017). Therefore sustainability in the supply chain has become as important as optimising procurement practices, cost and speed of delivery, according to research by EYGM (2016), such that firms should integrate sustainability practices into all tiers of the supply chain. Optimising the use of technology is considered to be the major intervention for accomplishing a sustainable supply chain and, which enables transparency in operations as well as accountability and capacity to traceability by means of complementary performance metrics and procurement strategies (EYGM, 2016).

2.4.4.4 Conclusion: ECR and CPFR

One of the first companies to implement ECR was Wal-Mart, which focused on closer cooperation with suppliers to improve the quality of the process and customer service, the efficiency of production, inventory turnover, revenue per sale and operating profit (Pfeifer et al., 2008, p. 2). The implementation of ECR was highly successful, and contributed much to Wal-Mart's success, and resulted in IT companies such as SAP initiating collaborative projects that led to the development of the first version of CPFR (Pfeifer et al., 2008, p. 3).

Companies from diverse industries, for instance, Metro, Tesco, Daimler, Proctor & Gamble, Hewlett-Packard, Levi Strauss, etc. have implemented CPFR (VICS, 1999, p. V; Pfeifer et al., 2008; Logistik heute, 1999). A sub-discipline in academic research evolved entitled CPFR Research (Diaz & Li, 2012, p. 15) suggesting that CPFR is not merely another building block in Supply Chain Management research and practice, but regarded as one of the dominant concepts.

2.4.5 Digitisation

Digitisation/digitalisation refers to a range of technologies based on binary computer code, which are having substantial impact on business operations, and will continue to do as they develop further. Any process can be transformed into digital form, for instance all documentation and business transactions, and the potential for human interaction is substantially increased (Press, 2016); it is “a continuous process that integrates technology supported processes with human interaction and adaptive communications” (Baraldi & Nadin, 2006, p. 1125).

Digitisation is particularly important in the transformation of the textile industry, in which there is constant challenge to produce new collections comprising diverse colours and styles, and to make them accessible to customers, in the appropriate quantities and sizes, whilst a transient fashion trend dominates (Barladi and Nadin, 2006). The capacity to reduce time to market is crucial to maintain competitiveness, and is the difficulty of doing so is exacerbated by the fact that the most successful fashion firms design and manufacture in collaboration with many suppliers, sub-contractors and sales agents and/or own outlets. These business and economic relationships include financial investment and development of trust over time as well as common approach to strategy. Digitisation enables the firms in this highly complex and strongly interdependent supply network to be connected effectively so that information flow between the key manufacturer and its suppliers can be optimised (Baraldi & Nadin, 2006; Hakansson & Waluszewski, 2002). The study of an Italian

home textile manufacturer by Baraldi & Nadin (2006) examined the challenges in optimising digitisation in this business, which had only two collections a year and found four main issues for management. The first challenge was to align the strategies of all the firms in the network since there were different perspectives on IT, information exchange and security, and complemented by lack of understanding of the process and IT needs of the various companies, which all needed to be coordinated. Understanding cognitive processes and cycles in each of the relationships was also required to sustain and strengthen them when IT infrastructure was designed. The fourth challenge was the difficulty of integrating the technology with the physical processes, human interactions and new ways of communicating (Baraldi and Nadin, 2006).

However, digitisation is not merely important to relationships, but also to physical supply chain processes, which are faster and more effective, particularly as manufacturers can adopt, design and deliver smart, connected products, which make them more competitive in their sector (Porter and Hepplemann, 2014; Peppard 2016). Four new capabilities are responsible for this added competitiveness: the presence of sensors embedded in products are effectively able to monitor their location and condition, and report on them in real time; products are controllable owing to the presence of software sensors or software in cloud, and therefore the number of employees an organisation required is reduced, whilst customers can customise products and personalise their interactions with the firms: product operations, maintenance and capacity utilisation can all be optimised by algorithms and analytics; products can operate, coordinate with other products and services and self diagnose autonomously because they have access to data monitoring them, to remote control and to algorithms for optimising their functioning. In this study, higher effectiveness in locating products, conducting inventory, knowledge of product condition and optimum resource utilisation are particularly important to retaining effectiveness.

2.5 Fashion Supply Chain Management

As discussed in section 2.4, the observable modelling of real Supply Chains did not emerge from academic theory, but from the initiatives of enterprises. In the following section, therefore, the development and importance of Supply Chain management is presented from the perspective of the apparel and fashion industry.

2.5.1 Supply Chain Management as Competitive Advantage

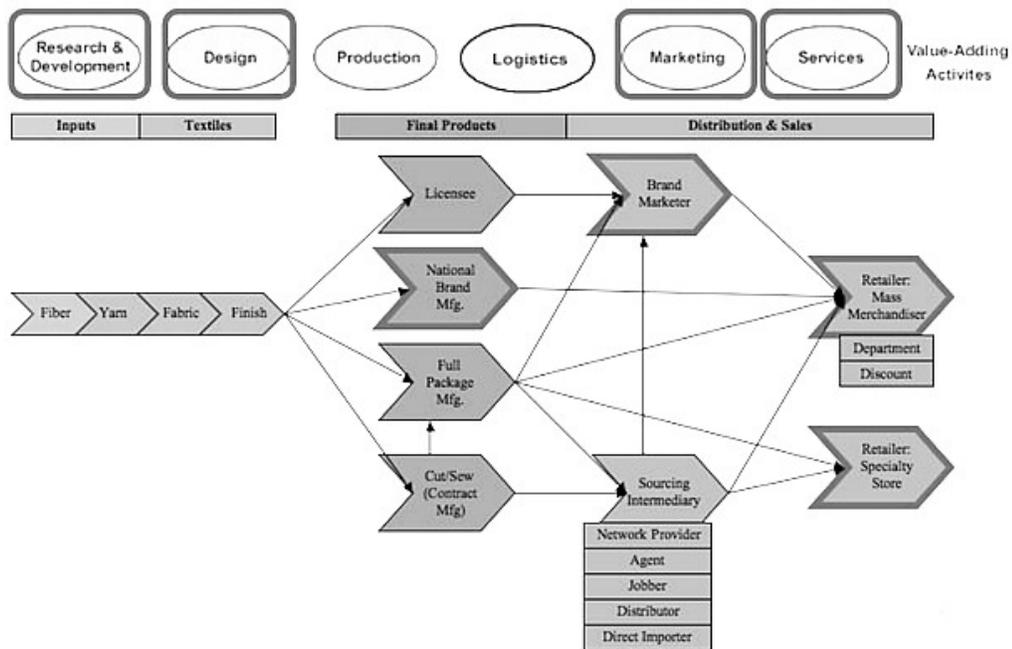
Uncertainty is a defining characteristic of competition among companies, which is increasing as a consequence of several factors; the globalisation of value chains, the convergence of low-cost communications and computing, and the increasing capability to extend product variety. Product and technology life cycles are likely to continue to shorten, because the end-customer continuously demands greater choice and enhanced product value, which exacerbates the challenges of forecasting demand and planning production and supply.

The traditional competition factors quality, cost and price are increasingly supplemented by the factor time, owing to shorter product life cycles, the global extension of value chains and higher flexibility requirements from the market, which also requires more than products alone. Therefore, the classical value proposition, which was mainly embodied in the product and its features, is extended to a product-service value proposition, which requires the customer to specify his/her demands by selecting options, the re-combination of existing and future product features, and the services complementing the product and offering additional value-added (Harrison & Hoek, 2005, p. 204). Therefore, a Supply Chain exists to serve the end customer, rather than the manufacturer, distributor or retailer. The Supply Chain output is consequently a combination of time, place, form and function of a product and service proposition and an important link in the value chain and, therefore, a highly important competitive factor.

The apparel industry and the fashion industry in particular, have experienced these trends for several decades; as a mature industry, fashion is highly competitive, principally regarding costs and intangible product features, and is becoming increasingly characterised by consolidation (Gerreffi & Frederick, 2010, p. 11). The fashion industry typically demonstrates short product life cycles, volatile and unpredictable demand, highly diverse product choice, long and inflexible supply processes, and a complex Supply Chain (Sen, 2008, p. 571).

The fashion industry is one of the oldest global export industries (Gerreffi & Frederick, 2010, p. 2) and whereas production is widely diversified geographically and dominated by China and the European Union (64 % of total global exports) (Fernandez-Stark, Frederick, & Gereffi, 2011, p. 4), the consumption is highly concentrated into three main regions as evidenced by their global market share: European Union (43%); the United States (22%); Japan (6.9%) (Gerreffi & Frederick, 2010, p. 3). As a consequence, the apparel industry of which fashion is an integral part, can be described as an industry with the most advanced degree of globalisation. It is also evident that apparel, and in a particular fashion, is highly decentralised across the entire value chain, which is highly fragmented (see Figure 12).

Figure 12: Apparel Value Chain

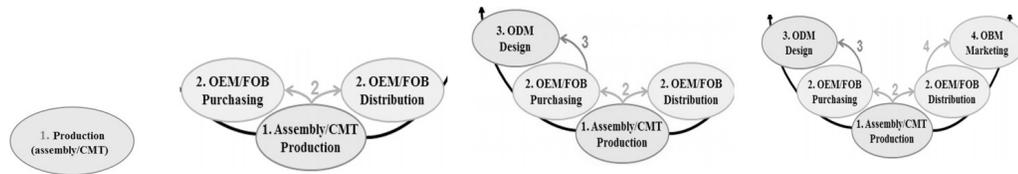


Source: Gerreffi & Frederick (2010, p. 15).

This is especially true from the customer perspective and in the manufacturing of final products. A variety of channels and types of finishing coexist in regard to final products and distribution as is demonstrated by the diverse business models that may include a range of value chain stage combinations; four major upgrade trajectories in the value chain were identified by Fernandez-Stark, Frederick, and Gereffi (2011, p. 16). The first is the Cut, Make and Trim (CMT) Value Chain stage or assembly in which the focus was on production and product focus is relatively narrow. Original Equipment Manufacturer (OEM) refers to as Value Chain stage full package, the second pathway, employed by companies adopting a broader range of functions and adding outbound distribution activities. The third route is Original Design Manufacturer (ODM) or Value Chain stage of product design typified by the firm conducting parts of pre-production processes, such as design or product development or collaborating with designers from lead companies to develop new products. The last of these pathways is Original Brand Manufacturer (OBM), the Value Chain stage is product brand and relates to the situation when the company

maintains a relationship with the customer, fully develops products and establishes own distribution and market channels.

Figure 13: Upgrade Trajectories in the Apparel Value Chain



Source: Adapted from Fernandez-Stark, Frederick, & Gereffi, (2011, p. 16).

The various stages of the apparel value chain are apparent in Figure 13, as well as where the initiation of fashion value chain takes place, whilst CMTs and OEMs are ultimately the only producers of clothing, ODMs and OBM are the actual fashion value chain elements. The up-stream business models, value chain stages, although a part of the fashion value chain are not the part where value is created and realised. The fashion value chain contains the finishing stages in, or the extension of, the apparel value chain, in which the focus is on design, branding, marketing and price premium or high-frequency sales and collection turnover, instead of on production.

The apparel industry exemplifies the paradigm of buyer driven production and Supply Chain (Gerreffi & Frederick, 2010, p. 11) and therefore of a buyer-driven Supply Chain. In the fashion industry activities are performed by lead firms, which are global retailers and brand owners and have outsourced the manufacturing process to a global network of suppliers (Gerreffi & Frederick, 2010, p. 11). Consequently, it can be proposed that the fashion industry is probably leading development of Supply Chain Management.

2.5.2 ECR, Quick Response (QR) and Fast Fashion (FF)

As a mature industry with a globally advanced value chain organisation, the apparel and fashion industries were among the first sectors to initiate optimisation of Supply Chain Management by means of a standardised concept, in parallel with the food retail industry (Choi & Chow, 2008). As a response to strong offshore competition, the American apparel industry introduced a set of initiatives known as the Quick Response (QR) Supply Chain concept in the early 1990s (Sheffi, 2002, p. 4). A QR leadership committee was established in 1994, with the purpose of defining a process to meet the continually changing requirements of a competitive market and promoting responsiveness to customer demand, which encouraged business cooperation, and effective use of resources but also shortened the business cycle (Sheffi, 2002, p. 4).

Figure 14: Benefits of implementing QR in the Fashion Industry

Benefits to suppliers	Benefits to retailers
Improved communication	Fewer buying mistakes
Improved planning systems	Reduce stock holding
Access to sales information	Track merchandise
Track merchandise	Increased stock turn
Do not lose orders	Improve cash flow
Improved production systems	Improve customer service
Increase production	Improved profitability
Reduce stock holding	Competitive advantage
Resilient sales levels	
Preferred supplier	
Increased profitability	
Competitive advantage	

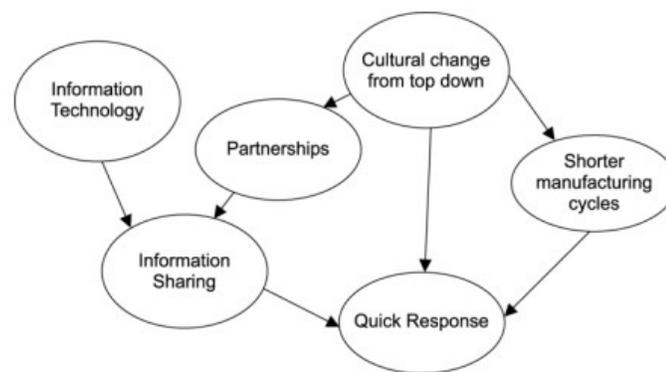
Source: Birtwistle, Fiorito, & Moore (2006, p. 342).

The QR initiative was based on development of the ECR¹ concept, but with the goal of broadening coordination in the Supply Chain beyond the limits of the ECR focus on category management (Sheffi, 2002, p. 4). The ECR concept focuses on enhancement of the effectiveness of the demand creation and satisfaction process through better promotions, new product introduction and

¹ See Chap. 2.4.4.1 Efficient Consumer Response Concept (ECR).

store assortment (Sheffi, 2002, p. 4). QR includes also operational information flow management as well as collaboration by Supply Chain members, effective inventory management and logistic systems (MacCarthy & Jayarathne, 2010, p. 42) (see Figure 15). QR is defined as a concept for organising a diverse range of product and services in the fashion and clothing sector, according to real-time consumer demand by modifying the current organisational system of physical and information flows in both directions at all stages of the value operation chain system (MacCarthy & Jayarathne, 2010, p. 42).

Figure 15: Quick Response Elements



Source: Sheridan et al. (2006, p. 304).

Whilst ECR was upgraded by the CPFR² concept and may also influence further development of QR (Setaputra et al., 2010, p. 30; Hopper, Northcott, & Scapes, 2007, p. 39), QR is the source of development of the Fast Fashion (FF) business model, which changed fashion industry norms by enabling the emergence of allowed dynamic assortment (Caro & Martinez-de-Albeniz, 2014, pp. 11, 14). Fast fashion is a term used to describe clothing collections that are based on the most recent fashion trends, and is an important industrial practice in fashion apparel (Li, Choi, & Cheng, 2014, p. 422). Fast fashion is a business strategy which aims to reduce lead times for new fashion products to arrive in stores, and to satisfy consumer demand at its peak (Barnes & Lea-Greenwood, 2006, p. 259). The objective of fast fashion is to quickly produce a product in the most cost-efficient manner, so that demand for the latest

² See 2.4.4.2 Collaborative Planning, Forecasting and Replenishment (CPFR).

ZARA often offers almost the same or comparable designs as the high-fashion houses, but made with less expensive fabric, at much lower prices. Since most garments are made in five to six colours and five to seven sizes, ZARA's system must deal with an annual average of 300,000 new Stock Keeping Units (SKU). ZARA's designers work on at least two seasonal collections simultaneously, and create approximately 40,000 new designs per year, from which no more than 10,000 are selected for manufacturing (Ferdows et al., 2005). The process of adapting the design to trends continues throughout most of the selling season and is initiated by high-frequency information from the POS. Store managers at ZARA must collect customer opinions on products, report them to the corporate offices on a daily basis, and this customer feedback is then forwarded to the design department so that designers can base new designs on customer's preferences (Divita & Yoo, 2014, p. 25). The POS data is also analysed and compiled into customer demand trend reports. These two information sources are supplemented by reports from continuous trend research, ZARA's retail stores are consequently at the beginning of the Supply Chain, not the end as was traditional. Furthermore, store managers are instructed to remove unsold stock from the sales floor after two to three weeks, which is possible due to the small size of each shipment and the consequence is that unsold merchandise accounts for less than 10% stock, in contrast to the industry average of 17% to 20% (Divita & Yoo, 2014, p. 25). The result of this high-frequency rotation of goods in the shop, leads to a significantly higher customer visit rate, an average of seventeen times annually compared to four visits to traditional retail stores (Divita & Yoo, 2014, p. 25). The high frequency rotation of goods generates sales because zero stock levels or the consumer perception that goods will quickly be out of stock, can stimulate a more frenetic demand for the fast fashion product. Hence impulse buying is the norm rather than risk no opportunity to purchase:

“If some proper and active stock-out management schemes are adopted successfully, stock-out can stimulate more ‘fanatical pursuit’ of fast fashion products. To be specific, if a consumer goes to a fast fashion retail store and finds an interesting product, she knows that buying at once is a “wise” choice because nobody can guarantee that the product will be available next time she stops by. This fast fashion

retailing strategy enhances consumers' impulse purchase." (Li, Choi, & Cheng, 2014, p. 422)

This type of customer demand and high frequency in store stock rotation is only possible because ZARA manufactures 60% of its assortment in-house (Ravasi & Canato, 2010, p. 62), whereas many other fashion competitors outsource production (Hayes & Jones, 2006, p. 283). The consequence is that ZARA has the flexibility to react quickly due to changes in consumer purchase behaviour and preferences. and, as the number of suppliers is severely limited to twenty, predominantly Spanish factories (Leeman, 2010, p. 17), which manufacture 70% of all products sold (Pahl & Mohring, 2008, p. 10) joint planning, collaboration, and information flow throughout the Supply Chain is less complex, and secured by a long period of cooperation.

ZARA has been one of the fastest growing fashion companies over the past ten years and a classical example of how competitive advantage can be accomplished by streamlining the whole value and Supply Chain (Hill, Jones, & Schilling, 2013, p. 92). Therefore, the ZARA model emphasises the growing meaning of time and therefore of Supply Chain management as a competitive factor in the fashion industry: "ZARA's competitive advantage centre around one thing: speed" (Hill, Jones, & Schilling, 2013, p. 92).

2.6 Research on Supply Chain Management in the Fashion Industry

The fashion industry research literature highlights growing complexity within global sector dynamics, in which competition is fierce, particularly within the retail environment, and in the context of a highly advanced global Value Chain and Supply Chain, reflecting the sourcing and additional challenges (Castelli & Brun, 2010, p. 24). As specific fashion firms realign their focus onto their core activities, and outsource the non-core aspects, success increasingly depends on the ability to coordinate internal and external activities along the Value and Supply Chains (Castelli & Brun, 2010, p. 25). Therefore, the

coordination of operations and Supply Chains in fashion companies' success is the major challenge for practice and theory, in relation to operational excellence and building and sustaining competitive advantage. The critical role of coordination has attracted greater attention by academic research in the past few years (Castelli & Brun, 2010; Ballou, 2007) owing to the fact that coordination between manufacturers and retailers in the fashion sector is reliant aligning value chain stages and Supply Chain stages to create end-user value and no longer just a matter of efficiency maximisation (Castelli & Brun, 2010, p. 26). The research literature frequently mentions factors such as style and design, emotional appeal, brand reputation, product quality, shopping experience, and country of origin as critical success factors in the fashion industry (Brun et al., 2008, p. 556). The academic research literature also assumes that price and product quality, for instance styles, material and colour, are the main determinants of consumer purchasing behaviour, and that the higher the retail price, the lower the number of sales but that higher quality, enhances sales (Blattberg & Allenby, 2010, p. 308). However, the cases of ZARA and H&M, for instance, demonstrate a different reality and that time has emerged, in addition to price, as a main competitive factor in the fashion industry (Xiao & Jin, 2011, p. 258). Information flow and coordination mechanisms are a function of time, therefore, the alignment practices and synchronisation mechanisms play a decisive role in the Value Chain management and the management of decentralised Supply Chains, which are typical in the fashion industry. The three main requirements for a Supply Chain in the dynamic context of the fashion industry are free exchange of information and knowledge between vendors and customers, clear roles, tasks and responsibilities for suppliers and customers, and equitable sharing of risks, costs and gains according to Castelli and Brun (2010, p. 27). Therefore, time compression and flexibility are decisive completion factors, but just in logistical terms it is important to foresee what items are being demanded in addition to the traditional need for their delivery to the right time to the right location. The POS at the fashion industry retailer is often the only contact point with the end consumer, and since retailers are taking a leading role in the Supply Chain, fashion companies often concentrate more effort on the upstream rather than the downstream element of the Supply Chain (Castelli & Brun, 2010, p. 26). In

order to increase their control over the sales network, manufacturers are expanding pure retail and franchising networks as well as their direct stores network, for instance Benetton has increased its outlet network recently (Castelli & Brun, 2010, p. 26).

Coordination problems occur in different ways, determined by the type of the retail channel. A questionnaire-based study of 42 Italian fashion companies by Castelli and Brun (2010) sought to investigate, whether the degree of alignment changed according to the retail channel. The findings showed that the degree alignment required was highest for the direct sales stores followed by franchising boutiques, factory outlets and independent stores (Castelli & Brun, 2010, p. 35). The findings reflect the tendency of fashion companies to open more direct sales outlets because this channel allowed greater Supply Chain coordination and control, in contrast to independent stores, which were perceived the most problematic retail channel for companies to accomplish high levels of coordination (Castelli & Brun, 2010, p. 35). Consequently brands/manufacturers are constantly searching for additional ways to improve communication and coordination with retailers, and often create, their own brand retail network (Castelli & Brun, 2010, p. 39). This development demonstrates that control mechanisms are the key success factor in sectors of the fashion industry producing more than merely functional products, which required a physically efficient Supply Chain rather than the high coordination model necessary in fast fashion (see Figure 17).

Figure 17: Fisher's Product/Supply-Chain Matrix

	Functional Products	Innovative Products
Efficient Supply Chain	match	mismatch
Responsive Supply Chain	mismatch	match

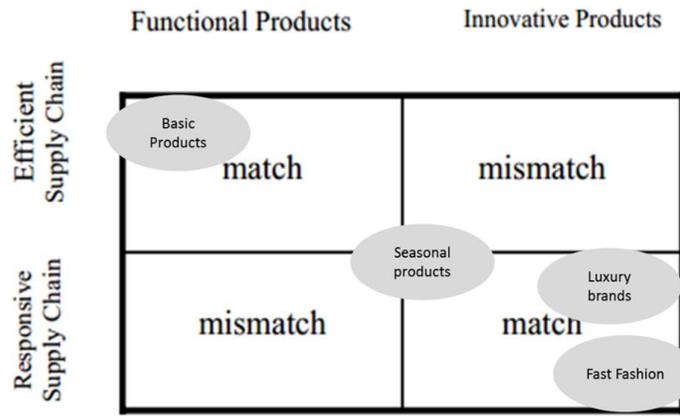
Source: Fisher (1997).

The uniqueness of fashion products should be supported by a different Supply Chain management approach (Bovel & Martha, 2000) since innovative products, such as fashion-sensitive items, need a market-responsive strategy (Aitken et al., 2003) since product availability is a relevant source of value for the customer, and a confirmation of a brand's reliability (Castelli & Brun, 2010, p. 26). Therefore, the assumption that time and level of coordination and information flows, are new and relevant success factors at least in parts of the fashion industry. As mentioned, it is widely assumed in the research literature, that price and product quality (styles, material, color, etc.) are the main determinants influencing consumer's shopping behavior with the higher the retail price, the lower is sales (negative impact) and the higher the quality, the higher is sales (Blattberg & Allenby, 2010, p. 308). Particularly, the ZARA and H&M examples show a different case: *Fast fashion retailing strategy enhances consumers' impulse purchase*. Therefore, it must be assumed that time and thus the level of coordination and information flows are new and relevant success factors at least in parts of the fashion industry.

The apparel market comprises many products, with varying levels of fashion content for example innovativeness and functionality (Sen, 2008, p. 585) and the market can be divided into three categories (Sen, 2008, p. 574), fashion, seasonal and basic. Fashion products, were highly innovative, had a ten-week product life and related to approximately 35% sales in advanced markets such as the U.S. Seasonal' products, had a twenty-week product life, typified by average innovativeness and representing approximately 45% sales of advanced markets. Basic products were functional items, which sold throughout the year and accounted for approximately 20% of advanced market sales. Four Supply Chain management systems were identified in the fashion industry by Cachon and Swinney (2011). They were the fast fashion system, which combines quick response production with enhanced design capabilities, the quick response only systems, the enhanced design only systems and traditional systems which lacked both quick response and enhanced design capabilities. By combining the three different categories of the apparel market with the four fashion industry Supply Chain management systems under the

relationships in the Fisher grid, figure 18, the change in fashion industry business models and Supply Chain approach can be visualised in Figure 18.

Figure 18: SPM, Product Types, and Apparel Business Models



Source: Adapted from Fisher (1997, p. 139).

The more fashionable and innovative a brand is, the more it needs a responsive Supply Chain management system to exploit impulse buying, except when it is a luxury brand, in which the margins derive from quality and a price premium instead of sales volume. This means that directly operated store network, such as ZARA's, must exclude coordination frictions and manage the complexity, which occurs in a more decentralised network of different distributions channels. QR was designed for more decentralised networks, according to Sen (2008, p. 584) QR efficiency presupposes a range of standards for alignment on the retailer side. Sales must be accurately tracked in real time in terms of individual styles, colours and sizes at store, there must be rapid product replenishment in store, stock must be minimised to what is present on the sales floor. In order to accomplish these criteria, logistical support is required as well as manufacturer performance standards for replenishing goods, which, specify standards for order to replenishment lead times, shipment accuracy and delivery information, and penalties for non-compliance.

From the manufacturing perspective the performance criteria must comprise: ability to forecast and plan future production needs based on sales data provided by the retailer; Distribution Centres capable of providing logistical support to efficiently process shipments to multiple retailers; manufacturing practices adapted to producing a variety of styles, sizes and colours at shorter lead time requirements; agreement with key suppliers to meet shorter procurement lead times and smaller minimum orders for textiles, plus other suppliers must accommodate changing demand requirements (Sen, 2008, p. 584).

QR has been widely studied in fashion Supply Chains, although it may not be beneficial for all fashion companies according Choi and Chow (2008, p. 457), since successful QR implementation needs to represent a win-win situation for suppliers, producers and distributors and therefore risk minimisation. The exposure to risk in Supply Chains infers that partners' degrees of risk aversion should be incorporated Supply Chain into the optimisation framework so that it can be coordinated efficiently (Li, Choi, & Chen, 2014, p. 423). This applies to setting conditions regarding price, delivery time and cost, for instance, so that all collaborators in Supply Chain Management better control their individual risk owing to the defined performance conditions. If the negotiation space

"can be reduced here the efficiency of the supply chain increases, because all participants can control their risks better especially in terms of cost, gain as a function of precisely defined target performance conditions" (Li, Choi, & Chen, 2014, p. 423).

Information asymmetries are the main determinants of Supply Chain efficiency. In the fashion industry the Supply Chain is commonly highly decentralised, and the degree of collaboration and information sharing among the Supply Chain partners is relatively low, the supplier for instance is ignorant of many or all of the retailers' parameter values. The analysis indicated that a proposed uniform contract with negotiated space concept, could coordinate the fast fashion Supply Chain under a large variety of problem parameters, even if the supplier did not definitely know the retailer's parameters. Hence offering a uniform contract with forecast values and the facility for negotiations

regarding these parameters, would have significant potential for coordinating the Supply Chain. The nature of the interdependence between players in the Supply Chain, implies that coordination is a prerequisite for integrating operations to achieve mutual goals (Xiao & Chin, 2011, p. 258). Therefore, effective coordination between stages of a Supply Chain plays an important role in focusing on innovation, flexibility and speed, which are the sources of competitive advantage necessary for survival in the global competitive environment (Xiao & Chin, 2011, p. 258). Traditional coordination mechanisms include quantity discount, wholesale price revenue sharing and channel rebate, but they cause much coordination problems, particularly in respect of variations in conditions of fast changing customer demand (Wang et al., 2012, p. 462-464). Therefore, Xiao and Chin (2011, p. 265) propose a markdown money mechanism to coordinate the Supply Chain, which is facing lead-time-dependent demand uncertainty. A Markdown Money Policy, in relation to the Supply Chain is one in which the retailer pays a wholesale price to the supplier or brand manufacturer and later receives a refund from the supplier, which wishes to reduce the price of the specific good, to mark the price down, later in the selling season (Shen, Choi, & Lo, 2016, p.2). The mark down money mechanism was effective in coordinating a Supply Chain, with retail price and lead time deriving from factors external to the Supply Chain, and a revenue-sharing mechanism could therefore coordinate a Supply Chain with endogenous retail price and lead time, in other words originating from between Supply Chain partners (Xiao & Chin, 2011, p. 265).

Recent research has confirmed that Supply Chain management is core competency that increasingly creates disproportionate corporate value (Ellinger et al., 2012, p. 256). ZARA may be an eminent example of the extended basic strategy portfolio of fashion companies: continuous quality, pricing, and production strategies were the key success drivers and exemplar fashion industry business models. The competitive advantage of organisations, such as ZARA and H&M, is not explained by classical strategies in which Supply Chain management is only a method of cost efficiency, in contrast both of these companies apply Supply Chain strategy as business model innovation. The fast fashion concept is therefore more than a new

Supply Chain system, it is a new business model which is effectively based on real-time reaction to customer demand and anticipative design in real-time consumer demand shift, rather than the classical prediction and planning approach. The fast fashion approach generated a rise in the number of fashion collections available each year in response to ever shorter consumer demand cycles for inventiveness, resulting in as many as twenty traditional fashion seasons in one year (Christopher et al., 2004). ZARA and H&M have managed to become leaders in the quantity of styles, by employing information flows and coordination mechanisms that facilitate short lead times and real-time design and exploit consumer tendency to impulse buy.

2.7 Conclusion: Supply Chain Innovation as Disruptive Business Model Innovation

Business model innovation is the fundamental theme of this thesis and the development of models, such as the Integrated Firm Growth Model and the Orchestrator Model reflect innovative changes to primary models such that the transformation in the external environmental is acknowledged, In both cases, the changes to the original models demonstrate new customer supplier relationships, rapid transformations within market structure, technological change and new customer demands. Therefore, the potential for a gap in current business models relating to a new environmental context within a specific industry is a justifiable proposition and one that this thesis seeks to minimise. The generic framework for business model structure, in the context of technological advancement suggested by Chesbrough and Rosenbloom (2000), which focuses on new forms of value, emphasises the potential for greater profit by streamlining the supply chain, as is stressed by the Orchestrator model, and accentuates the importance of market positioning, is flexible enough to support the development of a new model, which generates competitive advantage for this research.

This business model structure is able to incorporate Christensen et al.'s (2004, p. 29) concept of disruptive innovation, which creates a new market and value

chain network, or disrupts an existing market and value chain network by displacing an earlier technology with a new one. The essential difference between the two types of disruptive innovation is that, when disruptive innovation creates a new market, it is difficult to predict the degree of change and how it will impact on markets and business economies, whereas when it disrupts existing markets forecasts of its impact are easier because comparable market data is available (Narayanan & O'Conner, 2010, p. 93). Therefore, it could be proposed that a disruptive innovation must affect the application of a new technology and the degree of market change.

Radical change occurs if a new technique, which is not comparable to existing technology is introduced, or a completely new product is presented, which offers the customer a completely new added value (Norman & Verganti, 2012, p. 5). The concept of disruptive technology can be traced back to Schumpeter (1974, pp. 82-85) who described the modern understanding of innovation, referring to it as creative destruction. The term destruction infers annihilation and the term creative implies something new so that the phrase is concerned with replacing an old entity or concept with something new. Disruptive innovation is therefore innovation on a larger scale that envisaged by Schumpeter (1974), since it destroys markets by introducing new technologies, products or marketing approaches, which have a groundbreaking influence on complete economic sectors, whereas innovation on a smaller scale has only incremental effects. Consequently, disruptive innovation puts the survival of companies in doubt (Evans, 2003, p. 1) and (Christensen, 2003, p. XI) found that most industry sector leaders failed when confronted with revolutionary market and technological change and were eventually replaced by individuals able to visualise and to exploit its power to generate sustainable business.

The examples of Walmart and ZARA discussed above represent an example of companies which mastered reorganisation of Supply Chain management from a support function to a business model key activity. As the result, both companies established a new business model that threatened traditional business models in their industries. In the context of the system of innovation

classification by Schallmo (2013) process innovation in the field of Supply Chain originating from the introduction of new technologies has led to service innovation in the form of fast fashion changing product features by increasing the customer benefits. Process innovation has subsequently made social innovation possible, in terms of changes in the organisational sector, because the information driven Supply Chain has established a direct link between the supply and demand sides of the market. The consequence of Supply Chain restructuring to a totally integrated value chain has led to the development and implementation of previously unused opportunities for differentiation, in terms of the increase of customer values, which is a typical characteristic of business model innovation (Osterwalder & Pigneur, 2010; Schallmo, 2013, pp. 29, 39). The reorganisation of the Supply Chain, therefore led to a disruptive innovation, firstly in the form of deeper integration and flexibility of the value chain, so that the development and production of products begin in the market rather than the firm.

In summary, this Chapter has provided some arguments for why the traditional understanding of the Supply Chain as a mere business supporting function must be questioned. The discussion of ECR, CPFR, Fast Fashion and the Zara Case has provided some indications that the Supply Chain may be the core competitive advantage in some industries in the near future where not firms compete but rather Supply Chains. Consequently, the empirical part of this research examines this assumption through the example of the fashion industry based on the research design as explained and justified in the following chapter.

3. Research Methodology

This Chapter presents, discusses and justifies the research methodology selected for answering the research question, beginning with an appraisal of research philosophies which determine the research design and all the following elements of the methodology. The research approach and research strategy are subsequently considered, and the choice argued on the basis of the overall philosophy. The data gathering and analysis methodology follows, and techniques adopted to optimise the reliability and validity of the research.

Supply Chain Management has been traditionally understood as the optimisation of logistic processes regarding the management of the flow of goods. Therefore, from an ontological viewpoint the Supply Chain is generally perceived as a support service for business key activities. This study identified a research gap by observing recent developments in the fashion industry indicating that a specific Supply Chain configuration, namely the Quick Consumer Response (QCR) or Fast Fashion, is an instrument for disruptive business model innovation. Consequently, this thesis assumes that new forms of Supply Chain organisation have gained strategic relevance beyond moving goods in space and time and, therefore, beyond the operational dimensions of the classical Supply Chain research. The thesis suggests that Supply Chain organisation has evolved from an operational support function to become the core of Value Chain organisation in some industries, a proposition which impacts on the traditional Theory of the Firm. Therefore, three fields of research are included in this research: (1) Supply Chain Management; (2) Business Model with the focus on a specific industry; (3) the Theory of the Firm.

Supply Chain Management is predominantly based on model theoretical approaches, quantitative empirical research and business model research, whilst the Theory of the Firm mostly generates models. Therefore, the empirical research in this study discusses models and examines the effect of the Supply Chain on business performance, based on quantitative data analysis. The qualitative part of the research consists of analysis of interviews conducted with C level fashion industry managers. This chapter develops the

research design and provides justification for the selected methods and instruments, in order to prove the reliability and validity of the study findings. The research design is based on the system developed by Saunders, Lewis and Thornhill (2016, p. 124), and commences with clarification of the research philosophy in Section 3.1, followed by choice of methodology and research strategy in Section 3.2. The employment of the mixed methods approach consisting of quantitative data analysis of 15 leading fashion companies plus expert interviews, which the participants are employees of one of those enables the adoption a case study strategy. However, the expert interviews gather insights beyond the company's operational and strategic management issues. The interviewees are industry experts with a total of 140 years of industry experience and the interview questions mostly refer to industry trends rather than to company issues. The third part of this Chapter, Section 3.3, justifies the data collection procedure and the data analysis in detail. The case study relies on the collection of qualitative and quantitative data. The quantitative analysis applies a conventional statistical test, whilst the qualitative data analysis is based on the concept of thick description, since the interview content is not reduced to numerical data by coding. In the qualitative analysis, the relevant statements provided by the participants are grouped by topics, opinions are cited in their original form as comments of particular issues. In Section 3.4 the reliability and validity of research findings are discussed, ethics in Section 3.5, and Section 3.6 is a summary of this Chapter.

3.1 Research Philosophy: Positivism and Constructionism

The development of research design should start with the researcher's explicit research philosophy, which can generally be assigned to either realism, positivism, interpretivism/constructionism or pragmatism (Saunders et al. (2016, p. 124), and is often based on a *a priori* given values, which the researcher has accumulated in his/her life to date. Research philosophy considered to be system of assumptions and beliefs about the nature of knowledge, rather than a clearly defined concept of the nature of knowledge

and science (Saunders et al. 2016, p. 124). Consequently, the research philosophy emerges rather than being based on rational selection decisions; the researcher tends to select specific methodological choices based on relatively conscious awareness of his/her research philosophy (Saunders et al., 2016, p. 126). Therefore s/he may prefer single methodical approaches such as a purely quantitative approach or a purely qualitative approach, or the mixed methods approach, which integrates the single methods. A positivist stance, for example, would infer a single methodical approach characterised by collecting large datasets and applying statistical analysis to them.

The decision made relating to the methodical choice reduces the range of options of research strategies, for example, a researcher with a positivist stance may tolerate a qualitative approach at the explorative stage of a research project. However, it is extremely unlikely that s/he will choose an action research, an ethnographical research strategy but will favour the critical stance of the survey approach. Therefore, the research strategy determines the range of options for data collection and analysis, and for example: the positivist will prefer statistical tests to identify cause and effect relationships between variables, whilst a pragmatist or a constructivist would conduct qualitative interviews, and prefer content analysis methods such as grounded theory based qualitative data analysis and applying open, axial and selective coding procedures (Saunders et al., 2016, p. 194).

Supply Chain Management has traditionally been considered to relate to the management and optimisation of logistic processes regarding the management of the flow of goods and focused on technical engineering aspects and efficiency issues (Farahani et al. 2011, p. 277). Therefore, it can be assumed that Supply Chain Management research may be predominantly based on positivist view. Wolf (2008, p. 91) states in the examination of the ontology and epistemology of Supply Chain Management that the research published in scientific journals in the period 1990 to 2006 completely adheres to the positivist view, and that none of the studies applied a constructivist lens.

The objective stance to research states an object is independent of the judgment or description of the observer, and therefore positivism assumes that

knowledge exists beyond human mind (Goldman, 2010). In doing so positivism suggests that reality exists beyond the experience of an objective observer, reality is independent of the observer and can be measured and modelled, which leads to objective knowledge (Webber 2004). In essence the researcher observer and reality are separated, and reality also exists without the observer (Webber 2004). The science philosopher Kuhn (1970) criticised this concept of knowledge offering the alternative subjectivist stance that knowledge is socially constructed. In this perspective, researchers interpret the world of objects by reality, which is dynamic and evolving and can be revolutionized by a new paradigm (Wolf, 2008, p. 19); consequently, models and concepts represent schools of thought (Kuhn, 1996 pp. 43-51). The subjective stance to research may adopt a constructivist or interpretivist approach, in which the qualities of objects are socially constructed and do not exist as an observer independent reality. Therefore constructionist/interpretivist epistemological stance on the source of knowledge, opposes the concept of absolute truth (Crotty, 1998). Knowledge is not an insight into objective reality, instead it is constructed by observers through social interactions (Teddie & Tashakkori, 2009). The fundamental view of constructionism is that reality is not exterior and objectively measurable, but socially constructed by social agents assigning meaning to the phenomena of reality, according to Easterby-Smith, Thorpe and Jackson (2012). Constructionism proposes that individuals mentally construct their world of experience through cognitive processes (Andrews, 2012, p. 2) and, therefore, focuses on how individuals understand the world by sharing experiences with other people through language (Easterby-Smith et al, 2012). For constructionists, the fields of interest are not rooted in nature but are a product human thinking and making, in stark contrast to the viewpoint of naturalists, who take a scientific like approach to explaining phenomena. Interpretivism recognizes the important role of the observer and society in constructing the pattern explored by the social sciences (Moses & Knutsen, 2012); the essence of constructionism is the idea that reality is determined by people (Easterby-Smith et al., 2012). In this philosophy, the key task of a researcher is to examine the diverse constructions and meanings that human beings build from their experience, rather than collecting data and searching for specific patterns (Easterby-Smith et al., 2012).

As a consequence, it is necessary to discuss the constructionist research philosophy as well as the positivist approach, in the context of Supply Chain Management research. Supply Chain Management builds and shapes material infrastructure, which is subject to physical laws, but this material infrastructure is constructed by engineers with specific mental models provided by engineering science, and managers who run this system with concepts generated in business science. Thus, Supply Chain Management is by nature an ontological hybrid; the nature of the physical world is such that we can measure it and be objective, whereas the interactions of people who manage the system are not necessarily objective and therefore, humans might be better understood through their interactions and relationships (New, 2004, p. 71). Therefore, positivism and constructivism can be argued as reasonable theoretical perspectives for this research.

The approach to research, technically referred to as research design is determined by the philosophical approach selected, and directs all the remaining aspects of the methodology (Saunders, Lewis & Thornhill, 2008). Three fundamental types of design may be applied, descriptive, explanatory and exploratory: descriptive is often used to gather facts that provide a basis for explanatory research, but which do not enable conclusions to be drawn but profiles of individuals and groups and demographic data for instance. In contrast explanatory research matches the objective stance, and is a structured approach to determining cause and effect links between variables; a deductive or theory testing approach and quantitative methods are associated with this design, The exploratory approach is a flexible method of gathering subjective opinions and feelings regarding uncertain phenomenon, and its purpose is to gain deep insight into the phenomenon under study; an inductive or theory building approach and qualitative methods are employed with this design. In this thesis, the use of the pluralist philosophy means that all three design approaches are integrated (Saunders, Lewis & Thornhill, 2008; Ritchie & Lewis, 2010).

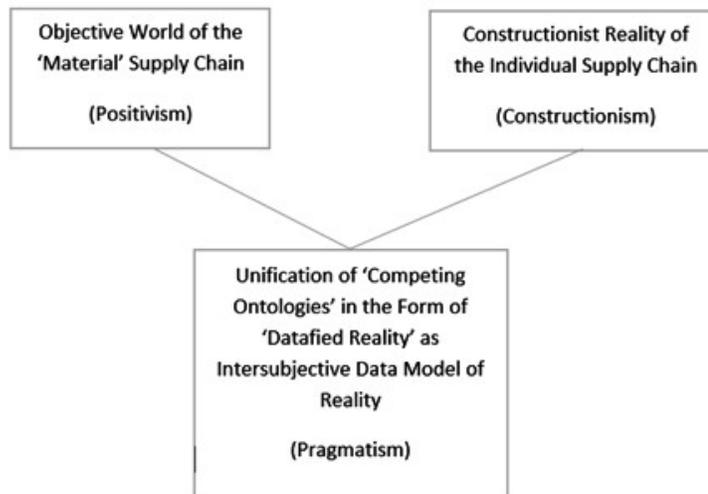
In order to consider the effect of Supply Chain concepts on firm performance, which is the topic of this study, quantitative research can be based on

structured numerical data in the form of financial data gathered from the Annual Reports of sample of fashion companies. This data is standardised as a requirement for stock market listed companies, which are also mandated to publish their financial data in accordance with internationally standardized rules referred to as International Financial Reporting Standards (IFRS) and United States Generally Accepted Accounting Principles (US GAAP). Consequently, this part of research adopts a positivist view by using standardized, numerically structured data, which is employed as objective data on firm performance and Supply Chain indicators.

However, the interpretation of the apparently objective numerical facts must also be appraised from a constructivist perspective, which will be discussed later in this Chapter. Although the objectivist stance underpins this study, in the form of objectively measurable Supply Chain performance indicators on the assumption that reality exists independent of the observer's consciousness, Supply Chains are socially constructed by human beings with diverse subjective approaches to their characteristic features (New, 2004, p. 69). The focus of constructivism is to uncover ways in which social reality and individual social phenomena emerge; constructivism explains how institutions, such as organizations, are a result of social interaction (New, 2004, pp. 69-71). Therefore, in the interpretivist stance, reality is socially constructed by the meaning people assign to objects surrounding them and, therefore, human attitudes and concepts must be investigated (New, 2004, p. 71). The key task of a social scientist is to examine social constructions and meanings that people build from their experiences, rather than to gather facts and to determine the frequency of specific patterns (New, 2004, pp. 71-73). In this framework, this research observes objective facts such as companies' financial performance indicators, and how managers assign sense to real world objects through management activities based on their mental models of reality based on their beliefs and experience. This research is, therefore, based, on positivism and constructivism/interpretivism and examines the changing meaning of Supply Chain organization on the level of measurable effects, and at the level of agents assigning meaning to changes in the configuration of objects in the real world.

A third approach also influencing this research, pragmatism, which refers to how the practical use of a model, an idea, or a concept determines their truthfulness. The truth of a model is confirmed when the expected outcomes of an action based on the specific model occurs (Müller, 2005, p. 353). Consequently, knowledge is not considered to be an objective fact (Müller, 2005, p. 353), but a result of intersubjectivity and, therefore, characterized by situation dependent variability in that model, since its usefulness is intersubjectively recognized (Müller, 2005, p. 353; Hunt, 2002, p. 87). This infers that respective, objectively measurable factors, under the conditions of different agent constellations and their attitudes and knowledge, initially lead to different forms of socially constructed Supply Chain organization, which are based on intersubjectively recognized concepts, in terms of their usefulness (Rescher, 2012, 128, 229, 247, 277). Intersubjectivity can be assumed to become even more significant as the virtual and data driven real world continues to emerge. As stated in the Literature Review, and as will be demonstrated by means of the analysis of the expert interviews in the empirical part of this thesis, Supply Chain Management increasingly integrates the organization of data collection and information flows. Consequently, database organization of data as the representation of real world objects and customer behaviour in space and time, produces an observer dependent reality. This generates a specific reality that is based on material objects with measurable characteristics, socially constructed relationships between the objects and their representation in the database created by an intersubjective firm specific model of reality, a data model, see Figure 19.

Figure 19: The Relationship between Objectivism, Constructionism, and Pragmatism in this Thesis



Source: Own Presentation

This approach to this research can be summarised as relying on three paradigms: positivism, constructionism, and pragmatism with main focus on pragmatism. The objective world is presented research by the analysis of quantitative data in the form of financial data, whereas the constructivist viewpoint is represented in the form of qualitative data collected by means of expert interviews, which sought to gather attitudes and descriptions concerning the interviewees' mental models of past and present Supply Chain organization. The pragmatist view is represented by the expert statements reflecting characteristics of their data models, representing the real world, and the statements made by the participants concerning the relationship between business model changes and datafication.

3.2 Methodology and Research Strategy

The following sections discuss the choice of approaches applied in this research, based on the hybrid research philosophy driven by the nature of the research object, and leading to a mixed methodology comprising integrated qualitative and quantitative approaches.

3.2.1 Multi Methodical Approach: Exploratory Approach

Business research can be divided into qualitative and quantitative studies, according to the nature of data collected (Sontag, 2012, p. 124). Qualitative research always has an explorative nature, which relies on collection of text or oral statements, and evaluation conducted without the application of statistical methods; quantifiable factors are not generally taken into account to any significant extent. This method is particularly suitable for case studies, in which a small number of cases are considered (Sontag, 2012, p. 124; Herr 2006, p. 92). Quantitative research applies statistical methods to examine the relationships between variables, such that numerical, quantifiable data must be gathered (Sontag, 2012 S. 125; Herr, 2006, p 80). In this thesis, qualitative and quantitative data are collected so that mixed methods are applied. The qualitative data is collected mainly through semi-structured interviews and evaluated qualitatively; the statements made by participants are summarised and interpreted in direct reference to the research questions. In contrast, the quantitative data is gathered and then analysed using descriptive and bivariate statistical analysis.

The qualitative and quantitative studies can be distinguished by references to their research objectives:

Qualitative, explorative studies are those which usually employ small samples, large samples are rare; these studies are frequently detailed case studies. Since the research does not emanate from theoretical models or have the fundamental purpose of confirming such models, it is based on qualitative data collected by a direct approach with a qualitative focus (Herr, 2006, p 58). Consequently, most qualitative, exploratory studies rely on a specific number of individual case studies in combination with quantitative filters (Herr, 2006, p 58). In this context, the frequent criticism of this methodology is that qualitative data is rather unsystematic, in the form of qualitative interviews, and that non-comparable or reproducible results are produced (Sontag, 2012 p.123, Herr, 2006, p. 83; Dömötör, 2011, p. 59).

Quantitative, exploratory studies have the purpose of revealing structures and relationships between factors or variables, by identifying the variables that actually influence an independent variable from a variety of potential variables. However, an explicit model of suspected causal relationship does not exist at the beginning of the study (Sontag, 2012 p.123).

Quantitative, confirmatory studies are founded on existing theoretical and empirical relationships, which have been studied considerably, and hypotheses that are devised and tested, by means of causal analysis. Therefore, a quantitative, confirmatory study is merely a review of *a priori* presumed relationships and, since it relies heavily on the existing theoretical knowledge and causal structures, fewer variables are tested than in the case of quantitative, exploratory studies. However, contrary to quantitative, exploratory studies, in which statistical correlations do not necessarily describe causal relationships, quantitative, confirmatory studies aim to verify causal relationships (Sontag, 2012, p. 124; Herr, 2006, p. 82).

Therefore, the decision regarding the approach to a specific study depends on two criteria; the state of research and whether the research can be based on existing models. The state of research is important since it determines whether or not hypotheses should be initially explored or not, enabling the decision to be made in favour of the quantitative or qualitative, exploratory approaches. If the research can be based on existing models and theories, the quantitative, confirmatory approach can be selected (Herr, 2006, pp. 81, 83). In this thesis, the researcher proposes that no previous study has provided a similar research question. Therefore, this study is not based on existing models and theories, instead the researcher has developed a model in the context of the Theory of the Firm and this is an explorative case study. Qualitative and quantitative data are collected, so that this study is both quantitative and qualitative with exploratory intention. Quantitative data are gathered in the form of financial data from fashion industry companies, which is analysed using statistical analysis methods. In the second part of the study, qualitative data is collected by means of a questionnaire and subsequently analysed.

Further development of the existing research methods in the field of Supply Chain research was required, Herr et al. (2005, p. 2), who suggests that the mix of survey and case study research may provide value added to Supply Chain management research (Seuring et al., 2005, p. 6). A case study employed in Supply Chain research, typically relies on multiple methods and data collection tools such as interviews, financial data, questionnaires, and corporate documents (Gimenez, 2005, p. 318). Qualitative research is substantially underrepresented in Supply Chain research (Golicic et al., 2005, pp. 17-18, 21), and the mix of the quantitative and qualitative methods offers a specific added value, according to Golicic et al. (2005, p. 20). Therefore, the research design for this study could be positioned in the framework of both requirements, because the first part of this empirical study is a quantitative multi-case study and the second part applies the qualitative approach.

3.2.2 Case Study

The case study (Yin, 2008, p.1) is used for various purposes within social science research, for example it often equates with the empirical technique of participant observation, which is one of many established data collection methods (Nachmias & Nachmias, 1992). However, Yin's (2008) perception of case study goes deeper than this description, and is characterised by the employment of multiple evidence sources including interview, analysis of secondary data, for instance corporate documents and financial data, focus groups, surveys and observation, which may also be analysed by a variety of methods, such as qualitative content analysis, and financial analysis.

The case study is often perceived as a weak variant of the social science research approaches, since case studies are distinguished by their qualitative character, and perceived as resulting in lower objectivity. This viewpoint is driven by the perceived lower extent of quantification and of representative validity or robustness than quantitative approaches, for instance experiment, quantitative standardised surveys with very large samples and analysis of time series data (Yin, 2008, p. 10). However, the purpose of case study research is

to provide an in depth insight into a live contemporary business issue in one or small number of organisations. Therefore it is the depth of new knowledge, which has been gathered from experts that is important rather than generalisability of the findings to the whole population (Polkinghorne, 2005); purpose sampling in which the researcher select suitable experts is employed to ensure that facts and opinions are gained about the phenomenon from those closest to the problem (Ritchie & Lewis, 2010).

Different conceptions of case study research also exist, for example, the case study perceived as an appropriate method for the exploratory phase of an investigation or for descriptive phase surveys or interviews, whilst in the explanatory phase, it is useful to determine causal relationships between the observed phenomena investigated by experiments, a positivist, scientific like stance (Shavelson & Townes, 2002). However, each of these investigative approaches is an empirical research methodology option, because there are different ways of collecting data and interpreting empirical evidence. When conducting case studies, there is a risk that the accusation of lack of objectivity, quantification, representative validity or robustness will apply (Eisenhardt, 1989, p. 553). However, the rigour of research for quantitative studies is based on validity exemplified by credibility and trustworthiness, rather than generalisability, and is accomplished by reporting the findings transparently using the technique of thick description, which allows the reader to understand how interpretations have been made (Ritchie & Lewis, 2010: Ballinger, 2004).

Essentially, the suitability of a case study as the adequate approach, depends on the research objective and the specific research questions. The specific structure and methodology of a case study also determine the quality of the insights gained, regarding validity and scientific added value. In this thesis deep, detailed knowledge is required to answer the research question, so that case study is justified as the strategy.

3.2.3 Expert Interviews

This study does not rely solely on the case study approach, because 15 of the largest global fashion companies are examined in the first phase of the research by the means of financial and statistical analysis, in order to gain deeper insight into the economics of different fashion industry business models and their related performance. This thesis then applies the case study approach to gain deeper insight into one case, the fashion company Esprit. This company is examined in depth using interviews with top management team members, to gain data on management issues in the framework of value chain management, and to examine the relevance of data and information for business success in the industry.

The interviews were conducted during the period from June to November 2015 and employed a pre-prepared set of open questions, which intended to gather the views and opinions of fashion industry experts regarding trends in the fashion industry, the importance of data and information, and changes in the fashion business model, particularly in the relation to aspects such as Supply Chain restructuring and the use of data. The purpose of conducting these interviews was to evaluate the propositions developed in the theory chapter, and supported by means of the quantitative data analysis in the industry analysis section. Top management team members of ESPRIT were recruited to conduct expert interviews; the sample was of five C level managers including three managers who had previously worked for ZARA. In addition, all participants have substantial industry experience, gained over a long time period, which is documented in detail in Chapter 4, Section 4.2.

3.3 Data Collection and Analysis

The collection and analysis of the data was carried out over four distinct phases:

- Phase 1. Collection of quantitative data from the Annual Reports of 15 leading fashion companies.
- Phase 2. Qualitative Case Study conducted as a financial analysis of the 15 companies, in relation to objectives and overall aim of the research.
- Phase 3. Collection of qualitative data by means of questionnaire based expert interviews.
- Phase 4. Compilation of selected statements and discussion/interpretation in relation to objectives and overall aim of the research.

In regard to the data collection methods, two main methods can be distinguished in the field of business research:

- Direct data collection based on expert discussions or interviews, an approach, which is prevalently explorative (Andrew & Halcomb, 2009, p. 71). This approach follows a qualitative or quantitative procedure, which depends on the number of data and their quantifiably.
- The indirect data gathering approach, which predominantly uses a broader data set, such as, financial data and accounting data and focuses on the discovery, confirmation or revision of causal models (Sontag, 2012, p. 125; Herr, 2006, p. 80). This methodology can align with a quantitatively based research strategy.

The indirect approach is applied in this study, in order to examine the causal relations between distinct Supply Chain and Value Chain variables, and to compare the influence of different business models on firm performance. In

the second stage of the research, five Esprit managers are interviewed using a standard questionnaire, which comprises open ended questions intended to gain insight into the changes in business model, which have occurred in the fashion industry over the past 20 years. In these interviews, particular focus lies on the meaning of the Supply Chain organisation and its game changing aspects. In the case of the quantitative research, the variables examined present empirically valid causal relations between the company specific characteristics of Supply Chain and Value Chain configuration and firm performance. The qualitative research, the interviews with experts, generate evidence regarding the changes to business models and the role of the Supply Chain in this context, from their perspective.

3.3.1 Phases 1 & 2: Quantitative Data Collection and Analysis

To examine the impact of Supply Chain, operations and Value Chain on business performance, seven primary variables are collected from the investment research database Morningstar:

- (1) Gross Margin is a company's total revenue minus the cost of goods sold (COGS), divided by the total revenue, expressed as a percentage. Therefore, the gross margin represents the percentage of total revenue that the company retains from selling goods, after incurring the direct costs associated with producing the goods and services sold. David et al. (2002) provide empirical evidence that gross margin is a statistically significant predictor to identify a differentiation advantage (Fritz, 2008, pp. 111-112). A high gross margin indicates revenue growth, which is a positive factor only if cost of sales remains in the same proportion of lower than in previous periods; it is used to compare company growth (Arnold, 2009).
- (2) Market Capitalisation and Market Cap Growth Rate: market capitalisation is calculated by multiplying a company's shares outstanding by the current market price of one share. Therefore, market capitalisation growth indicates an increase in the value of a company,

as perceived by the financial market, which is liable to fluctuation as it is subjectively assessed (Arnold, 2009; Pilbeam, 2005).

- (3) Revenue Growth indicates the increase or decrease in revenues over time and, therefore, measures how quickly a business is expanding, its growth rate, and indicates the successful increase in demand for the company's products but does not necessarily suggest profit trends (Arnold, 2009)
- (4) Payables Period, also referred to as Days Payable Outstanding (DPO), is calculated using the company's financial statements analysis, and is calculated, by taking the accounts payable to creditors figure divided by the costs of sales, multiplied by 365 days. Therefore, this measure exhibits the degree to which the company makes use of supplier credit; an increase in the number creditors is positive in so far as the firm has the potential for acquiring extra interest revenue because the cash stays in its bank for longer (Arnold, 2009; Wills and Robertson, 1991).
- (5) Stock Turnover is the ratio measured in days and determines the number of times a company's stock is sold and replaced over a specified period, usually one year. Therefore, the stock turnover ratio indicates the efficiency of a company in controlling its inventory, and is calculated as costs of goods sold (COGS) divided by inventory, multiplied by 365 days. The more effectively the Supply Chain is synchronised with customer demand, the higher the stock turnover (Harrison et al., 2005, p. 232). Therefore, a company with a more efficient Supply Chain shows a lower number of stock turnover days than one with a high number of days, since the number of days indicates the number of days the company could meet consumer demand without replenishing stock (Wills & Robertson, 1991; Bamber & Parry, 2014).
- (6) The Cash Conversion Cycle is a metric that expresses the length of time in days, which a company takes to convert resource inputs into cash flows. It is calculated as follows:

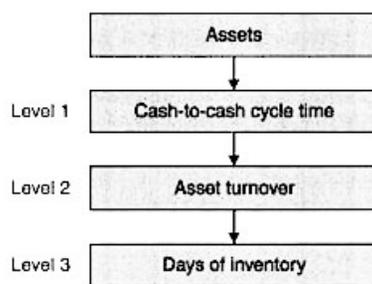
$$\text{CCC} = \text{DIO} + \text{DSO} - \text{DPO}$$

where, DIO is days of inventory outstanding, DSO is days of sales outstanding, and DPO is days payable outstanding. The cash conversion cycle is an indicator of the length of time for which working capital elements in the Supply Chain must be financed (Baltes, 2015, p. 97). Therefore, the degree of efficiency of the Supply Chain generally has a direct impact on the cash conversion cycle (Baltes, 2015, p. 97). The lower the value of the cash conversion cycle, the greater the company's efficiency and management effectiveness since it represents the time lapse between an outgoing payment made to supplier and receipt of the customer's invoice payment (Bamber & Parry, 2014). Cash flow monitoring is especially vitals for companies in the retail industry owing to the seasonal fluctuations it experiences (Havell & Levine, 1996)

- (7) The Return On Invested Capital (ROIC) measures how effectively a company allocates its financial capital to generate returns, and how profitably the invested capital has been allocated; the higher the value, the more effectively capital has been utilised for the intended purpose (Arnold, 2009).

The relationship between cash conversion cycle, asset turnover and stock days, as a measure that examines the efficiency of a company's Supply Chain, was considered by Sople (2012), (see Figure 20).

Figure 20: Relationship of Measures in the Supply Chain



Source: Sople (2012, p. 386)

The asset turnover measures the amount of revenue generated per dollar of assets and is an indicator of the efficiency, with which a company is deploying its assets. However, category assets are directly linked to stock turnover, fixed asset turnover, accounts payable to creditors, accounts receivable from debtors and other assets, so that the measure is very inaccurate. According to Sople (2012, p. 386), the cash conversion cycle, referred to in Figure 18 as the cash-to-cash cycle time, has a direct impact on the asset turnover, which consequently affects the stock/inventory days. Therefore, this thesis ignores the asset turnover, in the context of the descriptive analysis, and uses the original measures only, in the form of stock turnover and cash conversion cycle, to examine the Value Chain and Supply Chain efficiencies. This measure allows a direct inference to be made on the overall efficiency in the management of all assets, but does not enable a direct conclusion to be made regarding the impact on Supply Chain and Value Chain efficiency with regard to firm performance. The asset turnover ratio is introduced as a controlling variable only in the case of statistical tests, which are executed in the second part of this analysis,

The research design comprises of the following three steps:

Firstly, the total sample is examined by the means of descriptive analysis and bivariate analysis, based on all primary data variables, that is, all financial data from the investment research database, Morningstar. In the case of the descriptive analysis, the objective is to compare the total sample, and to

identify any abnormalities, which lead to bivariate tests of distinct variables. In the case of bivariate analysis, all primary data variables are tested simultaneously, in order to identify possible relationships between firm performance variables, ROIC, market capitalisation and revenue, as dependent variables, and the set of independent variables relating to the total sample and, therefore, on the assumption that the sample is representative of the whole fashion industry.

Statistical analysis is then conducted by clustering the total sample in terms of inventory turnover and gross margin, in relation to the total sample average of both variables. Therefore, the subsets derived are coded according to their position in the matrix, as slow turnover/low margin companies and fast turnover/high margin companies.

The companies that also show outstanding performance in the descriptive analysis are compared with each other, to facilitate identification of statistical relationships, which distinguish some companies from all others, particularly in terms of overall performance and Supply Chain performance.

However, these steps in the analysis are not implemented strictly in the order given above, but developed in the form of meaningful presentation of the results, in the framework of a gradually developed argument, based on the results of the statistical analysis.

3.3.2 Phases 3 & 4: Qualitative Data Collection and Analysis

The first part of the qualitative interviews comprised aspects of the Theory of the Firm, focused on current success factors compared with those 20 years ago. The next questions related to the importance to the Company of knowledge and skills, data, production efficiency, corporate planning and the brand. Seven questions, operationalized through 23 sub questions are included in the questionnaire; these are recorded in table 5.

Table 5: Derivation of Questions from Literature Review Concept

Question	Question	Relevant Literature
1a	Which of the factors mentioned were of decisive importance 20 years ago? Please state the three most important success factors and provide the reasons, why each of these factors is less relevant to success today.	Factors mentioned in traditional theories of the firm, classical, neoclassical, resource and market based views of the firm: profit maximisation, pricing, quantity to cost, market size and conditions, for instance Technology, globalisation time to market
1b	How relevant was production optimisation to success 20 years ago? Why is it different today?	Deterministic theories, strategic management approach, internal focus such as resource based view – firm size a key factor Technological change, changing consumer demands
1c	How relevant were the knowledge and skills acquired 20 years to success and what is their current relevance? Why is it different today?	Resource and Knowledge based views of firm, internal competences and skills and capacity to acquire knowledge from outside – strategic planning and relevant models. Technological advances, knowledge age rather than manufacturing age, huge amounts of data
1d	How relevant were data and information to success 20 years ago? Why is it different today?	Limited knowledge inferred by various theories of firm and strategic management approaches Effects of digitisation, globalisation, consumer demands
1e	How relevant was production planning to success 20 years ago and how relevant is it today? Why is it different today?	Internal focus, strategic planning based on market/resource based view (2 collections a year) Technological advance – fast communication, globalisation/intense competition, Consumer expectations of continuous change
1f	How relevant was sales planning to success 20 years ago and how important is it today? Why is it different today?	Classical/traditional theories of the firm based on forward planning, cost reduction, managerial competence product led marketing, limited consumer knowledge. Global competition, consumer led demand, instant communication, continuous change
1g	How relevant was total corporate planning to success 20 years ago and how critical is it today? Why is it different today?	Strategic planning theories and business models employed, market positioning considered important. Models based on manufacturing competences and historical information. Short planning cycles, access to information/digitisation, complexity theories of firm.
1h	How relevant was branding to success-20 years ago? Why is it different today?	Strategic planning including market positioning vital, limited information, firm led. Consumers knowledge and preferences driven by ability to use technology, globalisation.

2a	Which company do you consider to be the industry leader?	Industry benchmarks such as PIMS, BCG, Portfolio Matrix, Porters 5 forces and similar data
2b	Why is the company you mentioned the industry leader? In particular, please think about the success factors mentioned in	Reference to key data, models and industry trends Capacity for use of digitisation for Supply Chain superiority; capacity to manipulate data, meet customer demands,
2c	What can Esprit learn from the industry leader? Please provide at least three learning points and justify the reasons why Esprit must adopt this learning!	Business model change, strategic supply chain models as competitive advantage, optimisation of digitisation and data analysis, collaboration with suppliers, tight control of operations, financial awareness, capacity to optimise technology in every business aspect, limiting production volumes and purchase opportunity. Survival of the fittest
3a	How relevant to success 20 years ago was data exchange with suppliers and distributors, and the general availability of data and information? How important is it today?	Supply Chain theories, based on limited information and contact. Changing emphasis of supply chain integrating technology, higher levels of contact coordination and collaboration with and suppliers and customers- data and information vital.
3b	How important was data collection on customer purchasing behaviour 20 years ago? How important is it today?	Supply chain theories and theories of firm – indicate limitations Intense competition, rapid information exchange leading to high customer knowledge – vital today.
4a	How has data and information availability changed your work in the last ten years? Name the three most important changes, and explain these changes at the daily business level in detail!	Digitisation effect on volume of data, access to information, work processes, transaction and human interaction. Inventory management, retailing processes Employees, fewer with different skills, different management focus ability to interpret data, higher customer interaction and information exchange
4b	In your industry experience, what distinguishes Esprit from other firms in relation to data and information handline?	Fashion supply chain characteristics relating to data and information, and changes in them relative high performing firms
5a	Which company operation has changed the most, for instance marketing, sales and production? Why has it changed?	Seeking retrospective trends in Supply Chain Management focus, fashion retailing business operations, Technology for instance digitisation, customer access to knowledge.
5b	What are the causes of this change?	Digitisation. Globalisation, Nature of Competitor/Fashion Environment, consumer knowledge and demands

6a	Which three major developments or trends will change the fashion industry decisively in the next 20 years?	Perceptions of future trends in supply chain emphasis, impact of developing technology, intensifying competition, consumer demand, management focus, employee skills
6b	What impact will each of these trends have on strategy and the dominant business model in the industry?	Strategic management theories and business models – perceived development in these based on fashion trends
7a	Please define the fast fashion concept in five sentences!	Fast fashion definitions and QR, ECR and CFPR concepts
7b	In your opinion, is fast fashion an independent business model or just an operational excellence	Perceptions of Fast Fashion as a business model concept

Source: Own Presentation

The purpose of these questions is to collect general data on trends, the change in the meaning of data and information, and in Value Chain organization. Therefore, the qualitative part of this research is explorative, collect data to provide answers to exploratory research questions, rather than to confirm existing models. Hence reduction of data is avoided as coding techniques are applied, set answers to questionnaires and other standardizing approaches are not appropriate in this methodology. Instead, the quantitative data are analysed by grouping the answers according to meta topics such as trends, operations, data, Value Chain, and citing original statements as much as possible.

3.4 Reliability and Validity of the Research

The reliability of a study is generally linked to the extent to which other researchers arrive at similar results, by studying the same cases and data and by following the same analytic procedures as the original researcher, according to Field (2009). Since every step in the quantitative data analysis was explained, commented on and derived from analysis of financial data in published company literature, this should be the case for this research. In

addition, the data is extracted from a professional financial database so that the same data is available to every other researcher.

In terms of the expert interviews, the semi-structured questionnaire encourages open ended answers, which should generate different data, the amount of information depending on the interviewer and his/her ability to control the discussion. In this case the researcher, who conducted the interviews has 12 years of industry experience, and these were peer-group interviews in the sense that the questionnaire provided a structure for the discussion. The interviews are enriched by the researcher's industry specific queries, which may not be of an equivalent quality if another interviewer without the same industry background or working experience in terms of years and career level, were to lead the discussion.

A related potential issue is the participant selection bias because the selection of interview partners from only one sector company may be considered as biased sampling. However, all of the interview partners have extensive management experience in the sector, three interviewees were former ZARA managers who can provide a lot of information from different market and organisational perspectives. The interviews are also conducted on both the peer-group level and on high confidence level, because interviewer and interviewees have known each other for a long time. These factors may compensate for any perceived participant bias, since the interviewees have a higher motivation to provide more detailed answers than might be the case of discussion between strangers, for example, in phone interviews. However, the aim of these interviews not to provide representative results, but to generate exploratory data to provide answers to defined research questions and to defend theses, which were never formulated in prior research.

In relation to construct validity, the quantitative analysis, the data collection and analysis methods are standardized; data is based on the IFRS/US GAAP accounting and reporting standards and established financial analysis techniques used to analyse and interpret the data. Therefore, construct validity can be confirmed. However, the qualitative part of this research is subject to subjectivity, as a result of constructing the questionnaire aimed at exploring

the subject matter, instead of confirming or disapproving an existing research model or theory. Diverse other questions could have been devised so that another research study would generate a completely different questionnaire depending from the researcher's exploratory focus; this fact also applies to the external validity. The explorative findings of this research do not provide any model or generalizable causal and effect model so generalisability is not claimed. The objective of the qualitative study is to explore the phenomena, which was not well understood as a consequence of the dearth of such research.

3.5 Ethical Considerations

Regulations exist to ensure that research participants are protected. The University has its own rules which I as a researcher had to ensure that I followed by completing the Ethics Checklist and necessary forms with support from my supervisor. (<http://www2.mmu.ac.uk/graduate-school/for-research-students/starting-a-research-degree/>)

There is also the practice of ethical consideration in doing the research. There were a number of essential matters I considered as part of ensuring that my research was ethical and met generally agreed standards of doing research which were as follows:

- (a) Non-maleficence by ensuring that researchers participating in the study were not harmed in anyway. Participants gave their consent to participate in the study and to allow use of their personal data for the purpose of my study.
- (b) The nature and the purpose of the research were clearly explained to all participants.
- (c) Participation in the study was voluntary (opting out was always possible at any stage).

(d) How their personal data would be stored and used as part of this research study was also discussed and made clear to participants.

(e) Research participant values and comments were given due respect and their opinion is reported in full to represent their views accurately.

(f) All participants were treated fairly and equally during the research process.

There are a number of codes of ethics that helped me confirm my own ethical stance. Some of these were drawn to my attention by my supervisor as follows:

<http://www.soziologie.de/de/die-dgs/ethik.html>

<https://www.britisoc.co.uk/ethics>

3.6 Summary

This Chapter has presented and discussed the research philosophy and derived research design from it. The key concepts, research instruments and research procedures applied in this study were explained and justified; this research is based on a hybrid research design including positivism and constructionism. From this mixed research philosophy which is the consequence of the research field, the research design derived was complementary to the research philosophy. This research applies quantitative and qualitative approaches in the framework of the exploratory research objective. Therefore, this research cannot claim any kind of representativeness, but it claims a high reliability of data and a high validity of the research design and research results.

4. Analysis of Leading Fashion Companies

The major characteristics of the leading global fashion companies analysed descriptively and statistically in this Chapter, and the findings from each analysis is documented and discussed.

4.1 Sample Description

The sample consists of fifteen companies (see Table 6) representing the biggest fashion manufacturers in terms of revenue, and with a multi-channel-distribution approach. The sample includes fashion brands that target the customer segment between 14 and 50 years of age and that buy fashion, including casual and leisure wear, in the medium price segment. Therefore, discounters and luxury brands are excluded from the sample. The selected sample represents total revenues of \$US145bn in 2014, compared with the market value of \$US 1,700bn (Caro & Martinez-de-Albeniz, 2015, p. 273), almost 10 % of the total market revenue share (see Table 6).

Table 6: Sample Companies Revenues (2014)

Company Name	Revenue \$USD millions
American Apparel	609
Kate Spade	1,139
Tom Tailor	1,239
Guess	2,418
Under Armour	3,084
Esprit	3,123
ASICS	3,129
Abercrombie	3,744
Puma	3,950
Fast Retailing	13,138
Gap	16,435
Adidas	19,316
H&M	22,137
Inditex	24,077
Nike	27,799
Total Revenue	145,34

Source: Own presentation; Data: Morningstar Database.

The selected companies show several similarities, such as the variety of distribution channels, customer segments, price segments, and product segments. These characteristics are criteria for the selected sample. This becomes apparent in comparing the company profiles (see Table 7).

Table 7: Company Profiles of the Sample Companies

Abercrombie	Abercrombie & Fitch Co. is a US-based fashion label, which sells streetwear style. In addition to women's and men's clothing, the Group also offers clothing for children and teens plus, swimwear and accessories, for instance handbags, belts and perfumes and a men's skincare range is also available. Fashion and the supplementary accessories are sold exclusively in own outlets or through the company's online shop. The core market is the United States. The brands included in the umbrella Abercrombie & Fitch Co. are Abercrombie & Fitch, Abercrombie Kids, Hollister and Gilly Hicks. Currently, the Group operates branches in North America, Europe and Asia (Wallstreet Online, 2015a).
Adidas	The Adidas Group is a global leader in second place to Nike, the industry leader in sports fashion and street wear, with a comprehensive product range comprising sports footwear, apparel and accessories. The Group is the owner of brands such as Adidas, Reebok, TaylorMade-Adidas Golf, Rockport and CCM Hockey, which are available in virtually every country worldwide. The Group relies on a wide variety of products, and offers top athletes the best possible equipment, as well as leisure

	wear for general customers, which follows the latest fashion trends. The portfolio is therefore designed for the sports and leisure clothing for the mass market and for niche markets. In product development, innovations such as a new damping technology, lightweight clothing, and digital sports technologies are the focus (Wallstreet Online, 2015b).
American Apparel	American Apparel designs, manufactures, distributes, and retails branded fashion apparel products, for example sweaters, T-shirts, denim and jackets, as well as other clothing and accessories for babies, children, men and women. The company's main sales channel is the wholesale channel. The company also supplies T-shirts and other casual wear to screen printers and other distributors, and sells its products directly to customers through its own retail stores (Yahoo Finance, 2015).
ASICS	ASICS is a Japanese manufacturer of general sporting goods and equipment. The company's products include sportswear, athletic shoes, and other sports equipment for example athletic machines, which are distributed in the United States, Europe, Australia, and Asia (Bloomberg, 2015a; Reuters, 2015a).
Esprit	Esprit is a fashion brand involved in designing, manufacturing and distribution of clothes, footwear and accessories for women, men and children. Marketing is handled by the brands Esprit and edc, which represent lightness, authenticity and ease, and present the perfect outfit for every occasion, whether modern, elegant, sporty or casual. Esprit places great importance on longevity, natural materials and sustainable production. The company sells its products worldwide in over 40 countries, through more than 900 of its own stores, and as well through approximately 8,500 wholesale locations. The company also licenses its brand to third party licensees, which are not active in the clothing market. The licensed product groups include accessories such as jewellery, perfume, umbrellas, shoes, and luggage, as well as home furnishing products, for example rugs, lamps, towels and bedding and children's items, such as carrier shells, shoes, school supplies and toys (Wallstreet Online, 2015c; Bloomberg, 2015b).
Fast Retailing	Fast Retailing is a Japanese clothing manufacturer and retailer, distributing through subsidiaries and its own store chain. The main brand is UNIQLO. Fast Retailing designs, manufactures, and retails clothing for men, women, children and babies, and lingerie, as well as other goods. The Company also operates more than 1,000 stores under the labels Comptoir des Cottonniers, Theory, G.U, and Princess TAM.TAM (Bloomberg, 2015c; Hoovers, 2015a).
Gap	Gap is a leading international supplier of clothing, accessories and personal care products for men, women, children and babies, and operates about 3,400 stores worldwide. Its products are sold under the brands Gap, Piperlime, Banana Republic, INTERMIX, Old Navy, and Athleta. The Company maintains its own stores in North America, Asia, and Europe and a number of franchise stores, and an online portal, through which the products are offered in 90 countries. Brand extensions of the main umbrella brand Gap are GapBody, GapKids, and babyGap; each also has its own online presence. GAP designs the products but production is outsourced. All Gap clothing is private-label merchandise, made exclusively for the Company. Gap controls all aspects of its trademark casual look, from the design board to store display (Hoovers, 2015b).
Guess	Guess is a U.S.-based manufacturer and retailer of apparel and accessories for women, men, and children, mainly under brands GUESS, Baby GUESS, GUESS Kids, and GUESS by MARCIANO. Guess operates approximately 1,690 stores worldwide, including more than 830 directly operated stores and concessions in the US, Europe, Canada, Asia, and the Middle East. Another 800 stores and

	concessions are run by licensees in the same markets. Guess also licenses its name for footwear, eyewear, watches, and jewellery (Hoovers, 2015c).
H&M	H&M targets, the hip and modish segment, designing cheap yet chic clothing, mainly for women and men aged 18 to 45 years and for children. The Company operates approximately 3,500 stores in 50 countries, and offers online shopping in eight countries. Germany is its prime market, accounting for more than 20% of sales. The firm does not own production facilities but buys its goods from suppliers, primarily in Asia and Europe. The shops are rented, and are usually located in the best business locations, in shopping malls in major cities and shopping centres. The production is carried out by around 800 independent suppliers, mainly in Asia and Europe controlled by H&M offices for production and quality monitoring. In addition to the core H&M brand, the Company markets clothing under the brands Monki, COS, Cheap Monday, Weekday, and H&M Home. The collections are designed by approximately 160 of its own designers, in close cooperation with buyers and pattern signatories, designs are constantly updated. H&M also presents exclusive collections of celebrity designers such as Versace Cruise, Madonna, Lanvin, Matthew Williamson, Jimmy Choo, Roberto Cavalli, and Comme de Garçons (Hoovers, 2015d; Wallstreet Online, 2015d).
Inditex (ZARA)	Inditex (Industria de Diseño Textil) is a Spanish-based, an internationally active textile industry group with more than 100 subsidiaries. The company designs, produces and sells garments and accessories under the brands ZARA, ZARA Home, Dutti, Pull & Bear, Massimo, Stradivarius, Bershka, Uterqüe, and Oysho, available in over 6,600 stores in 88 countries, and online in 25 countries. Its philosophy is chic fashion that is here today and gone tomorrow, which can be interpreted as the core belief of the fast fashion concept. The Company's activities include the design, packaging, manufacturing, distribution and retailing of womens, mens, and children apparel, plus fashion accessories and footwear, as well as household textile products and home furnishings (Wallstreet Online, 2015e; Hoovers, 2015e; Reuters, 2015b). According to Inditex, the " <i>business model encompasses all the phases of the value chain: design, manufacturing and supply, distribution logistics and retail sales. The offer of an attractive combination of fashion at very competitive prices, the constant renewal of designs and dispatches to stores between twice and six times a week place the customer at the center of the Group's strategy, and the remittance of information on a daily basis from the stores makes it possible to update collections on an ongoing basis.</i> " (Inditex, 2014, p. 221).
Kate Spade	Kate Spade is a U.S.-based designer and marketer of accessories and apparel under the brands Kate Spade New York, Jack Spade, and Kate Spade Saturday. Kate Spade is active in three segments: Kate Spade North America, Kate Spade International, and Adelington Design. The Company operates about 170 specialty shops and outlet stores in the US and abroad, and also sells apparel and accessories online and to department stores. It also owns the Adelington Design Group and supplies JC Penney stores with the Monet jewellery and Liz Claiborne lines. Therefore, the group offers a wide range of products, for instance women's, men's, and children's apparel, as well as handbags, small leather goods, briefcases, fashion accessories, fragrances, and jewellery, and holds licensing agreements for swimwear, footwear, optics, watches, tabletop products, electronics cases, legwear, stationery, and bedding. The Company sells its products through 108 wholly-owned specialty retail stores and 58 outlet stores in North America; plus 42 specialty retail stores, 15 outlet stores, and 54 concessions internationally, as well as through upmarket department stores and several online shops (Hoovers, 2015f; Bloomberg, 2015d).
Nike	Nike is an American manufacturer of sports equipment, and the global leader in this segment, in terms of revenue. The focus of business activities is on design,

	<p>development and distribution of high-quality sports equipment. This includes shoes, clothes, sports equipment and tools, as well as accessories. The Group is one of the largest distributors of sports footwear and clothes, and markets its products worldwide through wholesalers and retailers, brand stores, on the Internet and through middlemen. The different products are produced by external contractors, mainly outside the United States. In cooperation with the subsidiaries and holdings, Nike offers a wide range of sports segment and different lifestyle products, which are heavily geared to the sporting style of the main professional range (Wallstreet Online, 2015f).</p>
Puma	<p>The German-based company is a spin-off from Adidas, and designs and manufactures a range of sports and sport lifestyle articles sold under the labels Puma, Cobra Golf, Tretorn, it operates worldwide through its subsidiaries. While shoes are Puma's original product line, apparel accounts for a growing proportion of sales. The Company divides its operations into the product groups footwear, apparel, and accessories, operates its own retail stores and controls product distribution in many countries. The Company's apparel line offers T-shirts, track jackets, trousers, and hooded sweatshirts. Accessories include backpacks, belts, headwear, socks and utility bags. Additionally, Puma collaborates with renowned designer labels such as Alexander McQueen, Mihara Yasuhiro and Sergio Rossi. A cooperative agreement also exists for lifestyle clothing with the car manufacturer BMW (Hoovers, 2015g; Reuters, 2015c).</p>
Tom Tailor	<p>Tom Tailor is a Germany-based fashion company which offers casual wear in the middle-priced fashion segment for children, young adults, women and men. The Company operates in two main business segments, wholesale and retail. The retail business unit operates stores in Europe and online shops in Germany, Spain, Poland, the Netherlands, Romania, Austria, Czech Republic, India, Belgium and France, amongst others. The product lines are divided into Casual Men, Women Casual, Kids and Minis, Denim Female, and Denim Male. The Company develops and distributes its collections via wholesale and retail channels, in accordance with its philosophy of casual fashion for a casual life, targeting at fashion followers. Tom Tailor's explicit strategy is to identify trends and produce twelve collections a year, not to create new trends, which would entail a much higher sales risk. An extensive network of retail stores, franchise stores, shop-in-shops and numerous multi-label points of sale are the main pillars of the Company's success company. The core markets are Germany, the Benelux countries, France, Switzerland, and Austria. In 2012, Tom Tailor acquired the fashion house Bonita. Therefore, the group targeted older consumers between 40 and 60 years, for the first time (Wallstreet Online, 2015g; Reuters, 2015d).</p>
Under Armour	<p>Under Armour, with headquarters in the U.S., is engaged in the development, marketing and distribution of performance apparel, accessories and footwear for youth, women, and men. It offers sweatshirts, T-shirts, performance bags, socks, baseball batting gloves, cleats, and football gloves, and other related products, as well as clothing for outdoor activities, such as fishing, mountain sports, and hunting. The focus is on moisture-wicking fabrics that move moisture away from the skin and for clothing that is suitable for nearly every climate. The apparel is engineered to replace traditional non-performance fabrics in the field of fitness and athletics, with performance alternatives designed and sold along gear lines Heatgear, Coldgear, and Allseasongear. The Company's footwear competes with strong worldwide brands, such as Adidas and Nike, and according to BusinessWeek, Under Armour is the king of the compression athletic apparel market, reaching down to the elementary school playground, where its \$20-\$40 T-shirts and turtlenecks are treasured compulsory purchases (BusinessWeek, 2006). The Company operates mainly in the United States and Canada; Europe, Latin America, Asia, the Middle East and Africa, with over 120 Under Armour Retail stores. In contrast to all other companies, which show the classical group structure with the separation of</p>

	ownership and management, Under Armour is an entrepreneurial company in the sense that the Company's founder and CEO currently remains the biggest shareholder (Reuters, 2015e).
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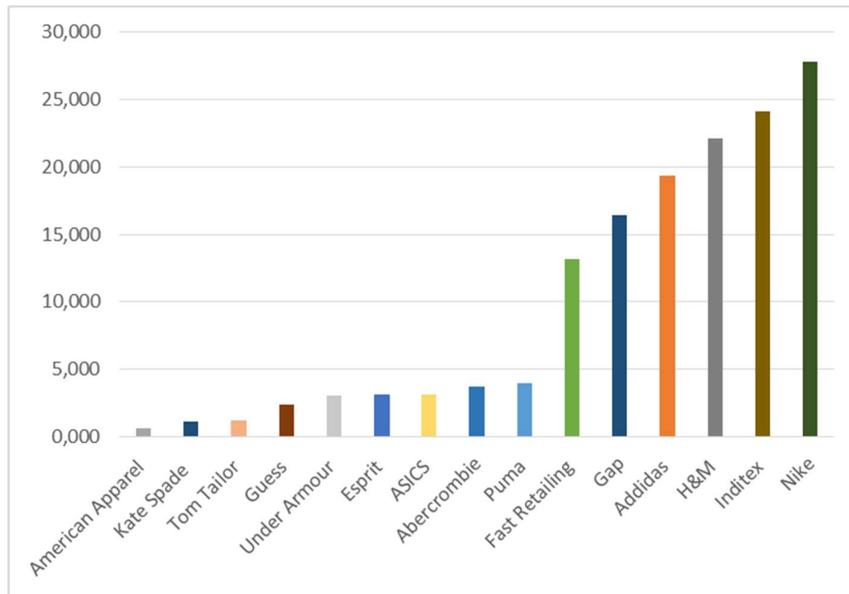
Source: Compiled from the sources cited in the Table.

The sample represents companies that are in direct competition, pursuing a global strategy, and positioned in the casual fashion, mid-price segment, distributing their products through a comparable range of multi-distribution channels. The common denominator can be described as Tom Tailor stated in a company presentation “premium lifestyle brand at affordable price” (Tom Tailor, 2010, p. 10). However, this sample represents approximately 10% of the total apparel market and therefore, the companies are comparable and the sample can be determined as representative of the fashion industry.

4.2 Descriptive Analysis

The examination of the 2014 revenues for the companies in the sample chosen for this thesis reveals two distinct groups: a group with revenues from \$US 2 billion to \$US 5 billion; a second group with a revenue range from \$US 13.1 billion to \$US 28 billion. Therefore, the distribution of revenues suggests a strong discontinuity, implying that a growth barrier exists between the groups (see **Fehler! Verweisquelle konnte nicht gefunden werden.**).

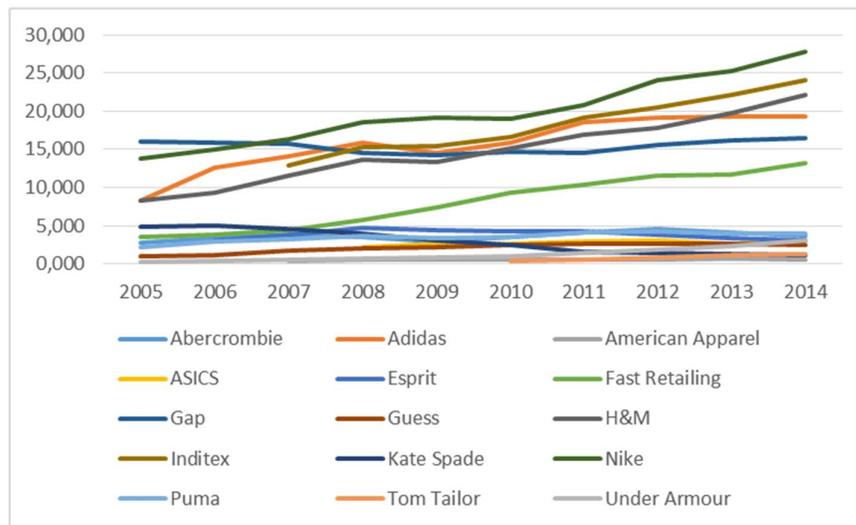
Figure 21: Sample Company Revenues 2014 \$US (millions)



Data Source: Morningstar Database.

If the revenues of sample companies are examined over the period from 2005 to 2014, comparative trends can be identified for instance Adidas, H&M, Inditex and Nike constitutes were the top 4 companies in the sample and their revenues grew at much higher rate than the remaining companies from 2005 or 2007 as shown in Figure 22.

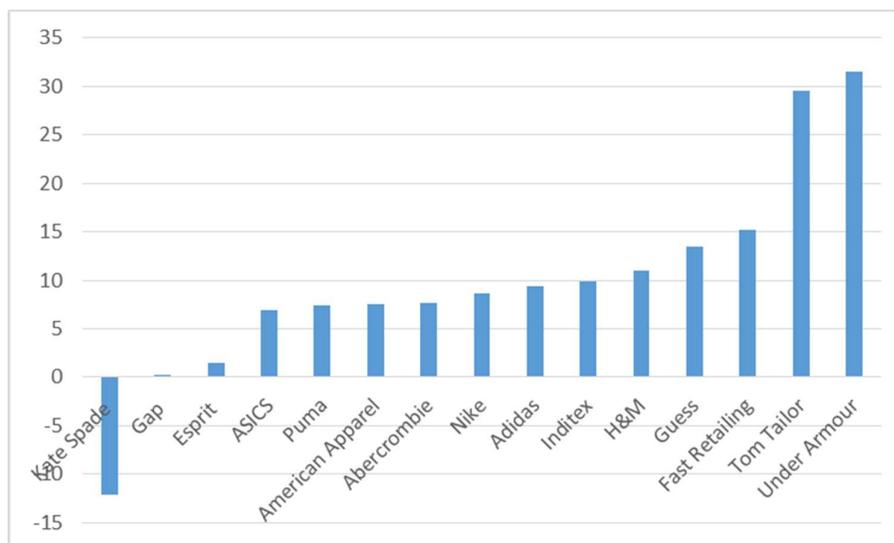
Figure 22: Sample Company Revenues 2005 to 2014 \$US (Millions)



Data Source: Morningstar Database.

Therefore, the sample comprises one group highly dynamic companies in terms of revenue growth and another group of companies with stable longterm revenues, although the second group contains two companies with the highest revenue growth, as demonstrated in Figure 23.

Figure 23: Average Revenue Growth Rates (%) 2005-2014

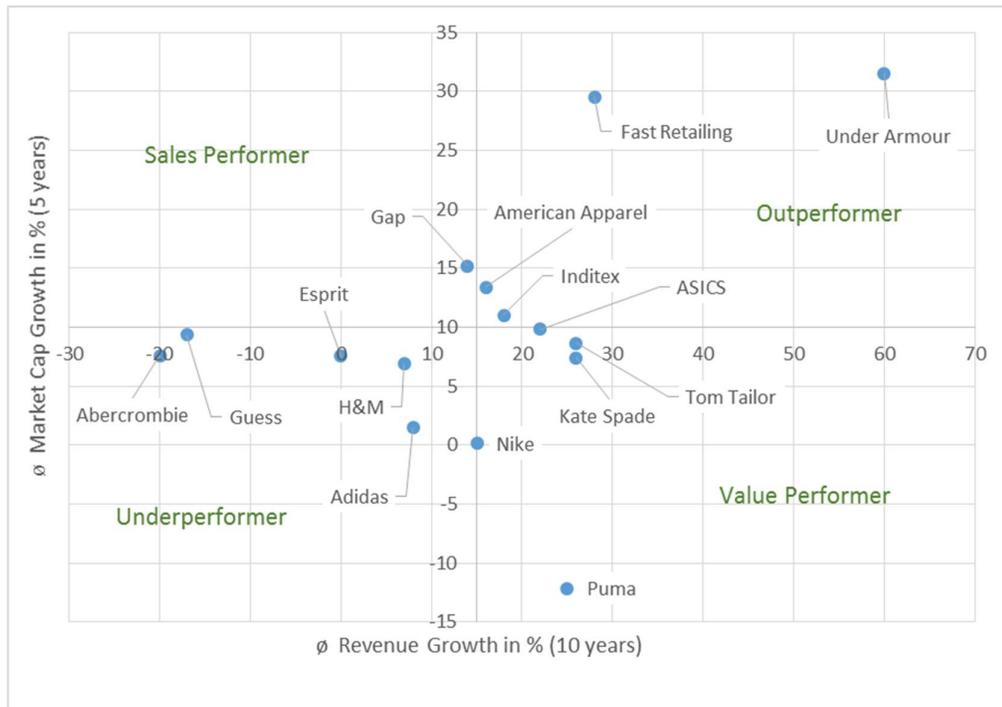


Source: Calculated based on data from Morningstar Database.

The only company that showed an outstanding change in revenue growth during the period 2005 to 2014 is the Fast Retailing, which in 2008 belonged to the low-revenue group but by 2014 was in the top six companies in terms of revenue growth. The group of companies earning revenues up to \$US 5 billion, however, remains relatively stable in the period, which tends to support the argument that growth beyond the \$US 5 billion barrier requires the firms to change their business model. In this context, the Fast Retailing company may also be perceived to provide strong evidence of the requirement of a new business model to break through the growth barrier.

Under Armour and Tom Tailor exhibit a 10-year average revenue growth rate of approximately 30% substantially outperforming all others in the sample. These companies are also characterised by being the newest companies in terms of the year they were established; Under Armour was founded 1996 and Tom Tailor operated exclusively in Germany for a long period before internationalising its operation (Boyer & Verma, 2010, p. 262; Tom Tailor, 2010, p. 16). Therefore, it will take some years to confirm whether these two companies can develop the operational efficiency and the cash flow to finance business expansion, as Fast Retailing have during the past eight years. It is also questionable whether Tom Tailor and Under Armour will be able retain these high turnover and change their low profitability growth path, to mimic Fast Retailing, which exhibits an excellent performance (see Figure 24). The exceptional performance and high growth rate of Fast Retailing also supports the assumption they are based on the business model innovation, which is reliant on a highly efficient Supply Chain. The revenue growth ratio relates to the market performance and market capitalisation growth to the value of the company as assessed by the financial market, thus the performance in the past, and firm's value in the future respectively (Cameron et al., 2014, p. 98). Therefore, clustering of the sample companies according to their revenue growth rates and their market capitalisation growth rates refines the revenue growth rate comparison, and has been diagrammatically represented in Figure 24.

Figure 24: Revenue-Growth/Market-Cap-Growth Matrix 2005-2014



Source: Calculated based on data from Morningstar Database.

In Figure 24 the intersection between the y-axis and the x-axis indicates the sample average of both variables, market capitalisation growth and revenue growth. Therefore, the companies are grouped into the groups entitled sales performer, outperformer, underperformer and value performer. The sales performer group comprises companies with above average revenue growth, but below average market capitalisation growth. The outperformer group includes companies with above average revenue and market capitalisation growth. Value performer companies have above average market capitalisation growth, whereas underperformer are companies with below average growth in both categories.

In this context, Under Armour and Fast Retailing as outperformers also have the highest values, whereas established companies, such as H&M, Adidas and Nike have below average performance in terms of revenue growth and market capitalisation growth rates, generally occupying the underperformer space; refer to

. However, later analysis of ROIC will demonstrate that growth in both dimensions does not necessarily mean a significantly above average ROIC, whereas established companies such as H&M show significantly higher ROICs. In particular, this indicates that extraordinary growth must be compensated by extremely diminishing profitability, by means of predatory pricing, which competing firms cannot match, inefficiencies in a fast growing organisation, and an inefficient cash conversion cycle, amongst other business aspects.

The gross margin has already been noted as a good indicator for identifying differentiation advantage, since it specifies how much of a dollar generated in sales remains in the company. In this context, H&M is a leading company as are Abercrombie and Inditex; all three companies with a significant differentiation advantage, indicated by the highest gross margins. However, they show no outperformance in revenue growth and market capitalisation growth, which leads to the assumption that growth is not related to differentiation advantage but must be explained by other variables. This assumption can also be supported calculating the correlation between year on year, average revenue growth and gross margin of the total sample, for the period 2005 to 2014 (Table 8).

Table 8: Correlation - Year on Year Revenue Growth and Gross Margin 2005-2014

		Gross Margin Average Total
Rev. Growth Average Total	Pearson Correlation	-.523
Sample in % yoy	Sig. (2-tailed)	.121
	N	10

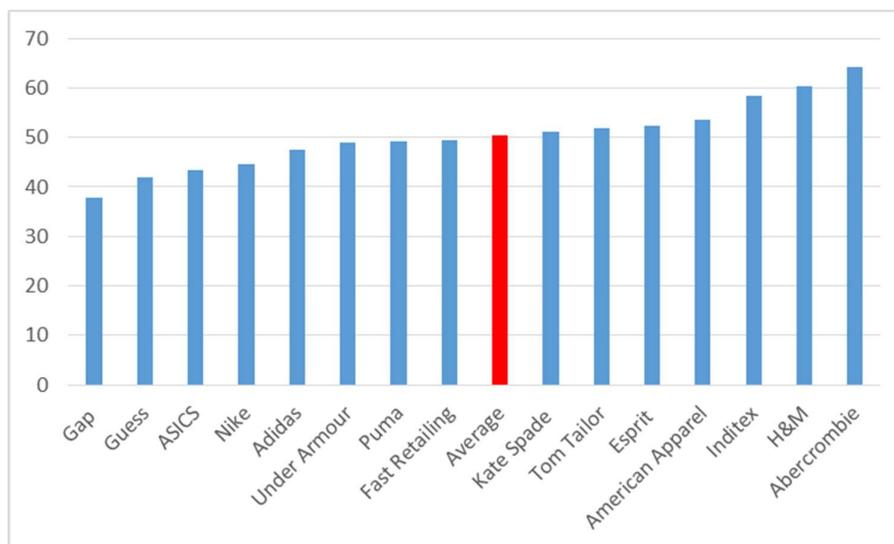
Source: SPSS Output Table

Although the correlation is beyond the significance level of p (2-tailed) < 0.01 , it represents an additional indication for the assumption that revenue growth is negatively correlated with gross margin, in other words, the higher the revenue

growth, the lower the gross margin. This result also supports the assumption that fast revenue growth is, at least partly, compensated by low price levels.

When the average gross margin level of the companies are compared, it is also surprising that Under Armour, with its innovative, technologically advanced material, cannot accomplish above average gross margins (see Figure 25). However, this may be mainly explained by the supply-chain inefficiency, which will be discussed later in this thesis.

Figure 25: Average Gross Margin (%) 2005-2014



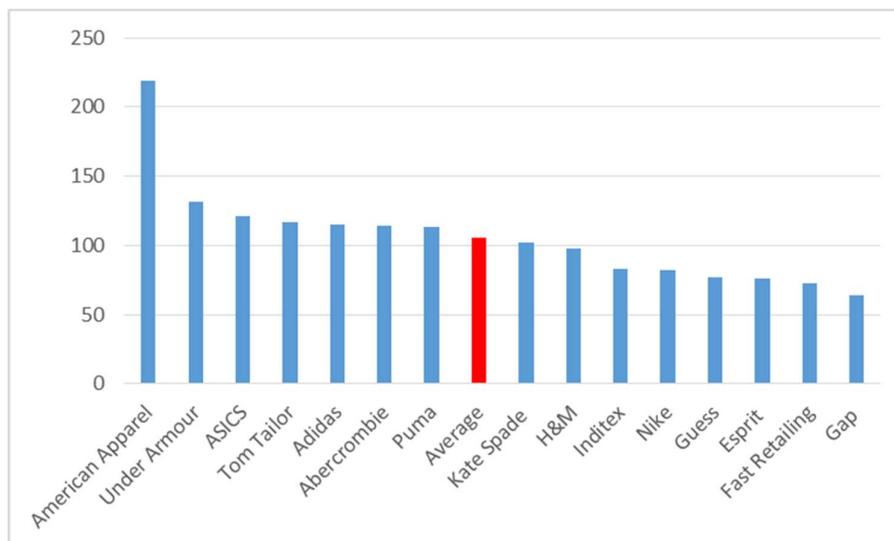
Source: Calculated based on data from Morningstar Database.

However, the comparison of average gross margins signifies that established companies such as Abercrombie, H&M, American Apparel, and Esprit can accomplish above average performance as well as the relatively new company, Inditex (see figure 25). It is also evident from Figure 25, that both top outperformer companies Under Armour and Fast Retailing, have not necessarily grown by means of a differentiation advantage that facilitates price premium, on the contrary, Inditex has had slightly above average revenue and value growth, but a high gross margin, which may lead to the conclusion that either the company can attract a price premium or has cost leadership positioning. In contrast Gap shows no price premium potential in terms of its

gross margin level, so that gross margin is an evident differentiation indicator, since Gap is the company with the best average turnover rate (see **Fehler! Verweisquelle konnte nicht gefunden werden.5**), and the low margin cannot, therefore, be explained by operational inefficiencies.

The measure *days turnover* is highly relevant to Supply Chain Management and to business performance, because it indicates how quickly the company consumes its stock/inventory. If the firm holds too much inventory, which may be raw materials, part or finished goods, it is effectively preventing the business from employing its financial resources in activities that will generate income, whilst if the inventory is turned over too fast, there may be insufficient stock items to continue production and/or supply products (Drury, 2016). Therefore, inventory turnover ratio (days inventory) reflects the overall efficiency of the supply chain (Ayers & Odegaard, 2008, p. 28); it represents a central measure of this thesis. Gap and Fast Retailing are the companies in the sample with the fastest stock turnover (days inventory) and Inditex and H&M are above the average, but Esprit is in the top 3 group whereas Under Armour has one of the poorest stock turnover rates (see Figure 26).

Figure 26: Average Inventory Turnover Rates, in Days Turnover (2005-2014)



Source: Calculated based on data from Morningstar Database.

Another finding is that Esprit generates a slightly above-average gross margin and shows a faster inventory turnover than the sample average. The correlation between gross margin and days inventory in the case of Esprit explains the direct relationship. Whereas the gross margin does not show a significant and high correlation with revenue growth and the ROIC, the day inventory is strongly negative and significantly correlated with the gross margin (see Table 9).

Table 9: Esprit – Correlations for Gross Margin, ROIC, Stock Turnover Days (2005-2014)

		Esprit Revenue Growth	Esprit ROIC	Esprit Gross Margin	Esprit Days Inventory
Esprit Gross Margin	Pearson Correlation	.626	.661	1	-.853**
	Sig. (2-tailed)	.097	.053		.003
	N	8	9	9	9

Note: **. Correlation is significant at the 0.01 level (2-tailed). The number of observations is between n = 8 and n = 9 due to missing values in the time series.

Source: SPSS Output Table.

It is also noteworthy that the two companies with the lowest turnover efficiency, American Apparel and Under Armour, seem to be relatively new organisations in respect to Supply Chain Management. American Apparel started using the technique in approximately 2012 with an RFID program (supplychain247, 2013) and Under Armour in 2014 by re-engineering its Supply Chain to introduce upstream planning functions to forecast future demand for third party manufacturers 12 to 18 months in advance (Morgan, 2015). Under Armour's supply-chain officer is quoted by Morgan 2015 as explaining that the Company were continuously learning about the how to use metrics to leverage the performance outcomes, to include them in planning and determine how each metric impacted on efficiency and effectiveness from downstream operating to sourcing and hence predict Supply Chain optimisation in downstream terms. This learning has enabled Under Armour to identify problems earlier, and allowing more time to correct them:

“We are beginning to understand the implications of one metric in an area like planning and how that metric plays out in terms of efficiency and effectiveness downstream to sourcing. We’re finding touch points where we can pinpoint key metrics that can predict success downstream in the supply chain. We are now able to anticipate business needs and as a result we can see problems faster and sooner allowing us time to react.” (Jim Hardy, cited in Morgan, 2015)

The statement Under Armour made provides some evidence to explain why it has the worst stock turnover rate (days inventory) and contrasts so strongly with, Gap, which considers the Supply Chain as a top strategic priority consequently had the fastest stock turnover. The CEO of GAP emphasised the importance of Supply Chain Management in the Note to Shareholders, in the Annual Report 2014:

“The brand delivered positive comparable sales results during each quarter in 2014, including an 11 percent increase during the fourth quarter. This performance is the direct result of the team coming together with a clear focus and mission: to get better and more consistent at a product with each season, while aggressively leveraging our supply chain initiatives.” (Gap, 2015, p. 1)

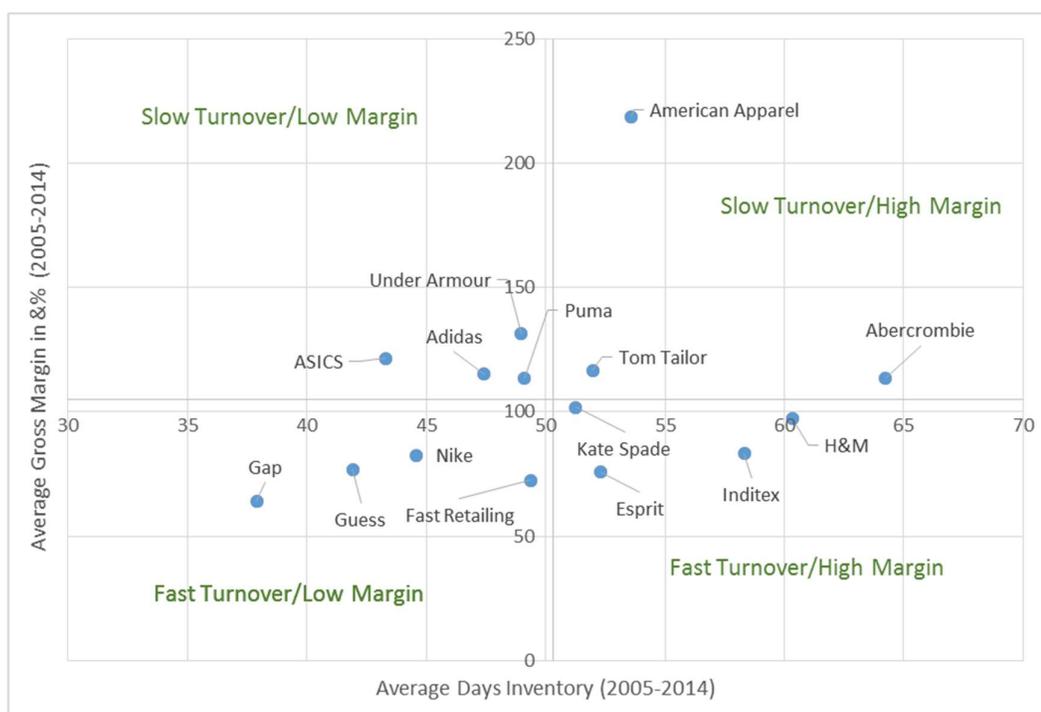
This quote shows that supply-chain management is central to Gap’s business model and indicates thus, once more, that business performance and inventory turnover as a measure of the supply chain efficiency are strongly correlated regarding this sample and, as well, regarding the entire fashion industry.

The values of the financial metrics, gross margin and turnover rate, when combined with the statements from two companies in the sample, provide an indication that the real numbers and the Supply Chain strategy have substantial explanatory power. The companies in the sample can, therefore, be clustered into four groups to investigate their positioning more fully, based on the concept that gross margin provides evidence regarding differentiation advantage and stock turnover ratio as an indicator of a fast fashion Supply Chain approach. This type of matrix facilitates displaying the results and the idea of clustering is that company characteristics vary from fast moving mass market entities to low margin companies, or slow moving niche market companies with higher margins.

The Turnover/Margin Positioning Matrix (see Figure 27) displays the sample average of gross margin and days turnover at the intersection between the y-axis and the x-axis. The companies are grouped into four groups representing different market positions:

- (1) The slow-turnover/low-margin group comprises all companies with below average gross margin and above average days inventory which indicates a slow stock turnover rate with low margins compared to the total sample.
- (2) The slow-turnover/high-margin group includes all companies with above average gross margin and above average stock turnover (days inventory). Consequently, these companies show a slow stock turnover rate but are able to generate a high margin. This may indicate that such companies are not in the fast fashion business but have a competitive advantage in terms of brand value or other nature allowing to generate premium price or resulting from extremely cost-efficient operations. In any case, companies with high margins must be seen as successful in their market segment, but these segments cannot be seen as driven by fast trend changes.
- (3) The fast-turnover/low-margin group comprises all companies with low values in days inventory indication a fast stock turnover, and low margins may indicate either a positioning in a mass market with low prices and, therefore, low margins, or extremely cost-inefficient operations.
- (4) The fast-turnover/high-margin group includes all companies with above average margins and above average stock turnover rates (low values in days inventory). Correspondingly, these companies may be active in markets with fast trend changes while they have highly cost-efficient operations systems.

Figure 27: Turnover/Margin Positioning Matrix



Source: Calculated based on data from Morningstar Database.

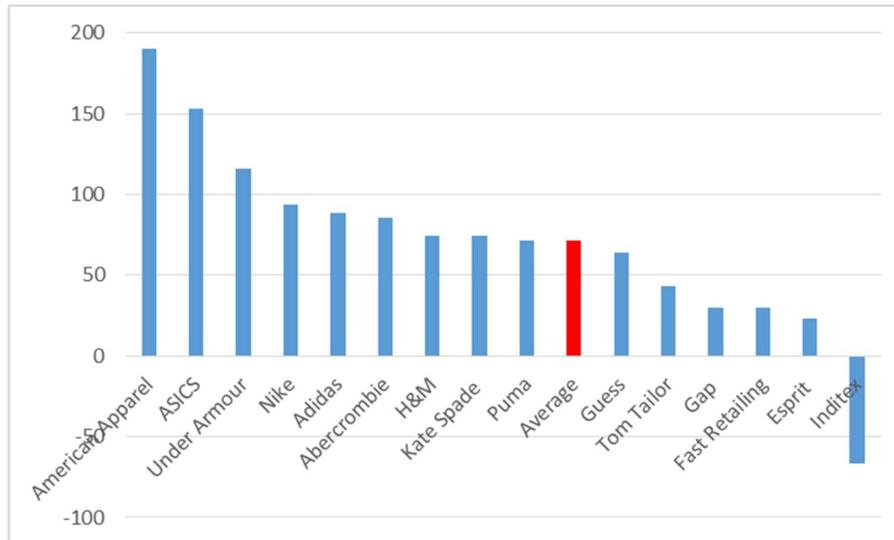
Consequently, the matrix shows that Gap, as leader in terms of turnover rates, is the company with the lowest margin, can be identified as a fast-moving/low margin company focusing on mass markets. Inditex, H&M, and Esprit are positioned within the above average price premium area, resulting in higher gross margins as well as in above average stock turnover rate. Therefore, all three companies show a double positioning in terms of fast fashion and premium fashion, however, the term premium relates to this sample not to luxury fashion, but an upper middle price segment, and always trendy fashion. Adidas, ASICS, Puma, and Under Armour benefit neither from fast turnover nor price premium, whereas the differentiation of Fast Retailing compared to H&M, Inditex and Esprit is evident since it has above average stock turnover rate, but seems to target the lower price segments more, resulting in lower margins. However, four possible generic positioning modes can be deduced from the matrix:

- (1) Fast-Turnover/Low-Margin, which may be typical of companies pursuing a high growth strategy, based on the idea that growth presupposes low pricing leading to low margins. To avoid low profitability due to the aggressive pricing strategy, Supply Chain efficiency is necessary, in the sense of a cost-leadership strategy, an example is Fast Retailing. Otherwise, Supply Chain efficiency is a necessary precondition, if a company generally pursues a conservative assortment strategy with a low season rate to retain profitability, for instance Gap.
- (2) Fast Turnover/High Margin is a position aligning with an excellence strategy in which the company pursues a high season/high price strategy and leverages its turnover by means of competitive pricing and fast supply of the newest fashion, as do Inditex, H&M, and Esprit.
- (3) Slow Turnover/Low Margin may be perceived as unintended, bad positioning and may be typical of companies with a high-growth strategy by means of competitive pricing combined with inefficient Supply Chain Management, for instance Under Armour. Otherwise, this positioning may be typical of established brands with low growth ambitions or potential, such as Adidas and Puma.
- (4) Slow Turnover/High Margin positioning could be the consequence of a strong brand, which has a price-premium but company Supply Chain management is extremely poor typified by low number of days for stock turnover and the high values for cash conversion cycle also suggesting low value chain efficiency, examples are American Apparel and Abercrombie.

Esprit is a slow growing company in terms of revenues and market capitalisation, and its positioning as a fast turnover/high margin company shows that the company is an efficient, positioned company as are Inditex and H&M, not a growth company. This becomes more apparent when the cash conversion cycle is analysed because this metric indicates how fast a company can convert cash into more cash; the lower the cash conversion cycle value, the faster a company converts cash inflow into new cash inflow. Esprit

demonstrates its strength since it has the second fastest cash conversion rate (see Figure 28).

Figure 28: 10 Year Average Cash Conversion Cycle (Days) 2005-2014

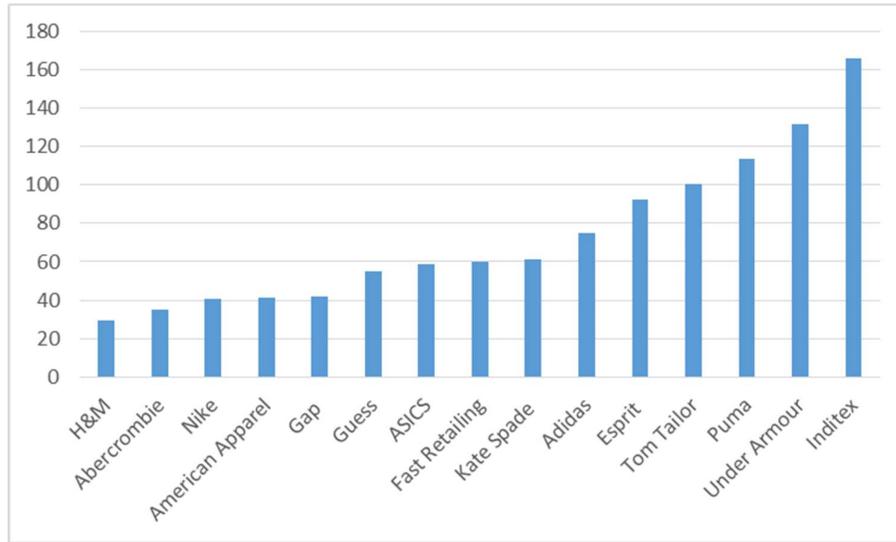


Source: Calculated based on data from Morningstar Database.

The cash conversion cycle for Inditex has a negative value, indicating that it receives cash from its customers before it pays its suppliers (see Figure 28).

The creditors days or payables period indicates the time it takes a company to pay its suppliers and the descriptive analysis shows that Inditex and Esprit are among the top five companies to use their market power to expand their credit terms (see Figure 29).

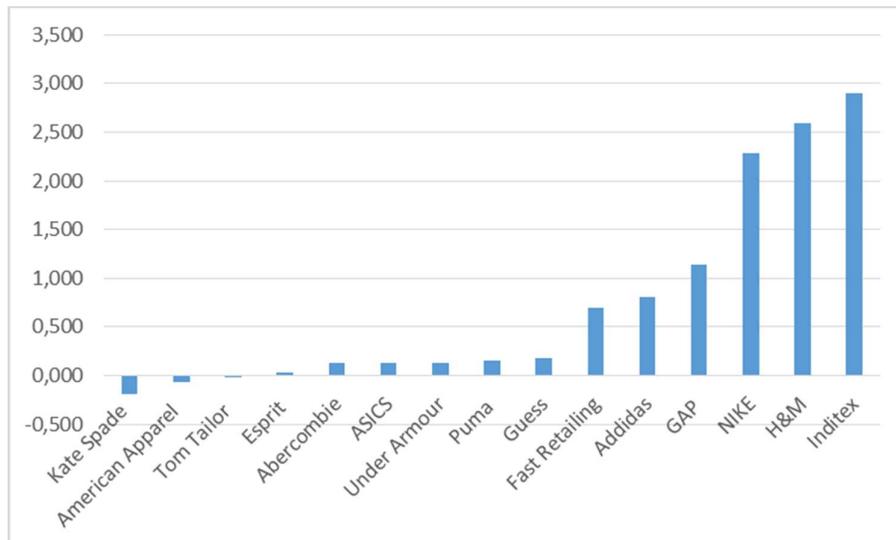
Figure 29: 10 Years Average Payables Period (Days) 2005-2014



Source: Calculated based on data from Morningstar Database.

However, Inditex is among the top 5 companies in the sample in terms of ROIC (see Figure 20), and has the highest five year average net income, followed by H&M and Nike (see Figure 30).

Figure 30: 5 Year Average Net Income \$US (Million) 2010-2014



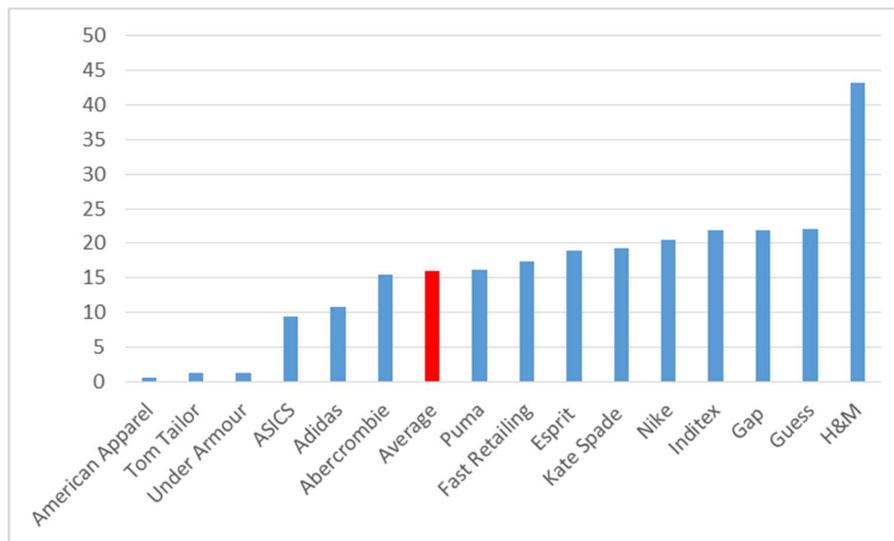
Source: Calculated based on data from Morningstar Database.

In contrast, the fast growing companies, Tom Tailor and Under Armour, cannot transform growth into profit, whereas Fast Retailing, which also follows a high growth strategy, does so and the profit is a consequence of an efficient value chain organisation in terms of a low cash conversion cycle value (see Figure 27).

ROIC measures how well a company uses its cash to generate returns, in other words, how efficient it is in allocating capital to profitable investments; H&M has exceptions efficiency of allocating investment capital compared with the rest of the sample and reinforced by the 20% difference from the second best company Gap; comparatively Inditex is in fourth place (see .

).

Figure 31: Average ROIC (%) 2005-2014



Source: Calculated based on data from Morningstar Database.

It is notable that the three companies with the lowest ROIC, have values substantially lower than the rest of the sample, for instance the ROIC values of American Apparel, Tom Tailor and Under Armour are all 1%. Although Under Armour is an outperformer, regarding market capitalisation growth and revenue growth (see Figure 23), the company is not very profitable and has high gross margins a high inventory turnover rate, pays its suppliers very late

and shows a very slow cash conversion rate. Under Armour and Tom Tailor exhibit the highest growth ratios in the sample (see

), but the lowest ROIC indicating that in both cases growth is attained by retaining a strategy of low profitability. H&M performance is a strong contrast as it is a leading company and also a fast turnover/high margin company, although its process efficiency and capital allocation are not congruent with above average growth, in regards to revenue and market capitalisation growth. However, the company has accomplished the highest ROIC by a large margin so that another type of positioning is revealed as profitable. Gap is a fast moving/low margin company, which focuses on mass markets and high turnover, but is an example of a company that generates a high ROIC despite low margins. This is achieved because its turnover rate and explicit demand driven Supply Chain strategy provide the necessary basis for cost efficiency within an economies of scale business model, without fast rotating stock assortment but with an explicit fast fashion approach.

To obtain an accurate appreciation of the diverse results from the descriptive analysis, the findings are summarised in Table 10.

Table 10: Summary of Descriptive Analysis

Company	Main Characteristics
Abercrombie	<ul style="list-style-type: none"> - Underperformer regarding revenue growth and market capitalisation growth (lowest market capitalisation growth rate) - Abercrombie is underperforming regarding inventory turnover, but realises the highest gross margin, has ROIC, which is slightly below average
Adidas	<ul style="list-style-type: none"> - Underperformer in terms of revenue growth and market capitalisation growth - Shows average performance only in all measures
American Apparel	<ul style="list-style-type: none"> - Lowest revenue growth of the sample - Third highest gross margin - Outstandingly poor performance regarding inventory turnover rate, and cash conversion cycle - Lowest ROIC
ASICS	<ul style="list-style-type: none"> - Slightly above average market cap growth

	<ul style="list-style-type: none"> - Third lowest gross margin - Second lowest performance in cash conversion cycle
Esprit	<ul style="list-style-type: none"> - Slightly below the average revenue growth and market capitalisation growth - Fourth highest gross margin - Third highest inventory turnover
Fast Retailing	<ul style="list-style-type: none"> - Outstanding performance, second highest revenue growth and market capitalisation growth - Average gross margin, net income and ROIC, despite the third highest cash conversion cycle
Gap	<ul style="list-style-type: none"> - Above-average revenue growth, no market capitalisation growth - Lowest gross margin, highest inventory turnover indicating no differentiation advantage supporting the impression, that Gap delivers only basic clothing allowing no price premium - Third highest average net income and the fourth highest ROIC; only possible due operations efficiency visible in term of turnover performance, hence fourth highest cash conversion cycle.
Guess	<ul style="list-style-type: none"> - Second lowest market capitalisation growth rate, average revenue growth rate - Second lowest gross margin - Turnover rate and cash conversion cycle, only average performance and not able to realise a high gross margin but second highest ROIC
H&M	<ul style="list-style-type: none"> - Third highest revenue, but second highest net income - Average revenue growth and market capitalisation growth - Highest gross margin - Slightly above average inventory turnover - Slightly below average cash conversion cycle, but pays supplier fastest - Outstanding performance ROIC, 20% higher than company in second place
Inditex	<ul style="list-style-type: none"> - Second highest revenue and highest net income - Second highest gross margin - Slightly above average regarding inventory turnover, but fast turnover/high margin

	<ul style="list-style-type: none"> - Has an outstanding performance regarding cash conversion cycle, but this seems to be consequence of Inditex using excessively long supplier credit - Cash conversion cycle value is negative infers that the company earns the revenues before it pays its suppliers.
Kate Spade	<ul style="list-style-type: none"> - Above average market capitalisation growth, but second lowest revenue - Average gross margin - Lowest net income and average ROIC
Nike	<ul style="list-style-type: none"> - Highest revenue, but second lowest revenue growth rate and no market capitalisation growth - Fourth lowest gross margin - Despite the highest revenue, only the third highest net income
Puma	<ul style="list-style-type: none"> - Lowest revenue growth rate, slightly above average market capitalisation growth
Tom Tailor	<ul style="list-style-type: none"> - Above average market capitalisation growth, but third lowest revenue and average revenue growth rate
Under Armour	<ul style="list-style-type: none"> - Outstanding outperformer regarding revenue growth and market capitalisation growth, highest revenue growth rate and market capitalisation rate - Second worst result stock turnover - Third worst cash conversion cycle performance

The descriptive analysis found overall that companies with the highest revenue growth rates, specifically, Under Armour and Tom Tailor, had the weakest ROIC performance. This fact indicates that fast growth is expensive, if it is not paralleled with organisational excellence concerning the Supply Chain and Value Chain, as is the case with Fast Retailing. In contrast, companies with moderate growth rates, for instance H&M and Inditex, can accomplish high net income and high ROIC. One reason for the underperformance of Under Armour and Tom Tailor is that their organisational capability regarding operations and Supply Chain Management does not align with their growth as is evidence from their poor performance regarding inventory turnover and cash conversion cycle. Fast Retailing alone seems to manage its operations and

Supply Chain more effectively and is able to achieved a significantly higher ROIC.

In contrast companies with moderate growth such as H&M, Inditex and Guess demonstrate a significantly better performance regarding turnover rates cash conversion cycle and ROIC. This evidence supports the assumption that high growth rates are not profitable, but represent significant challenges for managing operations and the Supply Chain. However, H&M explicitly communicates in its recent Annual Rport its strategy of long-term investment, long-term commitment and long-term growth 33 times (H&M, 2015, pp. 9, 10, 36, 37, 39, 40, etc.), whereas Inditex mentions the topic of the Supply Chain in its 2013 Annual Report 2013 on 148 occasions as well as devoting a complete chapter to its Supply Chain Management programme for the period 2014 to 2018. Inditex stated that Supply Chain Management will be reliant on identifying all suppliers and manufacturers and gaining extensive knowledge of their operations so as to support them to use their resources in the most sustainable manner and to adhere to the Inditex published standards “to help them improve and make the best use of their own resources, ensuring their sustainability and adjustment to the standards required by Inditex” (Inditex, 2014, p. 53).

Some companies seem to be ‘stuck in the middle’. As Hines (2013, p. 58) noted, missing strategy and supply chain strategy fit is often a reason for such a situation. The ‘stuck in the middle’ companies of this sample show no outstanding performance in any of the indicators, particularly Puma and Nike; Nike appears to trade on its past reputation and its strong brand and Puma may be similar. Esprit, in contrast show evidence of a highly efficient cash conversion cycle and inventory turnover, factors which can be interpreted as operational excellence. However, Esprit cannot transform this operational excellence into high net income or ROIC, as confirmed by business model strategy announced in the 2012/2013 Annual Report, which was stated to have the purpose of making the organisation operate with more efficient processes as the means to regain its competitive advantage 2012/2013 (“regaining

competitiveness by adopting a faster and more efficient business model”; Esprit, 2013, p. 16).

American Apparel was the single company to show a overall poor performance, particularly regarding Supply Chain and Value Chain efficiency measured by stock turnover (days inventory) cash conversion cycle and therefore, the worst ROIC value. This performance is surprising, because the company accomplishes relatively high margins, but cannot generate net income from its operations resulting in the lowest ROIC in the sample. American Apparel also places no emphasis on communicating with its shareholders regarding strategy, the brand, the company and is the only firm in the sample that publishes no detailed Annual Report on its investor website, the compulsory 10-K document containing statutory information is the only publication made available.

Gap constitutes a class of its own in this thesis; it has no signs of growth, but is in a good market position, with the fifth highest revenue in 2014, and the third highest net income and ROIC, although the company exhibits the lowest gross margin. One explanation may be, that the company is highly efficient, which is indicated by the cash conversion cycle performance. The 2013 Gap Annual Report emphasised the focus on Supply Chain optimisation, specifically mention better stock control as strategic management activity to increase its efficiency and responsiveness. It is explicitly stated that this activity is only a usual operations efficiency measure but a “strategic initiative” (Gap, 2014, p. 20).

4.3 Statistical Analysis

The statistical analysis examines the following relationships by bivariate analysis of the total sample, of individual companies and of subsamples.

a) Bivariate Analysis of the Total Sample

Revenue Growth and ROIC are the dependent variables for this analysis, and cash conversion cycle, inventory turnover, gross margin, asset turnover and revenue are explanatory variables. The research questions are:

- (1) Can one of the explanatory variables explain the performance of the total sample?
- (2) Which other bivariate relationships can be identified?

The assumption on which question (a) is based is that none of the explanatory variables has significance and strong impact on the two dependent variables, so that explanatory variables do not explain a firm's performance regarding revenue growth and ROIC, on the level of the total sample.

b) Bivariate Analysis of Selected Companies

In this case revenue growth and ROIC are the dependent variables and cash conversion cycle, inventory turnover, gross margin, asset turnover and revenue are explanatory, independent variables. The research question is:

Can one of the explanatory variables explain the performance of the selected companies?

The assumption in this case is that a significant, strong relationship exists between one or several explanatory variables and, at least, one of the dependent variables. The selected companies are the outstanding companies, such as H&M, Inditex, Esprit, and Gap, which outperform the total sample in some way, and American Apparel, which is a complete underperformer from several different perspectives.

c) Bivariate Analysis of the Subsamples

The subsamples selected are Fast Turnover/High Margin Companies and Slow Turnover/Low Margin Companies. The comparison of both groups is equivalent to the bivariate analysis of the selected companies mentioned above. The assumption is that both samples show strong differences

concerning the strength of correlation between the dependent and explanatory variables.

4.3.1 Bivariate Analysis of the Total Sample

Very strong and significant relationships exist between revenue growth and the variables *payables period* and *asset turnover*, and between ROIC and *inventory turnover rate (days inventory)*, *payables period*, and *asset turnover*. A moderately negative, but non-significant correlation can be measured between gross margin and revenue growth (see Table 11). This means, that revenue growth is, in some cases, linked to lower margins so that it can be stated that revenue growth lowers the gross margin which may be a result of 'buying' market shares through price discounts.

Table 11: Correlation Matrix based on the Average of all Variables

		Rev. Growth Average Total Sample in % yoy	ROIC Average Total Sample	Gross Margin Average Total Sample	Days Inventory Average Total Sample	Payables Period Average Total Sample	Asset Turnover Average Total Sample	Cash Conversion Cycle Average Total Sample
Rev. Growth Average Total Sample in % yoy	Pearson Correlation	1	.717*	-.523	-.726*	-.777**	.870**	-.604
	Sig. (2-tailed)		.020	.121	.018	.008	.001	.065
	N	10	10	10	10	10	10	10
ROIC Average Total Sample	Pearson Correlation	.717*	1	-.174	-.777**	-.830**	.896**	-.266
	Sig. (2-tailed)	.020		.631	.008	.003	.000	.457
	N	10	10	10	10	10	10	10
Gross Margin Average Total Sample	Pearson Correlation	-.523	-.174	1	.629	.658*	-.457	.417
	Sig. (2-tailed)	.121	.631		.051	.039	.184	.231
	N	10	10	10	10	10	10	10
Days Inventory Average Total Sample	Pearson Correlation	-.726*	-.777**	.629	1	.958**	-.847**	.609
	Sig. (2-tailed)	.018	.008	.051		.000	.002	.062
	N	10	10	10	10	10	10	10
Payables Period Average Total Sample	Pearson Correlation	-.777**	-.830**	.658*	.958**	1	-.910**	.441
	Sig. (2-tailed)	.008	.003	.039	.000		.000	.202
	N	10	10	10	10	10	10	10
Asset Turnover Average Total Sample	Pearson Correlation	.870**	.896**	-.457	-.847**	-.910**	1	-.457
	Sig. (2-tailed)	.001	.000	.184	.002	.000		.184
	N	10	10	10	10	10	10	10
Cash Conversion Cycle Average Total Sample	Pearson Correlation	-.604	-.266	.417	.609	.441	-.457	1
	Sig. (2-tailed)	.065	.457	.231	.062	.202	.184	
	N	10	10	10	10	10	10	10

Note: *. Correlation is significant at the 0.05 level (2-tailed); **. Correlation is significant at the 0.01 level (2-tailed). All results with a high significance level ($p < 0.01$) are marked in grey. All companies ($n = 15$) are included in this test. The time series of all companies

were summed up for each variable. Thus, for each variable the number of total observations is $n = 10$ in the time period of ten years.

Source: SPSS Output Table.

The following interpretations can be derived from these correlations, which are important to answering the research questions:

- (1) Revenue growth to asset turnover in the total sample has the relationship that the higher the revenue growth rate, the higher is the asset turnover rate. The asset turnover indicates how many dollars in revenue a company has generated per dollar of assets and the result of the statistical analysis may be interpreted in the context of economies of scale; firms in this industry grow if their operations are efficient (Wahlen et al., 2015, p. 270).
- (2) Revenue growth to stock turnover days (days inventory) shows a strongly negative correlation of (-0.726) at a significance level of $p > 0.05$, which infers that the higher the revenue growth rate, the lower is the value for stock turnover days. The significance of this findings is that the lower the stock turnover rate (days inventory), the higher is the revenue growth. This indicates that an efficient Supply Chain is the necessary precondition for revenue growth, and explains to a great extent, the business success, in terms of revenue growth in the fashion industry.
- (3) Revenue growth to days payable has a relatively strong and highly significant correlation, which indicates that revenue growth in this sample is not predominantly financed through supplier credit.
- (4) ROIC to inventory turnover finding suggest that the efficiency of capital allocation in terms of ROIC is strongly and significantly correlated with the inventory turnover rate (days turnover):
- (5) The lower the value of days turnover, the higher the firm performance in terms of the ROIC. This means that profitability is strongly dependent on Supply Chain efficiency in the total sample. This result is all the more relevant, because, theoretically, the ROIC can generally be improved by managing inventories or receivables more effectively, or increasing

margins (Shearn, 2012, p. 130). Therefore, the conclusion is that Supply Chain efficiency is the main precondition for profitability in the fashion industry.

- (6) ROIC to asset turnover are strongly correlated and with high significance. Since the inventory turnover rate represents the main explanatory variable for revenue growth and ROIC, this correlation was to be expected. In contrast, gross margin and ROIC are only moderately correlated with a low significance level. However, asset turnover is a highly aggregated measure so that direct deduction of the performance of individual business functions is not possible.
- (7) The high, significant correlation between the payables period and asset turnover can be explained by high efficiency in all operations facilitating reduction in supplier credit. However, this result is not relevant to this industry analysis.

4.3.2 Bivariate Analysis of Subsamples

These five conclusions can be partly supported by the detailed data analysis of high performing companies in terms of ROIC. Therefore, H&M, which is the company with the highest ROIC in the sample, shows that its above-average high turnover rate influences strongly and significantly its cash conversion cycle, which means that its Supply Chain efficiency has high impact on how fast the company converts cash from sales into even more cash and therefore explains its outperformance in terms of ROIC (see Table 12).

Table 12: Correlation Matrix H&M

		H&M Revenue Growth	H&M ROIC	H&M Gross Margin	H&M Days Inventory	H&M Payables Period	H&M Asset Turnover	H&M Cash Conversion Cycle
H&M Days Inventory	Pearson Correlation	-.511	-.594	-.419	1	.427	.446	.863**
	Sig. (2-tailed)	.131	.092	.228		.218	.197	.001
	N	10	9	10	10	10	10	10

Note: *. Correlation is significant at the 0.05 level (2-tailed); **. Correlation is significant at the 0.01 level (2-tailed). All results with a high significance level ($p < 0.01$) are marked in grey. The number

of observations is $n = 10$ corresponding to the observation period of 10 years.

Source: SPSS Output Table.

The findings from this analysis infer that the Supply Chain has the same significance regarding business success in terms of ROIC in the case of Esprit, which is the company with the second most efficient cash conversion cycle in the sample. It is evident, that the decrease of stock turnover days explains the ROIC strongly and significantly.

Table 13: Correlation Matrix Esprit

		Esprit Revenue Growth	Esprit ROIC	Esprit Gross Margin	Esprit Days Inventory	Esprit Payables Period	Esprit Asset Turnover	Esprit Cash Conversion Cycle
Esprit Revenue Growth	Pearson Correlation	1	.811*	.626	-.796*	-.362	.855**	-.257
	Sig. (2-tailed)		.015	.097	.018	.378	.007	.538
	N	8	8	8	8	8	8	8
Esprit ROIC	Pearson Correlation	.811*	1	.661	-.879**	-.423	.940**	-.160
	Sig. (2-tailed)	.015		.053	.002	.256	.000	.680
	N	8	9	9	9	9	9	9

Note: *. Correlation is significant at the 0.05 level (2-tailed); **. Correlation is significant at the 0.01 level (2-tailed). All results with a high significance level ($p < 0.01$) are marked in grey. The number of observations is between $n = 8$ and $n = 9$ due to missing values in the time series.

Source: SPSS Output Table

Although the asset turnover ratio is even more highly correlated, this is not a restriction or contradiction to the previous conclusion, regarding the relationship between stock turnover and ROIC, but an extension of it. This is explained by asset turnover calculation also taking into account the variable stock turnover (days), along with other measures, such as fixed and current assets and therefore plant and equipment, receivables and other assets are included, whereas the stock turnover rate exactly matches the Supply Chain efficiency (Lui & Lo, 2014, p. 197). The importance of the Supply Chain for the total asset turnover of the sample's companies becomes even clearer regarding the correlation between days inventory and asset turnover. Here,

the total sample shows regarding the days inventory a strong negative and significant impact on asset turnover rate (see is the determining function.

) which means, that the lower the days inventory value, i.e. the higher the inventory turnover rate, and the higher is the asset turnover. Therefore, it becomes evident, that Supply Chain efficiency is the determining function.

Table 14: Correlation of Days Inventory and Asset Turnover – Total Sample

		Asset Turnover Average Total
Days Inventory Average Total Sample	Pearson Correlation	-.847**
	Sig. (2-tailed)	.002
	N	10

Note: *. Correlation is significant at the 0.05 level (2-tailed); **. Correlation is significant at the 0.01 level (2-tailed). All results with a high significance level ($p < 0.01$) are marked in grey. The number of observations is $n = 10$ corresponding to the observation period of 10 years.

Source: SPSS Output Table.

The descriptive analysis of American Apparel reveals that the company has the lowest revenue growth in the sample, and the third highest gross margin, but the lowest ROIC, and shows very poor performance, in terms of inventory turnover rate and in terms of cash conversion cycle (see Table 8). The cash conversion cycle performance particularly showed that the company needed 190 days to convert an input dollar into cash inflow through sales, shown in Figure 28).

The correlation matrix (see Table 15), suggests that the reason for this slow cash conversion cycle is highly and significantly associated with the slow inventory turnover rate.

Table 15: Correlation Matrix American Apparel

		American Apparel Revenue Growth	American Apparel ROIC	American Apparel Gross Margin	American Apparel Days Inventory	American Apparel Payables Period	American Apparel Asset Turnover	American Apparel Cash Conversion Cycle
American Apparel Days	Pearson Correlation	-.380	-.291	.276	1	.212	-.448	.972**
Inventory	Sig. (2-tailed)	.400	.484	.508		.614	.265	.000
	N	7	8	8	8	8	8	8

Note: *. Correlation is significant at the 0.05 level (2-tailed); **. Correlation is significant at the 0.01 level (2-tailed). All results with a high significance level ($p < 0.01$) are marked in grey. The number of observations is between $n = 7$ and $n = 8$ due to missing values in the time series.

Source: SPSS Output Table.

These findings are also supported by the analysis of fast turnover/high margin companies and slow turnover/low margin companies (see Figure 26). The subsample of fast turnover/high margin companies consists of H&M, Esprit and Inditex and the subsample of slow turnover/low margin companies consists of ASICS, Adidas, Puma, and Under Armour.

Table 16: Correlation Matrix for Positioning Subsamples

		Rev. Growth Average Total Sample in % yoy	ROIC Average Total Sample	Gross Margin Average Total Sample	Days Inventory Average Total Sample	Cash Conversion Cycle Average Total Sample
Days Inventory Fast Turnover/High Margin	Pearson Correlation	-.614	-.825**	-.390	1	.142
	Sig. (2-tailed)	.059	.006	.265		.696
	N	10	9	10	10	10
Days Inventory Slow Turnover/Low Margin	Pearson Correlation	-.763*	-.301	.265	1	.885**
	Sig. (2-tailed)	.010	.397	.458		.001
	N	10	10	10	10	10

Note: *. Correlation is significant at the 0.05 level (2-tailed); **. Correlation is significant at the 0.01 level (2-tailed). All results with a high significance level ($p < 0.01$) are marked in grey. The number cases in the subsample “Fast Turnover/High Margin” is $n = 3$; the number cases in the subsample “Slow Turnover/Low Margin” is $n = 4$. Since the time series of all companies in each subsample were summed up for each variable. Thus, for each variable the number of total observations is $n = 10$ in the time period of ten years.

Source: SPSS Output Table.

The findings infer that there is a significant, strongly negative correlation for the fast turnover/high margin companies meaning that the lower the value of the stock turnover (days inventory), the higher the ROIC. However, in the case of slow turnover/low margin companies, the correlation is not significant, it is weak $r=0.301$. However the variable stock turnover (days inventory) provides strong evidence for the variable cash conversion cycle, indicating that the higher the values of stock turnover (days), the higher the value for the cash conversion cycle, it takes the company longer to obtain cash inflow from the cash outflow. The interpretation of these results can related to the ROICs of the sample companies: whereas Esprit, Inditex, and H&M can accomplish above average ROIC, with H&M as the indisputable top performer, ASICS, Adidas, Puma, and Under Armour are either categorised as average performer or underperformer (see Figure 30). As a consequence, the interpretation leads to the deduction that Supply Chain Management is not merely a supporting business function but a key factor in business success in the fashion industry, and reinforced by the conclusions from the earlier sections of the statistical analysis.

4.4 Summary of Results

The findings of this financial analysis, demonstrate the significance of the Supply Chain, such that it cannot be considered to be merely a support function in the fashion industry. This is particularly apparent in the case of ZARA, owing to its substantially different performance data, in terms of growth and the Supply Chain and value chain parameters. The classical theories of the firm promote success factors as being either the internal resources or the market reference of a company. The Supply Chain was not identified as a competitive factor, but rather as a background function such as accounting. Summarising the findings from Chapter 2 it appears that in this well established old-economy industry two main changes occur:

- (1) The fashion business and the entire retail sector, is ever more reliant on data, which can be interpreted in diverse ways for forecasting and

monitoring performance owing to the continual advances in technology. Consequently, the links between the supply and demand markets are more evident, facilitating real-time synchronisation of both ends of the value chain, and making long range and middle range production and demand planning obsolete. Hence supply and demand markets are increasingly part of the internal company operation.

(2) Supply Chain Management is frequently considered the primary success factor in fast-moving consumer goods markets and gaining increasing importance. The advances in communication and information technologies led to paradigm breaking business models, reliant on Supply Chain networks characterised by real-time control of demand and supply, which make the previous assortment tactics obsolete.

The analysis of the financial results of the companies in the sample shows that ZARA (Inditex) is following a distinct Supply Chain configuration, which has significant impact on cash conversion, inventory turnover, the firm's growth and profitability. The evidence suggests that, ZARA has developed and implemented a different business model, described appropriately as the disruptive business model innovation, on the basis of the firm's excessive growth within a mature industry. However, the data, theories, and facts already presented in this thesis imply that this is possibly merely the start of business model transformation in the sector. Therefore, an in depth examination will provide additional insights into this change in an industry, which appears to be either maturing or declining. The interviews with fashion industry experts provide additional insight into this phenomenon and are reported in the next chapter.

5. Case Study

The interviews were conducted to support the results of the theoretical discussion in Chapter Two and those of the quantitative case study. Several assumptions developed in Chapter 2 and Chapter 4 were verified, but additional data not available in public documents was to fully answer the research question. The interviews supplement the research findings to date.

The interviews were conducted during the period from June to November 2015 and employed a pre-prepared set of open questions that sought to gather the views and opinions of fashion industry experts regarding trends in the fashion industry, the importance of data and information, and changes in the fashion business model particularly in the relation to aspects such as Supply Chain restructuring and the use of data. The purpose for conducting these interviews was to evaluate the propositions developed in the theory chapter and supported by means of the quantitative data analysis in the industry analysis section.

The top management team members, included three managers who had previously worked for ZARA and all participants have substantial industry experience, gained over a long-time period (see Table 17). The profile data was gathered during the interviews. The participants were unanimous in acknowledging ZARA as the industry leader and the Company's specific Supply Chain configuration and value chain structure (see Appendix 1).

Table 17: Participant Job Profiles

Initials	Job Title	Year in Position	Industry Experience (Years)	Job Activities
FM	Head of Merchandise Allocation and Order Book Management	1	15	Allocating the merchandise that Esprit owns into the different channels, based on performance. Allocation mainly for the own retail stores, order book management for wholesale customers
JMM	CEO	3	20	Strategic direction of the brand and organization alignment.

JC	Chief Supply Chain Officer	2	25	Sourcing and buying products at international locations. Commercial Management along the Supply Chain Consulting services along the Supply Chain
PK	SVP - Global Vertical Merchandise Management	10	18	Optimisation of Esprit's purchase to customer spending patterns
MK	CIO	5	17	Implementation of IT projects, setting up IT support regarding new capabilities and processes within the company, such as vertical configurations or omni-channel marketing Building the infrastructures and systems for a responsive Supply Chain.

Source: Own Presentation

5.1 Esprit Company Overview

This Chapter presents the case study of the Esprit fashion company, commencing with an overview of the organisation and then presents the findings obtained during semi-structured interviews with senior executives, three of whom were formerly employed by ZARA, the global fashion leader. The findings are summarised at the end of the Chapter.

The Esprit situation analysis, which follows, is based on the researcher's personal insights during ten years employment in the fashion industry, and employment with Esprit since 2007. The researcher holds different management positions in the area of Reporting, Merchandising Operations and Supply Chain Projects, and is therefore involved in the planning and implementation of restructuring projects presented in this subsection, which explains the main measures in the context of the vertical configuration process. The main activities undertaken by the researcher in recent years include: strategic reorganisation and formation of operations for Chief Commercial Officer (CCO), with regard to the vertical configuration of the organisation; electronic control and continuous improvement of performance standards and

operations within CCO responsibility, specifically logistics, sales, retail and wholesale merchandising, retail planning and allocation, e-commerce, wholesale partnerships; organisational development and Supply Chain process improvement; optimisation of processes within merchandise management and interfaces to merchandise planning, merchandise allocation, visual merchandising, product management, logistics and retail store operations; monitoring and management of stock levels in distribution centres to reduce merchandise and maximise profitability; coordination of outbound transportation involving the Logistics Department and other logistics providers.

Esprit sells its products globally, in over 40 countries through more than 900 direct stores, and as well approximately 8,500 wholesale locations (Wallstreet Online, 2015c; Bloomberg, 2015b). Esprit ranks in the bottom group of the sample companies, in terms of revenues generated, with \$US 3,123 million reported for 2014, in contrast to Inditex/ZARA, which reported turnover of \$US 24,077 million. Esprit does not belong to the group of fast growing companies, such as Fast Retailing, H&M and Inditex/ZARA but was classified as an underperformer in terms of its revenue growth/market capitalisation growth outcomes. However Esprit and Inditex are classified in the same category for some characteristics, for example, Esprit shows the same positioning as Inditex in the turnover/margin matrix and in the fast turnover/high margin matrix. The inventory turnover rates, revealed that Esprit ranked higher than Inditex and shows high correlation of revenue growth and gross margin. These findings indicate that the Company has growth and profitable growth, which is explained by means of its Supply Chain efficiency, in terms of high inventory turnover rates showing high correlations with revenue growth and the Company's profitability.

Esprit was strictly separated into areas representing the linear management logic for a long time: Sourcing and Buying, Production and Distribution, Logistics, Retail and Wholesale. The strictness of this linear organisation is particularly emphasised by each division having an independent merchandise planning and control system, in other words Esprit is organised in 4 silos. Consequently, the original business model can be described as a traditional

wholesale pre-order business model; twelve collections being developed monthly and directed through the Value Chain by the four silos. This Value Chain push model created many inefficiencies, for example products were produced, which customer would not purchase or in contrast, products sold out within a short time. Therefore, the requirement to offer the best possible product at the right time in the right place could not be guaranteed by means of this model. Therefore, in 2007, Esprit initiated the so-called Excellence in Processes and Systems (EPS) Project, which employed SAP software for operational data as the core feature. The rationale behind these changes was to integrate the international supply network and total value chain, predominantly by means of data integration, in order to improve processes and to support global growth. The silos should logically have been integrated by means of a continuous flow of information and goods, and the demand and supply linked with the objective of shortening the production lead times and responding directly to changes in customer behaviour. However, at that time, the EPS project generated no organisational change, merely introduction of an integrated Enterprise Resource Planning (ERP) system. The push model continued to be practised, but with more extensive analysis options, but the findings from the analysis were only employed in product development. The information on current trends was processed but lead times of nine to eleven months from design to delivery to the stores, could not significantly reduce the uncertainties of actual demand. The numerous products, developed and ordered, flooded the market with the anticipated demand in the hope that some products would match what customers actually demanded. Therefore, the introduction of the ERP system was the first step towards complete organisational change in the value chain. However, when a new CEO, Jose Manuel Martinez, was appointed, Esprit started to align the Supply Chain and the Value Chain more closely with consumer demand, so that inefficiencies in the sales channel could be avoided and more sales generated.

The consistent implementation of the concept led to the introduction of the new ERP system, which had the objective of restructuring the entire Supply Chain; the existing horizontal Supply Chain model would be replaced by a vertical model. This inferred expansion of activities to the upstream and downstream

stages of the Value Chain and development of seven fundamental main objectives and measures were planned. These were as follows:

- (1) **Lean Supply Chain Management**, the purpose of which was faster, more efficient product development, in terms of shorter delivery times, owing to the capability of transforming a design concept into a final collection more rapidly. This objective would be achieved through better two-way communication and information flow between Esprit and its suppliers and tighter merchandise management integration. Short term changes in preferences for style, colour choice and purchase volumes could be recorded at the POS and communicated directly from merchandise management to product development, suppliers and production.
- (2) **The Introduction of Category Management Teams**, to work collaboratively in cross-divisional manner meaning elimination of the divisional structure in which each division represented a product line, for instance Men Casual, comprising urban clothing for men and Men Collection responsible for mens' business clothing. Although this divisional structure supported internal competition between the various product lines, scale effects were neglected, and cannibalization effects occurred. A typical example was similar T-shirt designed independently by two divisions, then produced and delivered to wholesale customers and retail merchandisers in parallel. A cross-divisional bundling of business activities had not existed, for instance if the goods were produced, the two similar T-shirts were delivered to the store, and competed for sales separately in the same store. The introduction of the category management system, eliminated this cannibalisation effect, since each category manager was responsible for a class of products, including its designers, purchasers, merchandisers and sales people, in other words category management led to managing a product through the entire Value Chain. Consequently, parallel product development was avoided, volume effects at suppliers and production economies of scale were exploited
- (3) **New Merchandising Model**: Esprit distributes its goods through the wholesale and retail sales channels. Wholesale customers and retail

merchandising managers previously ordered from only the collection items provided. However, the vertical configuration project tasks were redistributed so that the Category Manager determines the collection range in coordination with the design department. The Merchandising Manager's task focused only on the distribution of the given collection to the stores, instead of the selection of the collection and the distribution to the retail stores. The time sequence also changed, whereas the Merchandising Manager previously determined, which goods and quantities must be delivered to specific stores five months in advance, this new system involves the Manager decides how the goods should be distributed to the various stores based on the recent data from the point of sale, just before the goods arrive at the Distribution Centre. In the past, these decisions were subjective and based on the Merchandising Manager's experience and opinion but with more real-time data available, the Manager can allocate goods based on recent information and trends instead of intuition.

(4) **Seasonal Calendar and Product Range Reduction:** In the previous business model twelve collections were developed and delivered to the market annually, whereas the vertical configuration process reduced the number of seasons, and increased the flexibility of product flow. The monthly collection model represented an inordinately large amount of time for all involved, especially for the wholesale customers, whereas in the new ERP based model, fewer collections are delivered so that the product range is reduced. The lower predetermined range of this system ensures that the market is not flooded with products as occurred in the pull marketing mode. The small number of predetermined seasons are replenished either within the season on the basis of sales data, or supplemented by newer products, which are offered as a result of analysis of the POS data enabling identification of short term trend shifts.

(5) **Fast to Market Product Development** is crucial to remain competitive, and consequently the changes in the seasonal calendar and product range require that the intra-seasonal design process and production process be more efficient. Instead of developing large collections and pushing them into the market, smaller collections, must be developed at a higher

frequency and therefore market data on the latest trends and best-selling products passed immediately to product development.

(6) **Stock Management Optimization:** In the old push model it was delivered directly what was centrally ordered, respectively, planned for the Esprit stores. Although Esprit disposed on an ultra-modern warehouse, this was, however, only a distribution centre where goods were collected, re-bundled and immediately delivered to the store. Thus, the actual storability was very limited. During the verticalization project, Esprit has changed to last minute allocation and replenishment. Not 100% of the items of a collection are shipped from the distribution centre, but only 30% are 'pushed' into the stores while 70% are retained in the warehouse. These goods are delivered based on current information from the point of sale so that 70% of a single collection are 'pulled' based on the actual point of sale information from the stores. Accordingly, the warehouse management's task is now not to distribute as fast as possible the incoming goods but to manage a larger storage capacity and to deliver as quickly as possible due to the store requirements. Therefore, also the buffering capacity was enlarged by the increase of the storage area and, thus, of the storage capacity.

(7) **The traditional cost-margin pricing concept was also replaced by dynamic, market dependent pricing.** The traditional cost calculation was based on the purchase price plus a fixed margin, determined by the annual business planning activity, whereas the new pricing approach is to identify the current market prices of goods, in order to determine the potential maximum price that each product could be assigned and a pricing policy is based on systematic discounting at fixed intervals to increase of the stock turnover in the stores. Although both pricing approaches lead to lower margins, the gross profit increases, so that the higher turnover of goods compensates for lower margins.

5.2 Interview Evaluation

The first interview question, which was divided into 8 parts is a comparison between the way the fashion industry operated 20 years ago and practices today, comprising aspects such as data and information, corporate production and sales planning, branding and employee/company knowledge and skills.

The second question concerns employee perceptions of the industry leader, which is generally acknowledged as being ZARA and all interviewees except JMM, focus on describing ZARA's success strategies and what this company Esprit can learn from ZARA, hence this question effectively provides a sub case study of ZARA as a model to aspire to.

Questions 3 to 6 are concerned with fashion trends, and how these will impact on Esprit, for instance question 4 concentrates on data and information, question 5 on changes to functional operations and question 6 on perceived trends and how these will impact on current business models. The final question, 7, attempts to gather conceptions of the fast fashion model and whether it is strategic or operational in nature.

a) Responses Concerning the Theory of the Firm

The first part of the qualitative interviews comprised aspects of the theory of the firm, focused on current success factors compared with those 20 years ago and followed by questions related to the importance for company of knowledge and skills, data, production efficiency, corporate planning and the brand.

The respondents showed high consensus regarding the success factors for fashion companies 20 years ago and today, in summary, a shift in emphasis from marketing and brand to Supply Chain and Value Chain Management, for instance JMM stated, that, 20 years ago,

“Brand, in conjunction with creative design and a good brand marketing, was overall the most important factor in the past, because markets were not so transparent. A flexible Supply Chain was less important. The customer had waited for the goods to arrive.”

JMM's feedback also indicated that technology influenced market transparency and that the importance of the brand had decreased over the past 20 years because the internet had made markets so transparent that branding has lost its power as a reference point for customers, at least in mid-price fashion segment.

PK's statement also supported this general assessment of market changes but an additional factor was emphasised, that the shopping space was a decisive competitive factor.

“Strong brand was key to success in the 1980s and 1990s, which was the age of consumerism. Moreover, the Main Street was the main ‘front’ to the customer. Therefore, the competition for shopping space was also decisive. If a firm had a strong brand recognition and the ability to expand the shopping space, then excessive growth was the result.”
(PK)

In this context, design and brand also had meaning, and according to JMM,

“creative design and positioning in the consumer's mind were the most important factors to attract consumer and attract them into the store.”
(JMM)

However, due to limited capacity for data accumulation and information flow, they were a rare commodity, so that planning and coordination along the Value Chain relied on sparse data, which was collected with extensive effort and was not a regular organisational routine.

“The fashion manufacturer relied on the data from its Supply Chain partners and, which was not transmitted in a standardised reporting process but only by means of interpersonal B2B relationships.” (PK)

The only point of performance was the POS and JC noted that sales employees were much more important than they are today; this was characteristic of both demand and supply.

If the preceding statements are summarised, the inference could be drawn that the old push model was linear. The seasons were a development that allowed producers to push product into the market twelve times a year. Thus, the business cycle was both annual and seasonal. The seasons were developed,

produced and pushed into the market: *“20 years ago the fashion industry was a push business. You were pushing garments into the market”* (JC). Today this orderly system of business is no longer a key characteristic of fashion businesses which have to compete in real time, daily to meet customer demand. Consumer power through the mediation of retail brands is the prime driver of demand. Historically, it was the brand that had the power to push product (supply) to offer the consumer a range based on seasons. The brand attracted the customer into the shops and the growth pathway was constant shopping space expansion. The main function of shop employees was to sell the products in stock according to production annual planning and the *“speed of commodities to customers was not decisive”* (JMM). Consequently

“production know-how was not as relevant as it is today. There was little innovation in how goods were produced, so we were not forced to develop new manufacturing methods. Now we rely much more on the constant data stream coming from the outlets, the same is true for the Supply Chain. In the past, with a good group of suppliers you succeeded. Now the suppliers produce for almost every apparel company, so that organisation and supervision are crucial.” (FM)

JMM reinforced that statement:

“In the past, it was not necessary to react fast and change production equally fast. You could place a collection at the supplier given a very long lead time to deliver. Today you have a much shorter lead time. The supplier should ideally offer the possibility of replenishment, including last-minute changes. Consequently, efficiency today means not just fast manufacturing, but fast accommodation to market changes, in terms of volatile demand behaviour.” (JMM)

Hence, it can be concluded that, today, efficiency relies on the flexibility of suppliers. Flexible manufacturing systems are key not only to efficiency but also to be effective in capturing customer demand patterns.

However, the traditional push model changed owing to increasing market transparency and rising price volatility.

“Actually, it is totally different today, 20 years ago you had a clear calculable cost structure; a purchasing price and added the desired profit margin to determine the sales price. This was mainly due to less competitive markets. Today it is exactly the opposite, the price must have to fit with the price of the market which means that it is no longer

possible to find the most efficient manufacturing concept because manufacturing depends much more on market data, which requires continuous restructuring of production.” (JC)

This statement reflects two change factors, competitive markets and market data, which have connotations for competitive markets, for instance, understanding the underlying factors for intensifying competition. JC’s complete statement can be interpreted as pricing policy being currently initiated by the market data instead of by the purchase price, and that market price changes very rapidly. This could be for two reasons, either fashion companies are changing their pricing policy more frequently on their own initiative or they are being forced to do so by customer behaviour. In reality both factors seem to be operating as JMM explained:

“Sales planning have become less important; responsiveness is a main success feature now. The world is changing much faster, sales planning has been replaced by sales strategy in the sense of a broader framework, and therefore sales planning is a thing of the past. Today, you have to create tools to enable the company to react quickly, this also applies to the Supply Chain. The activity planned with the partner a year ago, has changed and is no longer relevant.” (JMM)

Thus, JMM statement provides the reason for such new approaches as QR and ECR as discussed in Chapter 2.5 because the business environment has changed dramatically in the last years:

“Corporate planning has less importance than 20 years ago. One can hardly make a solid financial plan, because the movement of interest rates and currency rates fluctuate. Everything has become extremely volatile. One could even go so far as to question the value of three to five-year planning. There are companies that no longer make long term plans, but only guidelines. However, you have to put a lot more effort into short-term planning.” (JMM)

These statements lead to the assumption that internal factors as well as external factors have changed massively and are influencing pricing policy and corporate planning. On the one side, companies must be more responsive to customer behaviour which is more than only an increasing price elasticity. On the other hand, the increasing price and demand volatility is intensified through an increasing volatility in the business environment. Therefore, it can be concluded that both the companies as well as the changes in customer

behaviour due to the increasing market transparency lead to the situation that corporate planning is losing significantly its meaning. Instead, it seems as if data and information become increasingly a key competition resource and data collection and processing become more and more a key business activity in the whole business model. According to JMM, 20 years ago there

“was much less data and information available and, therefore it was less important, especially since other competitors had no information advantage. Today, everything is extremely important, for instance an e-commerce site must be optimised for the online marketing channel to be effective and integrated data exchange must occur along all channels and the complete Supply Chain. The whole business has become much more analytical because much more data is available than previously.” (JMM)

The statement reinforces the assumption that data and information represent a vital strategic resource for the firm and that data collection and processing is a crucial business activity, instead of the problem that data was rare in the past, the current issue is Big Data. However, it is not only the availability of data but the possibility to collect and transmit data in real time since new developments in technology have created platforms enabling to exchange data effectively which is supported by Hines stating “within a supply chain to satisfy the customer has been the catalyst for visibility whilst technology provided the means” (Hines, 2013, p. 330). In the past, it was not easy to integrate data between systems even in the same organization never mind the whole supply chain. Today standardization of common platforms is available to exchange data.

“The difference today is that we can talk about Big Data. In addition, there is social media content, which facilitates much better understanding of what the customer needs are, how they assess and perceive product. Previously you had to commission elaborate market research. Today, we have more opportunities with new databases, data collection costs have reduced and, in addition, you have the capacity to process and analyse such data.” (MK)

However, this should not be interpreted as that traditional market research is no longer useful, but digital data processing provides timely data faster and cheaper. Thus, primary data, supplement market research data and complement the traditional market research approach. This complementarity

consists in the form that real time data are not necessarily more accurate but allow a trend identification:

“Primary data collection methods were previously very different from what they are today, the choice customer survey or conducting sales pattern analysis.” (PK)

This change has led to shorter lead times and consequently to higher risks in the Value Chain. MK stated:

“Through rapid exchange of data, we can react more quickly to trends and can accomplish shorter time to market by reducing the lead time; thus production planning has become more important.” (MK)

By contrast, JC emphasises the risk perspective of having access to more data in real-time:

“Today the level of risk and stock we are managing are so critical that you must have much more information, because there are so many competitors and you have to ensure that you pull demand required. The whole business has changed; data is a must today. 20 years ago, information was a differentiation factor, today it is the basis for in every aspect of the business.” (JC)

Overall, it appears that the entire fashion business model has changed considerably, whilst 20 years ago, a fashion company planned its seasons, pushed the fashions into the market, with fixed prices based on purchase price, now a fashion company must restructure the whole business around data and information streams, in order to coordinate volatile customer demand with the production and consumer trends that are ever more regionally asynchronous.

“External factors on the global scale are very different, and mainly locally determined. In Spain for example you produced shoes and apparel for a long period of time and could plan production for the longer term. Other markets have such fluctuating dynamics, that long-term planning is impossible. Therefore, global long-term planning is no longer possible as it was before.” (FM)

All these developments lead to an information dominated, short cycle business which is faced with growing unpredictability:

“If you look at the situation 20 years ago, business planning was a top down approach and now it is a sale driven, customer approach. In 1996,

I worked for a company that was actually the industry leader and I remember when it devised one total budgeting plan, we felt over-controlled by the management. Today you have a budget for going to the toilet, today you have to forecast and check everything in short term cycles, so, it is the opposite way around. We have to deal with non-predictable scenarios and plans more and more, a framework which must be continuously accommodated.” (JC)

Due to the rising complexity of fashion business models, the requirements for employees have also changed significantly. This fact supports the relevance of the knowledge and information based theory of the firm, as discussed in the theoretical part of this study; recent approaches in the theory of the firm have increasingly focused on knowledge, an approach, which originated from technology companies. However, the old market sectors, such as the fashion industry, now show the same tendencies such as high technology industries.

JMM noted:

“Employees need a different set-up today, because data handling has become much more important. This also applies to ordinary workers and administrative employees.” (JMM)

Consequently, workforce development has also changed, particularly the shift in skills and cultural fit, as FM stressed:

“We have changed from command and control to mentoring and giving people a purpose to their role. I don’t like to recruit for skill, I’d like to recruit for cultural fit as I can train skill. You can learn the skills, and today there are many more ways of adding value to the existing skills level; it is much easier to educate and train people.” (FM)

In parallel with the increasing competitive relevance of information and knowledge, the workforce turnover is very different from the situation 20 years ago. MK stated:

“Today, people are basically the nuts and bolts and therefore extremely success relevant. Nowadays, however, the retention of employees is much lower and information is much more accessible. This means that one has no chance to exploit a knowledge and skills advantage for a long time, unlike previously.” (MK)

However, the growing employee knowledge and skill requirements derive from the growing complexity of the fashion business model:

“It hasn’t lost importance, but it is more difficult, and therefore you need better people. It is mainly competition, speed and how fast the technology moves, how volatile the environment is. The more information everybody has, the more difficult it is to be different, and to get value from that difference. It is a matter of speed or someone expressing the right idea, which diminishes the meaning of planning and increases the capacity for spontaneous change.” (FM)

Therefore, the working space has also changed significantly, as PK stated

“Most of my career has been within a data led environment. So, data has enabled me to take decisions quicker and faster and with less risk. The biggest change that I have noticed is the amount of data and its accessibility. Tools have evolved that can handle a much higher volume of data, and you can get many more insights, and more interesting dimensions on the data that you have. This simply wasn’t possible 10 years ago, you may have had big data, but the data wasn’t crunchable. Now you have big data, and it is even bigger, but it can be analysed, since the tools are out that enable you to view it in multi-dimensions, and to gain different insights.” (PK)

In contrast, the classical comparative advantage factor has lost his meaning. Branding was considered to be the key competitive advantage for decades, whereas in the current environment a strong brand must be regarded more as an additional but not crucial resource. Branding, according to FM

“did not lose importance, it is simply different and more difficult now. Nowadays you can’t only have branding, you also need good market penetration. It is not just about having an amazing brand. Previously it was easier, when you launched a big brand, it was in the spotlight, and everybody was aware of it. Today there is so much information that it becomes diluted, and you have to make a bigger effort; now it is much more difficult to brand. In the past, the customer did not have to focus on so many things because there were only a few brands, whereas now there is a wide spectrum of brands and information, so that it is much more difficult to create an amazing brand, which gains recognition.” (FM)

Branding has lost its function as a major consumer information source, owing to the ubiquitous availability of information, so that the market transparency is the substitute for branding; the market provides the core product information for the customer. The value-added of a brand has therefore decreased

“20 years ago, wearing a garment, for instance made by Ralph Lauren, was a signal of wealth and positioning was relevant. Today nobody cares because nobody is going to measure you by wearing a Ralph

Lauren polo shirt. It was a socially added value and the perception of luxury brands was perceived differently. Branding was more relevant 20 years ago.” (JC)

The current role of a brand must instead also be viewed in the context of data-based marketing.

“What has changed is the type of branding. Today it is about storytelling, it is no longer easy to devise just a marketing campaign, marketing must be much more personalised and digitised. However, basically I would assess that the impact of the brand is waning. Customers are very informed, price transparency has become very important; brand is important, but no longer as crucial as it was 20 years ago.” (JMM)

These comments confirm that the traditional fashion business model has been subject to disruptive innovation, which technology has made possible, with some companies have completely managing their Supply Chain by focusing on responsiveness reliant on data down-streaming. Therefore, PK concludes

“You can split the industry into marketing driven companies like GAP, DKNY and into sales and data driven companies like ZARA and Esprit. One group of that has a big idea, pushes it out into the market and hopes to find a customer. The other group reads the market to see what the big idea is and reacts. The role of marketing within companies has become significantly less important.” (PK)

b) Industry Leadership ZARA: Supply Chain Management, Relevance of Information Flows, Future Trends

In general, the supply and demand sides of the fashion market have changed on both the operational level and on the industry level; the extent to which one level has influenced the other is difficult to assess. However, on an industry level, JC describes the change as follows:

“20 years ago the production capacity was higher than the demand, but you did not have problems finding consumers. Today, it is the opposite. Today you have fewer companies due to bankruptcies, but the remaining ones are the big players, with extremely high, efficient capacities able to produce whatever is required. Hence, we have the problem of excessive production capacity, with a higher competition,

which leads to the problem that the consumer is the scarce factor. This makes long-term planning absolutely obsolete.” (JC)

Yet, it could be assumed that the changes on the operational level have had a significant influence on the development on an industry level. All respondents state unanimously that ZARA is the unchallenged market leader who is also supported by the quantitative analysis of financial analysis indicators in this study. JMM links this finding on the industry level with the operational level:

“Due to the standardisation of sales, the development of collections determined more and more by the market, and extremely flexible Supply Chain success is now more about capacity to react than to plan. ZARA is the perfect example. We all would like to have the responsiveness of ZARA, but we cannot because we do not have the systems. ZARA has also systemised its entire distribution and Supply Chain.” (JMM)

According to JMM, the main result of ZARA’s responsiveness to the market must be considered in the context of its operational speed.

“Speed has become a major competitive advantage in the industry. The fashion follower concept does not exist anymore, people are so quickly informed that the difference in production of the fashion leaders and fashion followers accounts for just six months, but the distance is very marginal. The reactive Supply Chain allows serving both customer groups within one season.” (JMM)

Hence JMM noted that speed was the result of the disruptive business model innovation, which was only possible as a consequence of restructuring the Supply Chain Management to allow the introduction of a pull model that replaced the traditional push model.

“Zara is the master of the pull model. The push model will not work anymore. You have to work in a pull model, therefore, you have to adapt the total value chain. You have to adapt your Supply Chain, the IT and the logistics to be much faster. In addition, you must handle some challenges, mainly better customer value creation as Zara has. This requires lower Initial Mark Up (IMU, the margin calculating the retail selling price), to achieve better gross margins. This affects inventories and working capital for instance. This example is actually the best learning we can get.” (JC)

However, the transformational change is not just the consequence of new technology, which allows the restructuring of the Supply Chain into a Value

Chain Management system but of other factors, preconditions relating to distribution policy.

“The optimisation of distribution is also relevant, you must have modular, systematic distribution. One cannot develop a standardised collection today if different goods are available in the stores, for this, today one needs systems. ZARA has very clear blocks in the store and develops the collection around this. Other companies have too many different stores and, unfortunately, far too many different wholesale distributors.”(JMM)

However the key resource for ZARA’s competitive advantage is knowledge which derives from a lot of different data, collected wherever possible:

“One of the most important factors for ZARA is its customer knowledge, what the current preference is for, which is fast-fashion. ZARA has amazing ways of analysing its customer data, for example the stores have heat-maps to detect how the customer moves around. When you go to ZARA, and you leave something in the dressing room the employee doesn’t put it back directly, but scans it first to obtain data on consumer trends. So, they have data on articles which have been tried but not bought.” (FM)

Insofar it is not only the capacity to collect, process and to transmit data but it is more or less the willingness to collect data wherever they can capture it. The purpose being to track movements through the whole supply chain. It is now possible with new technology innovations to follow the garment through every step of the supply chain. The ability to connect these different data streams and integrate them to obtain a complete picture of movements is critical to the responsive supply chain:

“20 years ago there was no data at all. The fact that 500 pairs of trouser had been sold was known, but not who bought them, customer identification came much later. All the information coming from the sales area now but, in the future, all the information may come from the CRM. Then there is the predictive area, so that you will be able to say who will buy what. This goes somewhat against the proposition that reaction is so important, but the predictive approach could give you more power to forecast earlier.” (JMM)

Therefore, it can be said, that the established increasing number of data points –‘point of data’ as the complement of the point of sale– is the basic infrastructure for a responsive supply chain which is the infrastructural

backbone of the disruptive innovation of the value chain and, thus, of the whole business model. Currently, this attention to data points tends to be exceptional, rather than the norm.

“Today, most companies use customer data not for the Supply Chain and fashion collections, but purely for marketing.” (JMM)

The growing importance of the data infrastructure becomes even more apparent in the case of mergers and acquisitions; PK reported that the takeover of an insolvent fashion company’s data infrastructure system leveraged end to end control from the factories to the end consumer, in such a way that Esprit was able to grow 30% to 40% year on year in this market.

“This is a great example of that data exchange within your Supply Chain, which enables you to grow faster.” (PK)

According to PK,

“the fashion industry is going through a data revolution. We have lots of data, but most companies don’t necessarily leverage it in the way than other companies do.” (PK).

Yet, the problem is not the amount but heterogeneity of the data:

“Actually, many companies have many data ‘islands’. The data environment is such that they have pockets of data isolated in different geographies, different times, different systems and the unification of all that data would be a huge value.” (PK)

According to PK,

“some companies have 10 to 15 systems, some of them are internal, some of them owned by third parties and enabling all of this data to come together and create one data set should be the top priority”. (PK)

In this sense, then, the challenge is no longer the availability of data, but how it is integrated purposefully to understand the demand and supply chain:

“The general availability of enterprise data relating to all operational processes has increased significantly. You have much information at your fingertip. Associated with this high data availability the dealing with the information has changed. Instead, the challenge is to find the information among all the data.” (MK)

Therefore, the typical big data problem is the main challenge of the data driven business model innovation: *“In the past, there was not the complexity that we have today, the potential to make mistakes was much higher”* (JC). According to MK, the *“effort to get data required for decision making was three times higher 20 years ago”* (MK). Instead, the way decisions are made has changed: *“Today you never take a decision if you don’t have the appropriate data. In the past, the main decisions were highly inspirational. The business moved from feelings to analytics”* (JC). Accordingly,

“today we no longer wonder what decision points we must substantiate with data, we ask for the available information to derive decisions from the existing data” (MK).

FM describes how data is currently used:

“In the past you did not look at data at all, now it is the only thing you do. It is about scrutinising the data, instead of trying to get it and adjust it. As we have so much data compared to the past, you take the time to interpret the data in the correct way, to generate certain actions. It is the speed at which the data moves. Fashion is a fast moving market and you have the opportunity to react quicker. However, you must be more careful as the speed of data acquisition gets faster; today you may look at some figures that are totally the opposite tomorrow. The way you use the data is different you need to use more common sense.” (FM)

Essentially, FM claims that fast information is important as are analytics but the interpretations of data must be tempered through practical wisdom based on experience and common sense. Furthermore, the availability of real time data and new analytics approaches shifts completely away from planning or short cycle reaction to real-time responsiveness, JMM states, that

“the perfect business model would be to produce just that, for which there is already a buyer, 20 years ago the focus was on the superb design for which we had to find the buyer. Tomorrow, it will be the super-integrated Supply Chain which allows Just-In-Time designing and manufacturing.” (JMM)

This is not a particularly original observation but it is an important one. The extant SC literature has been cognisant of the need to integrate information throughout the chain to be responsive and eliminate waste through the

implementation of flexible manufacturing and distribution processes. However, on the level of fashion business economics, this means:

“The challenge in our industry is that we always develop new products at risk. I develop 500 pants but do not have a customer for them, therefore, a large margin is needed, to cover the costs of all our mistakes. ZARA has partially minimised this risk because it ensures that the development fits the customer’s needs perfectly.” (JMM)

This could allow a completely new business economics which is not based on a mass market focus. Therefore, JMM assumes that in the future

“any business model must focus on taking advantage of a mass of niche opportunities, by using data collection and a highly responsive Supply Chain, because the environment is not as it was the past, you found a niche and then exploited it for some time. Niches will appear and disappear much faster, and you must find niche, which will disappear tomorrow as well. Quick response will require detection of short-term niches before they disappear.” (JMM)

JMM believed that the traditional pre-order wholesale business will also become obsolete in the near future.

“We must also take over the purchase of the wholesaler, which will provide only retail space. It is basically the concession issue, we have sovereignty over the stock and do not wait for the wholesaler’s buy decision. We must also streamline the complete Supply Chain so that we approach the Just-In-Time production, which is triggered by the customer, in order to decrease stockpiles to virtually zero and avoid to prolonging product cycles to clear the stock.” (JMM)

Also, the separation of business channels could be obsolete in the very near future, the omni-channel perspective could prevail. JMM proposed a direct relationship from the digitisation of the Supply Chain to the alignment of separated sales channels.

“You have to digitise the Supply Chain, in order to make it faster and with fewer errors, likewise product development. A company will emerge that digitises the Supply Chain and perfectly develops sales and marketing in the online space, it will probably be an omni-channel retailer. Amazon could theoretically set up a digital Supply Chain for its own brand, so that it would have all the information in clusters and think digitally. I think that future fashion business will take place mainly online, with only 20% taking place in stores, so that more outlets will

communicate the touch and feel data, which is difficult to gather online.”
(JMM)

This concept would also change the function of retail showrooms.

“You have a store where you can try but can’t buy. In the city there is showroom to acknowledgment the brand and for the customer to try on the article for size. The article can be ordered in the store, online but store holds no stock items only samples. You don’t have an expensive rent as less no bags for customers take their purchases home. If you have good logistics the product will arrive at the customer on the same date it was ordered online. Replenishment of stores and the numbers of stock items are no longer of concern.” (FM)

5.3 Summary of Results

The findings from the interviews with fashion industry experts supported the financial data analysis and, of particular importance in this context, is the fact that three of the five experts interviewed were formerly ZARA employees, so that they have knowledge from within this industry changing company. They unanimously recognised ZARA as the market leader in fast fashion and the company, which has generated a new business model, by abandoning the classical fashion industry business model. Although this disruptive business model innovation is based on restructuring the Supply Chain, ZARA transformed Supply Chain efficiency but also created the business model introducing a new Supply Chain configuration, the consumer trend responsive business model.

All the industry experts interviewed shared the opinion that the Supply Chain reorganisation was the basis for the disruptive business innovation, whereas reorganisation of physical commodity flow was crucial, reconfiguring the information flow was an integral part of the Supply Chain redesign. This allowed the introduction of non-hierarchical business operation organisation, enabling the company to identify consumer trends based on POS data, which was gathered and continuously forwarded by means of standardised reports and data warehousing, downstream in the Supply Chain. These practices enabled ZARA to abandon the traditional fashion business approach

comprising corporate planning for four seasons. All the participants agreed that the fashion business was experiencing a “data revolution” (PK), which is significantly changing the way fashion industry companies are organised and the employment of the traditional industry business model. The participants stated that data and information have become the main competitive factors, whilst the staff requirements had changed in such a way that knowledge and data analysis competencies replaced intuition, strategy and corporate planning.

6. Discussion of Results

The findings from the semi-structured interviews and the global industry descriptive and statistical analyses are discussed in this Chapter and compared with the concepts that formed the theoretical framework in Chapter Two.

6.1 Discussion of Results

This study has proven that the theory of the firm has changed, by means of the disruption strategies employed within some fast fashion supply chains, and represents the first stage in understanding how the established theories of the firm have altered. The research proved that the specific resources of the individual firm and market forces were insufficient to explain performance and that new forms of Supply Chain Management were based on digitisation, which enabled data and information networks to connect key stakeholders; customers, suppliers, production, product development and retailers in real time. In this context, the Supply Chain moved from being a function, which supported business operations to a core component of them, with the consequence that the growth of a firm must be examined in relation to a different Theory of the Firm.

The overall result of the industry case study and the expert interviews is that digitalisation considerably changes the possibilities in the Supply Chain configuration, as had been detected by Hines (2013, p. 239) stating that

“changes in attitudes, however influenced, shape the ways in which organizations structure their supply chains and the ways in which they develop relationships underpinned, for example, by information communication technologies”

However, it is not merely the existence of digitisation that has been responsible for the capacity to transform the Supply Chain, but how the technology is used. In order to optimise the potential of digitisation, the most successful firms have

been able to both amass substantial amounts data from a range of sources, including customer, potential customers, suppliers and business analysts, and to integrate and manipulate it in a way that enables the firms to forecast future consumer preferences and purchasing trends. Data gathered can also identify which sales techniques have the greatest impact, as well as how to supply the identified needs in a just in time manner, which reduces inventory costs to zero. The acquisition of data is of little use if it is not interrogated for the key information, and responses need to be fast enough to meet customer needs before another set of preferences takes priority, which means having a highly responsive digitised Supply Chain. The executives in this study forecast that digitisation could reduce multichannel marketing to one channel in the relatively short time, a digital supply chain integrating sales and marketing, and a purely online phenomenon, with virtually zero inventory since orders were processed and manufactured with optimum response times. In contrast, the less successful companies keep data about different functional aspects separated, for instance marketing strategies and trends and purchasing, or a range of databanks retained in varying locations, whereas all the information needed to be unified and employed effectively using techniques appropriate for handling Big Data and transforming it to key business facts. Therefore, new Supply Chain configurations, based on strategically focused digitised data, were able to increase competitiveness, providing the infrastructure for disruptive business model innovation, so that Supply Chain Management has become a key business activity because it is the basis of the reorganisation of the relationship between the firm's purchase markets, product development, manufacturing, distribution channels, and the consumer market. This development represents a restricted change at a lower level of business operations but a major one at the strategic level, with implications for the theory of the firm and the theory of a firm's growth.

The changes in the Supply Chain configuration arising from digitalisation, and the subsequent reorganisation of the Supply Chain from outside, specifically the POS, have changed the nature of the fashion industry substantially. New competitors emerged, destroying the existing market equilibrium by introducing the concept of the responsive Supply Chain, which must be regarded

as much more than a Supply Chain improvement. The new business model is now considered to rely on the traditional planning, raw material sourcing, new product development, manufacturing and marketing but on a flexible, self organized network of those who fulfil those tasks; suppliers, designers, production employees, marketers, and customers. In this respect, Supply Chain Management aligns with Value Chain Management, and represent a firm's core competence. Hence firms may be tasked with design and development of flexible networks as Viswanadham and Kameshwaran (2013) forecast. This model would mean that the firm would be positioned at the centre of a Value Chain network, instead of being considered a gatherer of resources and multiple competences.

The fashion industry exemplifies how an industry relying marketing, brand and intuitive design in past decades, has developed into an information and technology driven industry, which infers that classical theories of the firm and a firm's growth have questionable value. In the classical approach, the firm adopts its input-output structure from market signals, referred to as the market based view, or it combines its specific assets in such as ways as to generate growth, the resource-based view. However, the firm must be perceived as an entity of factor allocation, the resource-based view, or cost-price adaption, the market based view and as the information based orchestrator of the firm's specific network. Consequently, the traditional concept of the firm as factor allocator or cost-price adaptor must be supplemented by a network theory of the firm, based on the information based view.

The quantitative analysis of the financial data from fifteen leading fashion companies has provided evidence that some companies have accomplished extremely high competitive advantage by means of the improvements made to leverage higher performance, in terms of their cash conversion cycle and asset turnover, whilst others lag behind. The trends in revenues of the companies, highlighted four firms as experiencing much higher revenue growth than others, ZARA being one of these firms; the remaining firms characterised by relatively lower growth long term revenues. Only one of the firms had moved from slow to high growth in the final six years of the ten year period studied,

and all those with revenues of less than \$US 5 billion providing an indication that a change in business model was required to support growth. The consequent implication is that amongst the fifteen firms, at least two different business models were being employed, and that the change in growth pattern by Fast Retailing was very significant to answering the research question of this thesis; its outstanding financial performance and growth suggesting that the Supply Chain has been optimised by implementing innovative practices. The relationship between growth in organisational revenue and market capitalisation also yielded results that identified the firms as belonging to four groups exhibiting different trends and referred to as sales performer, outperformer, underperformer and value performer. In the context of this research, the outperformers are of the most interest since their higher than whole group average growth in revenue and sales performance, also implies that a different business model is the core reason for the gap with the other groups, in particular the underperformer which has below average revenue growth; outperformers were characterised by higher than 10% average growth in market capitalisation measured over 5 years and more than 10% average revenue growth for 10 years. However, when these results were compared with the firm's ROIC, the extremely high growth rates of some of these outperformers was found to link to below average profitability, for instance Tom Tailor averages were almost 30% on each dimension, whereas ZARA (Inditex) had an average revenue growth of approximately 10% and average market capitalisation of approximately 15%. However, Tom Tailor had an ROIC of 1% in comparison to Inditex of over 20%. By contrast the firm that is the focus of this thesis, Esprit was classed as a sales performer, with higher than average revenue growth and lower than average market capitalisation, but had an ROIC of approximately 18%. The value of the ROIC financial indicating how effectively a company allocates its financial capital to generate returns, and how profitably the invested capital has been allocated. Therefore, a link to management efficiency, in this case of the Supply Chain was indicated. The inventory turnover ratio was the most significant indicator of the efficiency of the supply chain, with American Apparel's inventory turnover ratio being five times as high as Esprit, whilst ZARA's was comparable with American Apparel, for instance. The graphical representations of various financially based trends

starkly demonstrate the differences in performance between ZARA and Esprit, for instance whilst ZARA almost doubled its average growth rate from 2007 to 2014, Esprit's was rather flat. Overall ZARA outperformed the market capitalisation average, whereas Esprit underperformed against that metric. Therefore, it is evident that Zara and Esprit employed different business models. In addition and most significant to theories of the firm, the quantitative analysis revealed that Supply Chain, Value Chain and firm performance parameters are all highly and significantly correlated. Consequently, the conclusion was that the fast fashion business model is not just a programme to optimise the Supply Chain, but a transformational change in the business model. This conclusion became particularly apparent in the case of ZARA.

The overall conclusion from the expert interviews is that ZARA has created a new business model beyond the classic fashion industry business model. This new and disruptive business model is based on redesigning data and information flows allowing to redesign the Supply Chain. This redesign was the basis for the disruptive business model innovation allowing ZARA to abandon traditional fashion business concepts in the area of product development and marketing. The environmental changes that have occurred over the past twenty years, particularly technology driven data generation and capacity for analysing huge quantities of data in real time, globalisation, which has also been technology driven, and simultaneous increase in consumer awareness and capacity to demand certain products and purchasing preferences, has transformed the business model for success in the sector. The responses to interview questions revealed exactly how ZARA had managed to outperform Esprit and others by quickly exploiting the power of the technological advances, whilst many companies lagged behind because they not understood the significance of the technology to alter the market structure and therefore did not make the requisite changes to their supply chains.

The quantitative analysis of the firms' performance indicators also provided evidence that Value Chain efficiency is the main precondition for profitability in the fashion industry, originating from the Supply Chain efficiency. It was also evident that those companies with a fast-fashion approach grew faster and

more profitably than traditional fashion companies. ZARA was presented as the paradigm of a disruptive business model innovator, based on a higher level of data and information allocation. The company is the industry standard for revolutionising the classical model which was derived from industrial economics, such as production planning based on cost-price adaptation.

All those companies in the sample, which outperform the others, in terms of the firm's growth emphasised the relevance of the information driven Supply Chain in their Annual Reports. These companies also represent exemplars, which acknowledge Supply Chain configuration as the core of Value-Chain reorganisation, and as a key business activity. These companies do not allocate assets by means of corporate planning, classical market research, brand communication and creative intuition, rather comprehend the firm as a flexible supplier partner consumer network which is not hierarchical.

Consequently, the Supply Chain cannot merely be considered to be a logistical flow of goods, but predominantly a chain of data and information flows upstream and downstream. The Information Supply Chain allows allocating assets based on real time sales data, rather than to corporate planning and introduces a new perspective of the firm. Whilst the market-based view concerns the 'right' adaptation of the cost structure to price signals as the main driver of firm growth, and the resource based view the 'right' combination of the individual firm's specific assets (resources) as driver of organisational growth, the information based theory of firm growth would claim that the responsive value (supply) chain organization based on real time (POS) data are the main 'resources' of firm growth. However, a distinction must be made between price signals and Point of Sale (POS) data. Demand side data is more than price signals, it comprises real time trend signals, which must be systematically collected, processed and transmitted to all internal and external value chain partners. Therefore, the organisation of the reverse flow of data is relevant to performance outcomes, and is complementary to the organisation of the flow of physical commodities, which also resolves classical Supply Chain problems such as the bullwhip effect.

The digitalisation of the Supply Chain, led to disruptive innovation in the fast fashion firm, and its outcomes are not explicable by standard theories of a firm's growth. The digitised Supply Chain is highly responsive, and has the capacity to organise commodity and information flows along Value Chain, with real time connectivity between consumer markets, manufacturers and purchase markets, in a non linear manner.

The strategic impact of Supply Chain Management in driving disruptive business models, to leverage business performance, has largely been ignored by academia but this research has indicated the transformation of the firm from an input-output processor to a sales side input processor, which makes business operations more efficient and from an outside-in perspective. In this perception, the firm is based on coordinating a network of external and internal service suppliers, with decision made on the basis of a Value Chain with information as the core.

7. Conclusions

Chapter Seven is the final section of this thesis, and employed to summarise the findings and to draw conclusions, as well as to propose the contribution that this thesis has made to Supply Chain research and management practices. The last sections of the Chapter identify the limitations of the study and make suggesting for further associated research projects.

7.1 Conclusions

This study generated evidence, which offers unique understanding of the changing nature of the theory of the firm, within the context of the disruption strategies employed within fast fashion supply chains. The researcher recognises that claims have some limitations for instance, this thesis cannot develop an extended model or universal theory based on the financial analysis of fifteen companies and five expert interviews. However, the research represents an initial stage in the process of understanding changes to the existing theories of the firm. The discussion of theories in Chapter Two demonstrated that the specific resources of the individual firm and market forces could not fully explain the firm's performance. Instead, the new forms of Supply Chain Management such as ECR, QR, Fast Fashion have demonstrated the vital role of digitisation in enabling data and information networks, which connect customers, suppliers, production, product development and outlets, allowing a flexible, non hierarchical, high speed responsive Supply Chain. Consequently, appropriate Supply Chain Management has been proven to have the capacity to redesign the dominant Value Chain concept of whole industries. The Fast Fashion sector considered in this research has demonstrated that a Supply Chain is not merely a function supporting business operations, with a negligible role in the business model or the Theory of the Firm, but rather as a core component for remodelling existing business models beyond the fashion industry. Therefore, it is relevant to consider whether this development is merely a management issue or a firm indication that the Theory of the Firm in the context of firm growth, must be

reexamined. Real-time market information allows high speed product development, testing new products with small batches and linking suppliers, producers and customers almost in real-time. However, as became evident in the expert interviews, the decisive factor is the organization of data and information flows, which trigger Supply Chain activities, and is only it is only possible explain this by abandoning the classic Supply Chain approach of static forecasts and planning. The organization of information and commodity networks seems to have the potential to become the central ability of the firm, according to these findings.

This research has provided some evidence, that the planned organisation of sourcing, product development, production and marketing will no longer form the basis of a future business model but, instead, the model will hinge on the organization of a flexible, self-organized network of suppliers, designers, producers, marketers, and customers. Consequently, Supply Chain Management represents Value Chain Management and a core competence constituting the fundamental function of the firm. Therefore, the boundaries of the firm, which are the basis of all Theories of the Firm, may become increasingly permeable. In the near future, the firm may become merely the orchestrator of flexible networks as described by Viswanadham and Kameshwaran (2013). The major conclusion of this research, therefore, is that a contemporary version of the Theory of the Firm should not focus on resources, production, market positioning management and other classical factors, since all resources do not need to be confined within the firm's boundaries, when the Value Chain is customer driven. On the contrary, the firm's function is to design and organize the flow of commodities and information between multiple, diverse parties comprising the Value Chain network, instead of excessive management, centralized data collection and planning.

Consequently, the future firm may merely be at the centre of a Value Chain network, providing a platform for the self-organized orchestration of supply-demand networks, rather than location of accumulated resources and multiple competences. In this context, Supply Chain Management may emerge as the

core component of the business model organizing the information and commodity flows of Value Chain networks in the context of competition between global Value Chain networks, business ecosystems.

This study focused on example of the fashion industry to answer the research question, because textiles is historically the oldest industry in world economics and “played a prominent role in the process of economic development” (Hines, 2013, p. 29). Therefore, the industry exemplifies the metamorphosis of a classical industrial business economics under the conditions of digitalisation. This study examined the financial and supply chain parameters of leading fashion companies, as well as the internal perspectives of practitioners, as the means to answer the following research question:

- (1) Is Supply Chain Management merely a business activity support function?
- (2) Could a new form of Supply Chain Management change the business models in an industry by altering supply chain economics, which in turn has an impact on how we conceptualise the firm in theory?
- (3) If the Supply Chain is a transformational business activity, what does this mean for the further development of the theory of the firm?

This thesis argues that the digitalisation of the Supply Chain, and its subsequent reconfiguration along the data and information chain, has led to a disruptive innovation, which cannot be explained by prior theories of a firm’s growth presented in Chapter Two. chapter. In this context, the responsive Supply Chain, in its various manifestations, such as the Efficient Consumer Response Concept (ECR), Collaborative Planning, Forecasting and Replenishment (CPFR) and Quick Response (QR) represents a new type of Supply Chain organisation. It also corresponds to a new method of structuring and positioning a firm, in which the responsive Supply Chain is both, an efficient means to organise the flow of commodities and of information along the entire Value Chain. Therefore, the concepts of the responsive Supply Chain, and particularly of fast fashion, establish a framework for real-time

interconnection of consumer markets, manufacturers and purchase markets, in contrast to the linearity of traditional industrial business models and classical firm theories.

The accomplishment of the research objectives highlights the contribution that this study has made to existing knowledge of the theories of the firm.

RO1: examine the fashion industry as an example for disruptive business model innovation by implementing a Supply Chain concept which goes beyond classic Supply Chain Management concepts.

The thesis has demonstrated that the fashion industry is an example of disruptive business model innovation, by implementing a Supply Chain concept, which goes beyond classic Supply Chain management concepts. This was achieved by discussing current fashion Supply Chain Management concepts in Section 2.5 and the examination of leading fashion companies by means of financial analysis in Chapter 4.

RO2: demonstrate how previous research studies in Supply Chain Management have ignored the strategic role of developing disruptive business models.

The previous research studies in Supply Chain Management have been exposed as ignoring the strategic role in developing disruptive business models, by discussing the current research approach and its critics in Section 2.6 and 2.7. Research design, which integrated qualitative and quantitative analysis in the context of a case study approach, examined the role of disruptive business models on firm success; these business models were based on redesigning the Supply Chain.

RO3: analyse the possible effect of Supply Chain Management in the context of disruptive business models on the traditional theory of the firm.

The consequences of disruptive business models to the traditional theory of the firm were mostly inferred by the expert interviews, which asked explicit

questions about changes in practices in recent decades, relating business organization, planning, and the use of information and resources.

RO4: evaluate the nature of competitive Supply Chain Management strategies in the fashion industry.

The nature of competitive Supply Chain Management strategies in the fashion industry was determined by examining the financial data of leading fashion companies and conducting expert interviews with highly experienced fashion industry C-level managers.

RO5: reconceptualise the Theory of the Firm based on Supply Chain Management concepts establishing a disruptive business model. As explained at the beginning of this section, digitalisation of the Supply Chain, and its subsequent reconfiguration along the data and information chain, leads to disruptive innovation, which is inexplicable by previous theories of a firm's growth.

The mainstream Supply Chain research was criticised by Wallenburg and Weber (2005) as being focused only on the operational perspective of the input to output relationship between the flow of goods, which inferred that Supply Chain Management was solely a logistics service, providing the right quantity of goods, at the right location, within the right time and with minimum costs. This view of Supply Chain Management is aligned with the microeconomic theory of the firm, in which the firm adopts its input-output structure by detecting market signals.

In contrast, this thesis has presented evidence that growth companies in a selected industry are those, which have an effective Supply Chain combined with an efficient information based value chain, and that the underlying infrastructure is a digitalised Supply Chain, which integrates POS with all upstream business functions.

Therefore, the whole basis of firm is reversed, it is no longer an input-output processor but a sales side input processor, which streamlines business operations outside-in instead of inside-out. Hence, the firm can no longer be

regarded as an input-output entity but must be considered as a data gathering and merging unit integrated in a data processing hub, so that decisions can be based on real-time data. Therefore, the firm is no longer a planning centre or a business strategy centre but a data collection and transformation centre, which coordinates a network of external and internal service suppliers, for example purchasing, design, and distribution. Decisions are no longer based on a planned positioning strategy, annual planning and branding strategy but, in contrast, future competitive advantage in industrial businesses appears to be reliant on the transformation of the Supply Chain into an information based Value Chain. The integration of business functions develops along the information Supply Chain; the Supply Chain is the core process, along which the stream of goods and information is organised along the Value Chain. Therefore, Supply Chain Management is proposed as the vehicle for the integration of the stream of information, goods and values. As a consequence, this thesis represents evidence and entry points for further development of the classical theory of the firm and of a firm's growth, which is its overall contribution to new knowledge.

The classical Supply Chain research approach is also questionable and should be revisited; typical Supply Chain research variables include efficiency, effectiveness, cycle time, postponement (Müller, 2005, p. 358), whereas the main objective of Supply Chain research is the optimum configuration and design of a Supply Chain (Prockl, 2005, p. 402). This study claims that the Supply Chain is more than a support function, it represents a key business activity to increase competitiveness providing the infrastructure for disruptive business model innovations. However, prior Supply Chain research has provided multiple methods, strategies and management instruments to analyse and coordinate the flow of goods, but instruments from management practice have developed more complex concepts, leveraging Supply Chain Management on the level of Value Chain Management and Strategic Management. Instruments, such as CPFR combine the logistics of physical assets and the flow of data. Therefore, it appears that Supply Chain research and Supply Chain Management practices provide concepts and instruments for disruptive business model innovation. Hence it may be assumed that

Supply Chain Management is better equipped to lead the digital transformation of business models than business informatics and IT management, because Supply Chain Management provides the interface between information flow and the flow of goods.

In the context of digital transformation, it may be correct that the storage, transmission and protection of data and information is an essential foundation for the information configuration of the firm. However, information technology focuses only on data and information, whereas the IT department is responsible for information technology and computer systems. Data, information flow and information systems may be the core of an information based firm, and information may also be seen as a commodity. Industrial organisations are fundamentally manufacturers of physical assets and commodities, which are the domain of Operations Management and Supply Chain Management. However, the empirical research in this thesis provided evidence that Supply Chain Management is increasingly a cross functional business practice and that it continuously develops the interface between information and physical goods, so that Supply Chain Management responsibilities and interpretations change, leading to new priorities, which may be best described as business model or Value Chain engineering. This finding became particularly evident in the interviews, which presented evidence concerning the change of emphasis of Supply Chain Management from operational task to business model engineer.

In terms of the information based view of a firm's growth as a key business resource and production factor, developed in this thesis, information and data must be provided in the right quantity, at the right location, within the right time scale. This data is strongly linked to the flow of physical commodities, because it emerges from the movement of commodities along the Value Chain. Logically, therefore, the digital transformation of the industrial firm may be better coordinated by the Supply Chain business function. Hence the Supply Chain Management of the future may be more of a cross divisional function in terms of engineering the Value Chain.

7.2 Limitations

A major limitation of this research is the focus on one industry in which a small number of cases were considered and the number of interviews was limited to a group of executives, which included several that had worked for the industry leader so that perspectives were based on comparison between Esprit and ZARA. The questions posed to the executives were not fully standardised so that responses to certain aspects were not collected from every executive. Despite acknowledging the semi-structured interviews have the purpose of enabling flexibility to pursue further clarification of the initial response made to a prepared question, at times the initial question was not posed to all. The researcher's bias is also a limitation, as s/he works for the organisation researched and this could have influenced both the concepts selected for the theoretical framework, the content and focus of the questions devised for the interviews, and the interpretation of the responses provided by the company executives. The perspective of these executives may not be fully representative of the management and employees.

7.3 Recommendations for Further Research

This research has demonstrated the importance of using mixed methodology in order to gain a holistic perspective on the research problem and therefore to answer the research questions from an objective and subjective perspective, as was recommended by Seuring et al. (2005), Gimenez (2005) and Golicic et al. (2005). The semi-structured interviews with industry experts closing the gaps between academic theory, which is tested in the quantitative analysis and organisational practice which is a matter of subjective preferences and uncovered by the qualitative approach. Therefore, the employment of integrated quantitative and qualitative analysis is the first recommendation for further research into Supply Chain Management.

The second recommendation is to appraise the future Supply Chain by identifying how to deliver the most appropriate data regarding commodity flows to the key decision maker(s) in the organisation.

The study findings have shown that future studies should recognise that the contemporary model of the firm must recognise and integrate firm specific, information based networking of procurement and consumer markets, rather than merely focus on the specific resources and market positioning of the organisation concerned.

The Business Model concept could, therefore, be considered to be more of descriptive than of analytical value, and this represents a relatively new approach to research which is imprecisely defined, especially as specific measurement or identification processes are not possible. The relatively recent emergence of the model may also account for the few scientifically based studies, which examine business models on an empirical level. Therefore, there are opportunities for further research to develop knowledge relating to the Business Model concept, from both the subjective and the objective perspective.

This research focused on the Fashion Industry and the findings infer that future studies should be extended to other industry sectors because the strategic importance of the Supply Chain has been proven in this research and this is unlikely to be an isolated context. This research has demonstrated that optimising Supply Chain Management has implications beyond the operational dimensions of the classical Supply Chain research, and has evolved to become the core of Value Chain organisation and a major business intervention in terms of business model research.

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Appendices

Appendix I: Interviews

Note: Statements cited in Section 5.2 are marked in grey.

Interview JC

Part I. Master Data

Name: Juan Chaparro (JC)

Professional Status: Chief Supply Chain Officer

Length of Service at Esprit (in years): 2

Industry Experience (in years): 25

Brief Description of the main fields of activity:

- Sourcing and Buying products at international locations
- Commercial Management along the Supply Chain
- Consulting services along the Supply Chain

Part II. Theory of the Firm

Question 1: Theory of the Firm

Question 1a) Which of the factors mentioned were of decisive importance 20 years ago? Please state the three most important success factors and provide the reasons, why each of them factors is less relevant to success today.

- *Creativity in Design was, and still is, the important factor because what you sell is and was a story, in order to attract consumer. Nowadays it is*

more difficult, but it is still the main driver. The next ones are different, they are less relevant before:

- *Employees were more relevant because 20 years ago the companies were smaller and you had to compete through best in class employees. There were not so much machinery and data available as there is today.*
- *Positioning was of higher importance because all the other factors are consequences of level of competitiveness.*
- *Speed of commodities to customers was not decisive.*

Question 1b) How relevant was production optimisation to success 20 years ago? Why is it different today? Justify your opinion in detail!

Actually, it is totally different today, 20 years ago you had a clear calculable cost structure; a purchasing price and added the desired profit margin to determine the sales price. This was mainly due to less competitive markets. Today it is exactly the opposite, the price must have to fit with the price of the market which means that it is no longer possible to find the most efficient manufacturing concept because manufacturing depends much more on market data, which requires continuous restructuring of production.

20 years ago the level of buffers was much higher. For example: The buying price of a t-shirt in 2005, same quality, prints etc. was half of the buying price 10 years ago and even less 20 years ago.

Question 1c) How relevant were knowledge and skills of 20 years to success? Why is it different today? Justify your opinion in detail!

20 years ago the market allowed many more mistakes than today. Today even the light in a window counts. Today visual merchandising is starting to be new. It is hard to compare because it is not apples to apples. Today we raised the bar in terms of qualification needed. 20 years ago we did not even need English skills.

Question 1d) How relevant were data and information to success 20 years ago? Why is it different today? Justify your opinion in detail!

20 years ago the fashion industry was a push business. You were pushing garments into the market. Today the level of risk and stock we are managing are so critical that you must have much more information, because there are so many competitors and you have to ensure that you pull demand required. The whole business has changed, data is a must today. 20 years ago information was a differentiation factor, today it is the basis for in every aspect of the business.

Question 1e) How relevant to success was production planning 20 years ago and today? Why is it different today? Justify your opinion in detail!

20 years ago the production capacity was higher than the demand, but you did not have problems finding consumers. Today, it is the opposite. Today you have fewer companies due to bankruptcies, but the remaining ones are the big players, with extremely high, efficient capacities able to produce whatever is required. Hence, we have the problem of excessive production capacity, with a higher competition, which leads to the problem that the consumer is the scarce factor. This makes long-term planning absolutely obsolete.

Question 1f) How relevant was sales planning to success 20 years ago and today? Why is it different today? Justify your opinion in detail!

In 1996 I worked for a company that was actually the industry leader and I remember when they came with a single budget and we felt over controlled by the management. Today you have a budget for going on the toilet. Today you have to forecast and check everything. So, it is the opposite way around. It is much more relevant. Whenever the offer succeeds you have to optimise the demand in a single step. Additionally, today we are in a non-predictable scenario where the consumer has so much information about what they want. Digitalisation has changed everything.

Question 1g) How relevant was total corporate planning to success 20 years ago and today? Why is it different today? Justify your opinion in detail!

It depends a lot on the size of the company. The biggest companies were family owned companies. The fashion business is very new nowadays, it is not like banking. Banking was professional 20 years ago and is still professional. The fashion business wasn't professional at all 20 years ago. It developed. Therefore corporate planning was not that relevant 20 years ago.

Question 1h) How relevant was branding to success-20 years ago? Why is it different today? Justify your opinion in detail!

20 years ago wearing a garment, for instance made by Ralph Lauren, was a signal of wealth and positioning was relevant. Today nobody cares because nobody is going to measure you by wearing a Ralph Lauren polo shirt. It was a socially added value and the perception of luxury brands was perceived differently. Branding was more relevant 20 years ago .

Question 2: Industry Leader and Lessons

Question 2a) Which company do you consider to be the industry leader?

The Inditex group by far.

Question 2b) Why is the company the industry leader? Please think about the success factors mentioned in Question 1, in particular? (Justify your opinion in detail)

They are the ones that adapt in the best way the four important points of

- *Design*
- *Clear positioning*
- *A lot of customer knowledge*
- *Know how concerning the Supply Chain and strong positioning.*

Question 2c) What can Esprit learn from the industry leader? Please provide at least three learning points and justify the reasons why Esprit has to learn these lessons!

Zara is the master of the pull model. The push model will not work anymore. You have to work in a pull model, therefore, you have to adapt the total value chain. You have to adapt your Supply Chain, the IT and the logistics to be much faster. In addition, you must handle some challenges, mainly better customer value creation as Zara has. This requires lower Initial Mark Up (IMU, the margin calculating the retail selling price, to achieve better gross margins. This affects inventories and working capital for instance. This example is actually the best learning we can get.

Part III. Digitalisation and Data

Question 3: General Importance of Information and Data

Question 3a) How relevant was data exchange with suppliers and distributors, and the general availability of data and information, to success 20 years ago? How important is it today? Justify your opinion in detail!

It was not relevant 20 years ago but it is a must today. Today you have to react according to demand, while 20 years ago you created the demand. There is only one company that is creating the demand today and this is Apple. Apple is not just the brand, it is actually the lifestyle and the story telling the fashion industry had in the past.

Question 3b) How important was data collection on customer purchasing behaviour 20 years ago? How important is it today? Justify your opinion in detail!

Today it is a must, 20 years ago it did not exist. No company had data because it simply was inexistent. There were no algorithms etc.

Question 4: Importance of Information and Data in Daily Operations

Question 4a) How has the availability of data and information changed your work in the last ten years? Name the three most important changes, and explain these changes on the level of daily business in detail!

In the past there was not the complexity than we have today. In the past, there was not the complexity that we have today, the potential to make mistakes was much higher. Today you will never take decision if you don't have the proper data.

Today you never take a decision if you don't have the appropriate data. In the past, the main decisions were highly inspirational. The business moved from feelings to analytics.

All the areas we were adding to the companies like IT, logistics etc. increased the complexity. The level of internationalisation in the 90s was very low. Then you start to grow in other countries and you need to have better logistics, so logistics became relevant. Supply Chain became relevant to ensure better prices and more timely products. IT became more relevant to control everything with the respective data. All the new challenges can now be handled with data. We now have so many players that you have to check everything.

The most important change to me is the Internet. It is a change of the era, not an era of change. What is changing is actually everything through data.

Question 4b) In your industry experience: What distinguishes Esprit from other firms concerning the handling of data and information? Justify your opinion in detail!

The database Esprit has about its Esprit loyalty programme, including 5m customer datasets, it is the main company asset. We handle the

information properly, but we can't actually derive the correct actions out of this information. We can't create value.

Part IV. Industry Trend

Question 5: Trends in Retrospection

If you look at the fashion industry over the last few decades:

Question 5a) Which company area, for instance marketing, sales and production, has changed the most? Why has it changed? Justify your opinion in detail!

Everything has changed. Maybe the core is the same, but production has changed, logistics has changed. We added more new areas to the companies that became relevant. It's not about how much they changed, although they changed a lot, but the number of areas is many more today. IT was important but not highly relevant to drive the business. Logistics was fine 20 years ago, but is now bringing speed and therefore value.

Question 5b) What are the causes of this change? Justify your opinion in detail!

Our business has become highly professional. As I said, it is not like banking where almost the same professional structures were available in the past. The causes are fast growing markets and the fast evolution of companies, and the willingness to serve the customers.

Question 6: Future Trends

Question 6a) Which three major developments or trends will change the fashion industry decisively in the next 20 years? Justify your opinion in detail!

- *The digital world is changing everything and we have to adapt all our companies to that very soon. To me, the E*Com business is just a bridge.*
- *Social media will change everything.*

Question 6b) What impact will each of these trends have on strategy and the dominant business model in the industry?

The online business will grow. Today the dominant business is offline. And you have to be present 24/7 whenever your customer wants. And we need to get there. We have a dream: You are watching a film and the actor is wearing pants, which you want to buy. Then you can click and order the pants.

*I don't believe too much about specific channel businesses in the future. It will become omni-channel. Retail, Wholesale, E*Com will become more and more diluted and it'll become a pure omni-channel perspective. You don't need all the structures you currently have in the current business models.*

Question 7: Fast Fashion

Question 7a) Please define the fast fashion concept in five sentences!

For Esprit I would call it quick response time because even you are not in the fast fashion business, you need to have quick response time.

But fast fashion: Capacity to react on market response. Value for money proposal. Business focus on sell off and not sell in (rather than trying to put merchandise in the market, react and focus on the sell through). Keeping a lean inventory level. Fitting and fitting the marketing demand.

Question 7b) In your opinion: Is fast fashion an independent business model or just a concept of operational excellence? Justify your opinion in detail!

The business model is not independent, it is different. You can't have a 100% fast fashion orientation because everything you can forecast you can buy in long lead times. So, I would say it is a concept of operational excellence. But it is not black or white. You have to define your business model on what operational excellence looks like, as you can be quick in response and also can slow in lead times.

Interview JMM

Part I. Master Data

Name: Jose Manuel Martinez

Professional Status: CEO

Length of Service at Esprit (in years): 3 years

Industry Experience (in years): 20 years

Part II. Theory of the Firm

Question 1: Theory of the Firm

Question 1b) Which of the factors referred to earlier were of decisive importance 20 years ago? Please mention the three most important success factors and provide the reasons why each of these factors is less relevant to success today.

The brand had been an important part in the past. The digital era means the final consumer has much more information to make better comparisons than before. Creative design and positioning in the consumers mind were the most important factors to attract consumer and attract them into the store. Brand, in conjunction with creative design and a good brand marketing, was overall the most important factor in the past, because markets were not so transparent. A flexible Supply Chain was less important. The customer had waited for the goods to arrive.

Question 1c) How relevant was the production optimisation to success 20 years ago? Why is it different today? Justify your opinion in detail!

In the past, it was not necessary to react fast and change production equally fast. You could place with collection at the supplier given a very

long lead time to deliver. Today you have a much shorter lead time. The supplier should ideally offer the possibility of replenishment, including last-minute changes. Consequently, efficiency today means not just fast manufacturing, but fast accommodation to market changes, in terms of volatile demand behaviour.

Question 1d) How relevant were knowledge and skills to success 20 years ago? Why is it different today? Justify your opinion in detail!

Employees need a different set-up today, because data handling has become much more important. This also applies to ordinary workers and administrative employees.

Question 1e) How relevant were data and information to success 20 years ago? Why is it different today? Justify your opinion in detail!

20 years ago there was much less data and information available and, therefore it was less important, especially since other competitors had no information advantage. Today, everything is extremely important, for instance an e-commerce site must be optimised for the online marketing channel to be effective and integrated data exchange must occur along all channels and the complete Supply Chain. The whole business has become much more analytical because much more data is available than previously. However, also today, most companies use customer data not for the Supply Chain and fashion collections, but purely for marketing.

Question 1f) How relevant was production planning to success 20 years ago? Why is it different today? Justify your opinion in detail!

Responsiveness is becoming more and more important, planning more and more difficult, and is replaced by more continuous planning.

Question 1g) How relevant was sales planning to success 20 years ago and today? Why is it different today? Justify your opinion in detail!

Sales planning have become less important, responsiveness is a main success feature now. The world is changing much faster, sales planning has been replaced by sales strategy in the sense of a broader framework, and therefore sales planning is a thing of the past. Today, you have to create tools to enable the company to react quickly, this also applies to the Supply Chain. The activity planned with the partner a year ago, has changed and is no longer relevant.

Question 1h) How relevant was total corporate planning to success 20 years ago? Why is it different today? Justify your opinion in detail!

Corporate planning has less importance than 20 years ago. One can hardly make a solid financial plan, because the movement of interest rates and currency rates fluctuate. Everything has become extremely volatile. One could even go so far as to question the value of three to five-year planning. There are companies that no longer make long term plans, but only guidelines. However, you have to put a lot more effort into short-term planning.

Question 1i) How relevant was branding to success 20 years ago? Why is it different today? Justify your opinion in detail!

What has changed is the type of branding. Today it is about story-telling, it is no longer easy to devise just a marketing campaign, marketing must be much more personalised and digitised. However, basically I would assess that the impact of the brand is waning. Customers are very informed, price transparency has become very important; brand is important, but no longer as crucial as it was 20 years ago.

Question 3: Industry Leader and Lessons

Question 3a) Which company do you consider to be the industry leader?

Zara

Question 3b) Why is this company the industry leader? Please include the success factors mentioned in Question 1a in particular. Justify your opinion in detail (Interviewer Instruction: Hand over the cards prepared for Question 1a)

Due to the standardisation of sales, the development of collections determined more and more by the market, and extremely flexible Supply Chain success is now more about capacity to react than to plan. ZARA is the perfect example. We all would like to have the responsiveness of ZARA, but we cannot because we do not have the systems. ZARA has also systemised its entire distribution and Supply Chain.

The optimisation of distribution also relevant, you must have modular, systematic distribution. One cannot develop a standardised collection today if different goods are available in the stores, for this, today one needs systems. ZARA has very clear blocks in the store and develops the collection around this. Other companies have too many different stores and, unfortunately, far too many different wholesale distributors.

Question 3c) What can Esprit learn from the industry leader? Please suggest at least three learning points and, with reasons, justify why Esprit has to learn these lessons and how Esprit can convert this lessons into measures and activities.

The systematisation in sales concept: Here ZARA is thinking in modules. Zara searches for, which sales opportunities exist and develops a little collection. Then, when the demand changes, ZARA can react very quickly based on the flexible Supply Chain, realising subsequent allocation and accommodated quantities.

Part III. Digitalisation and Data

Question 4: General Importance of Information and Data

Question 4a) How relevant was data exchange with suppliers and distributors, and the general availability of data and information, to success 20 years ago? How important is it today? Justify your opinion in detail!

Previously very little data was exchanged, and if it was, it was not digital. Today, data is the key to success. Intuition has lost its meaning.

Question 4b) How important was data collection on customer purchasing behaviour 20 years ago? How important is it today? Justify your opinion in detail!

20 years ago there was no data at all. The fact that 500 pairs of trouser had been sold was known, but not who bought them, customer identification came much later. All the information coming from the sales area now but, in the future, all the information may come from the CRM. Then there is the predictive area, so that you will be able to say who will buy what. This goes somewhat against the proposition that reaction is so important, but the predictive approach could give you more power to forecast earlier.

Question 5: Importance of Information and Data in Daily Operations

Question 5a) How has the availability of data and information changed your work in the last ten years? Name the three most important changes, and explain these changes on the level of daily business in detail!

Marketing is much more individualised and customised, since I finally know what the customers bought from me. Such information was not previously available and the business was based on assumptions. Today, we analyse data, test two variants and wait for the results. The business has become much more analytical.

Question 5b) In your industry experience, what distinguishes Esprit from other firms, concerning the handling of data and information? Justify your opinion in detail!

We have a lot more data about our customers than other companies. We certainly have the largest cross-channel data pool, because no one has such a large omni-channel business. We have the largest e-commerce share. Our customers buy in both channels. Our electronic marketing has expanded very much, certainly more than Zara, H & M etc. However, Zara certainly has a better product and a better sales concept, but in the digital domain, they are not as far ahead as we are, with significantly less data and information. The reason is that they started later and did not have as much e-commerce share. It is estimated that today they have 6% share in the online market. Nike, for example, has published that they will increase their online share by 500%, but there are also at 2%.

Part IV. Industry Trends

Question 6: Trends in Retrospection

If you look back at fashion industry over the last few decades:

Question 6a) Which company area, for instance marketing, sales, production, has changed the most? Why has it changed? Justify your opinion in detail!

Sales and production has changed the most as the result of digitalisation. The 'vertical players' have driven this. The responsive Supply Chain puts so much pressure on other companies. They have the product, which fits better to customer demand and therefore they are more successful. So this is the area which has changed the most.

Question 6b) What are the causes of this change? Justify your opinion in detail!

In the product and sales areas, the vertical companies have gained more and more market share and therefore proved they have the better concept. This forced a structural change in the industry. The others companies now have to adapt to this concept.

The change in marketing came through digitisation. The consumer now has much more digital opportunities with mobile and social media. The days of big TV campaigns are just passing. The digitisation available consumers has changed everything. It began with the internet, and with Steve Jobs and Facebook came to new dimensions. And there is probably no end in sight.

Question 7: Future Trends

Question 7a) Which three major developments (trends) will change the fashion industry decisively in the next 20 years? Justify your opinion in detail!

It is hard to say, no one can predict future. It all will probably be much faster. But whether certain brands become larger or smaller, is an open question. Is Zara the future, or the will the company with a very sharp profile win? Is H & M with its large and broader business the future, or will other ideas win with niche strategies? The market is not growing any longer, so there is only repression. In the Western world, the market is no longer growing. Each growing market is only displacing a stagnating market. Speed plays a major role. The issue of positioning remains open perhaps. Is the broader concept, where mother and daughter can shop? Or is it the concept which bundles a lot of smaller customer segments? The issue of quality and sustainability is also an open question. Will the market, at least in the Western countries, become more quality-driven? Some customer segments tend to use things longer. But if this will have a growing importance for the market is also unclear. Consumer behaviour today provides no clear indication. Furthermore, digitisation also has an impact. The faster the people are aware of something new, the more other people want the same. But, in

general, the consumer does not want to spend more money. This rationale goes against sustainability in the sense that consumer will buy less but better.

Question 7b) What impact will each of these trends have on strategy and the dominant business model in the industry? Please explain the trends identified in detail!

Trend 1: Speed of commodities to customers was not decisive. You have to digitise the Supply Chain, in order to make it faster and with fewer errors, likewise product development. A company will emerge that digitises the Supply Chain and perfectly develops sales and marketing in the online space, it will probably be an omni-channel retailer. Amazon could theoretically set up a digital Supply Chain for its own brand, so that it would have all the information in clusters and think digitally. I think that future fashion business will take place mainly online, with only 20% taking place in stores, so that more outlets will communicate the touch and feel data, which is difficult to gather online

The challenge in our industry is that we always develop new products at risk. I develop 500 pants but do not have a customer for them, therefore, a large margin is needed, to cover the costs of all our mistakes. ZARA has partially minimised this risk because it ensures that the development fits the customer's needs perfectly. The perfect business model would be to produce just that, for which there is already a buyer, 20 years ago it focus was on the superb design for which we had to find the buyer. Tomorrow, it will be super-integrated Supply Chain which allows Just-In-Time designing and manufacturing. Any business model must focus on taking advantage of a mass of niche opportunities, by using data collection and a highly responsive Supply Chain, because the environment is not as it was the past, you found a niche and then exploited it for some time. Niches will appear and disappear much faster, and you must fine niche, which will disappear tomorrow as well. Quick response will require detection of short-term niches before they disappear

Speed has become a major competitive advantage in the industry. The fashion follower concept does not exist anymore, people are so quickly informed that the difference in production of the fashion leaders and fashion followers accounts for just six months, but the distance is very marginal. The reactive Supply Chain allows serving both customer groups within one season.

Trend 2: Positioning. How sharp must the brand profile be? There are hundreds of concepts that are being delivered globally. Specialist for shirts, trousers etc. The issue is: Should we produce for the broader market or for many small segments?

Trend 3: Sustainability. Buying less, but better. Such demand is growing, but the question is whether this is only a small trend or a broad demand shift. The market will be divided more. In recent years, the big ones have grown more and more. Currently, only Zara and H & M are increasing their market share. In 10 years, they may be too large and 'over-distributed' whilst the customer buys sustainable and specialist.

Question 8: Fast Fashion

Question 8a) Please define the fast fashion concept in five sentences!

Fast fashion is a reactive concept. I am responding directly to shifts in consumer demand. I develop in my collection based on real-time customer data. For that, I need the perfect Supply Chain and a highly standardised sales approach.

Question 8b) In your opinion: Is fast fashion an independent business model or just a concept of operational excellence? Justify your opinion in detail!

Fast fashion is an important element of the business model causing disruptive business model innovation, but it is not an independent, completely new business model. It requires a perfect Supply Chain, fast design and data flow. But it is operational excellence.

Interview FM

Part I. Master Data

Name: Fernando Moliner

Professional Status: Head of Merchandise Allocation & Order Book Management

Length of Service at Esprit (in years): 1

Industry Experience (in years): 15

Brief Description of the main fields of activity:

- Allocating the merchandise that Esprit owns into the different channels, based on its performance.
- Allocation mainly for the self-owned retail stores, order book management for wholesale customers
- We give a little bit of shine to the rock that the product teams and the sourcing and buying teams gives us, and we adapt what has been bought 6 month before to the current situation in the markets.

Part II. Theory of the Firm

Question 1: Theory of the Firm

Question 1a) Which of the factors mentioned above were of decisive importance 20 years ago? Please state the three most important success factors, and provide the reasons why each of the factors you indicate is less relevant to success today.

- *Production know-how was not as relevant as it is today. There as little innovation in how goods were produced, so we were not forced to develop new manufacturing methods. Now we rely much more on the constant data stream coming from the outlets, the same is true for the*

Supply Chain. In the past, with a good group of suppliers you succeeded. Now the suppliers produce for almost every apparel company, so that organisation and supervision are crucial.

- *Production technology – It lost relevance because it was a very analogue based but nowadays technology is more digital. At a specific point in time the benefit does not change that significantly with more innovation in apparel production.*
- *Know how concerning the organisation of suppliers in the Value Chain – It lost relevance due to the globalisation. Now we live in a much more globalised environment than before. There was less competition before. When you had a good bunch of suppliers you succeeded. Now the suppliers produce for almost every apparel company.*

Question 1b) How success-relevant was production optimisation 20 years ago? Why is it different today? Justify your opinion in detail!

20 years ago it was much more relevant because there was much more to do. It was the differentiation by production, but nowadays the differentiation is about what to produce.

Question 1c) How relevant to success were knowledge and skills 20 years ago? Why is it different today? Justify your opinion in detail!

We have changed from command and control to mentoring and giving people a purpose to their role. I don't like to recruit for skill, I'd like to recruit for cultural fit as I can train skill. You can learn the skills, and today there are many more ways of adding value to the existing skills level; it is much easier to educate and train people.

Question 1d) How success-relevant were data and information 20 years ago? Why is it different today? Justify your opinion in detail!

20 years ago it was not relevant, now it is the most relevant thing. Whoever has the data and information has the answer. 20 years ago it was not relevant, it simply wasn't available. It is the speed with which the technology moves, and nowadays data is much easier to get. And

we also have machines that can work with that data better than in the past.

Question 1e) How success-relevant was production planning 20 years ago and today? Why is it different today? (Justify your opinion in detail!

It is also globalisation. People did not travel that much and we now have more general knowledge. We know, we have more information about what each country can produce what they can't and where we should go for a supplier. Everybody knows if you want to have a printed T-Shirt you have to go to a supplier in India and if you don't want to have a printed T-Shirt you go to a supplier in China. Before we didn't have the expertise.

External factors on the global scale are very different, and mainly locally determined. In Spain for example you produced shoes and apparel for a long period of time and could plan production for the longer term. Other markets have such fluctuating dynamics, that long-term planning is impossible. Therefore, global long-term planning is no longer possible as it was before.

In Spain for example you produced shoes and apparel for a long period of time in which you did not need any production planning. When the cost of living space, petrol etc. went up, we went to China. Now in China, the middle class go up and we emerge into new markets like Cambodia.

Question 1f) How relevant to was sales planning to success 20 years ago and today? Why is it different today? Justify your opinion in detail!

Sales planning is not more relevant than in the past but more difficult. It has become more difficult to forecast sales due to the increasing competition. You are more likely to get it right. The patterns that you analyse are not as constant as they used to be. The sales curve in the northern hemisphere is much more edgy than in the southern

hemisphere. Due to the globally changing weather conditions, the winters are later etc. and people are going on holidays much more frequently, sales were easier to predict then than today.

Question 1g) How relevant was total corporate planning to success 20 years ago and today? Why is it different today? Justify your opinion in detail!

It hasn't lost importance, but it is more difficult, and therefore you need better people. It is mainly competition, speed and how fast the technology moves, how volatile the environment is. The more information everybody has, the more difficult it is to be different, and to get value from that difference. It is a matter of speed or someone expressing the right idea, which diminishes the meaning of planning and increases the capacity for spontaneous change.

Question 1h) How relevant was branding to success 20 years ago? Why is it different today? Justify your opinion in detail!

It did not lose importance, it is simply different and more difficult now. Nowadays you can't only have branding, you also need good market penetration. It is not just about having an amazing brand. Previously it was easier, when you launched a big brand, it was in the spotlight, and everybody was aware of it. Today there is so much information that it becomes diluted, and you have to make a bigger effort; now it is much more difficult to brand. In the past, the customer did not have to focus on so many things because there were only a few brands, whereas now there is a wide spectrum of brands and information, so that it is much more difficult to create an amazing brand, which gains recognition.

Question 2: Industry Leader and Lessons

Question 2a) Which company do you see as the industry leader?

Zara

Question 2b) Why is the company the industry leader? Please think about the success factors mentioned in Question 1, in particular. Justify your opinion in detail!

One of the most important factors for ZARA is its customer knowledge, what the current preference is for, which is fast-fashion. ZARA has amazing ways of analysing its customer data, for example the stores have heat-maps to detect how the customer moves around. When you go to ZARA, and you leave something in the dressing room the employee doesn't put it back directly, but scans it first to obtain data on consumer trends. So, they have data on articles which have been tried but not bought.

Zara has a very clear positioning! It doesn't want to be Ernesse and it doesn't want to be Primark. It is giving you something for you and it is value for money.

On top of all that I would say that the profiles of the Inditex employees are very strong.

Question 2c) What can Esprit learn from the industry leader? Please name at least three learning points and justify your responses concerning why Esprit has to learn these lessons!

Esprit has something that Inditex does not have, and we are simply not using it. It is a 5 million customer data base and Zara does not have that. And on top of that Esprit's customer is much more loyal than Zara's customer. If we actually understand as Zara does what this loyal customer wants we can make a lot of money. So, the customer data regarding needs is extremely important. We can learn how to use it from Zara. And it does so well because that data does not only come from a database, it also comes from the stores. The stores can order merchandise and that input is put into the next editing directly (assignment of collection to stores) Store managers sometimes have a

straight line to Ortega. And he was listening to the stores. In the past at Esprit the stores were not allowed to call headquarters.

Esprit is too complex and there is no back door. At Inditex you can jump the back door out on every process

At Inditex we did our job and linked it to the others. At Esprit we work in silos. But don't go to someone else's garden and try to fix it. Fix your own first and work on yours, but maintain the link with others. It is not only input, it is about finding synergies that we did not have before. It is a matter of trying to avoid the silo mentality, which helps us to go from a push to a pull system.

Part III. Digitalisation and Data

Question 3: General Importance of Information and Data

Question 3a) How relevant was data exchange with suppliers and distributors, and the general availability of data and information, to success 20 years ago? How important is it today? Justify your opinion in detail!

It is very important but somehow it lost importance because we have a lot of platforms nowadays. In the past we had faxes, then there was the Email and now we have websites in which we can advise what to do. It is more available than before and it is faster. It is not so difficult to communicate and it is also easier in terms of distance.

Question 3b) How important was data collection on customer purchasing behaviour 20 years ago? How important is it today? Justify your opinion in detail!

Nobody collected any data in the past. Now it is very important. Before we were more about processes and doing them better than other companies. Now it is knowing who is going to buy.

Customers are cleverer today. In the past we were able to create necessities. Now we are better in finding out what these necessities are. People know I don't need this but you are making me need it. Today this is mainly in luxury brands. Esprit on the other hand needs to identify what the customer requirement is. And give it to them as easily as possible.

Question 4: Importance of Information and Data in Daily Operations

Question 4a) How has the availability of data and information changed your work in the last ten years? Name the three most important changes and explain these changes on the level of daily business in detail!

In the past you did not look at data at all, now it is the only thing you do. It is about scrutinising the data, instead of trying to get it and adjust it. As we have so much data compared to the past, you take the time to interpret the data in the correct way, to generate certain actions. It is the speed at which the data moves, fashion is a fast moving market and you have the opportunity to react quicker. However, you must be more careful as the speed of data acquisition gets faster; today you may look at some figures that are totally the opposite tomorrow. The way you use the data is different you need to use more common sense

Question 4b) In your industry experience, what distinguishes Esprit from other firms concerning the handling of data and information? Justify your opinion in detail!

Esprit works in silos rather than seamlessly across the Value Chain. We have to learn a lot about data mining. We have a lot of work to do, to obtain a good data set. Zara for instance has a central reporting unit. It is about centralisation and report development. We need to learn that everybody is talking in the same language. We have too many characteristics (master data) and key performance indicators that are open to interpretation. And they should not be open to interpretation.

Part IV. Industry Trends

Question 5: Trends in Retrospection

If you look back at the fashion industry in the last few decades:

Question 5a) Which company area, for instance marketing, sales and production, has changed the most? Why has it changed? Justify your opinion in detail!

Production has changed a lot because it is easier, sales have changed a lot because of competition, and marketing has changed a lot because we need to know what the customer needs are. The relevance of marketing and sales has become more important, while production has become less important. Distribution is probably the most important. As you know your customer, you need to put the right stock in the right place.

Question 5b) What are the causes of this change? Justify your opinion in detail!

- *In production it is globalisation where know how is not so important.*
- *In sales you need to be better to find that sale*
- *In marketing you need to understand your customer better than before.*
- *Distribution is simply to be really faster to market.*

Question 6: Future Trends

Question 6a) Which three major developments or trends will change the fashion industry decisively in the next 20 years? Justify your opinion in detail!

- *The vertical wholesale. Because you have more synergies, more purchase power and a better brand footprint*
- *Retail Showrooms: You have a store where you can try but can't buy. In the city there is showroom to acknowledgment the brand and for the customer to try on the article for size. The article can be ordered in the*

store, online but store holds no stock items only samples. You don't have an expensive rent as less no bags for customers take their purchases home. If you have good logistics the product will arrive at the customer on the same date it was ordered online. Replenishment of stores and the numbers of stock items are no longer of concern.

Question 6b) What impact will each of these trends have on strategy and the dominant business model in the industry?

Trend 1: It is all about having the knowledge from the whole organisation even in one small e.g. franchise store, and about the company's corporate image. You are sending the same message and have to be much more reactive and analytical.

Trend 2: This trend will be revolutionary. I really like that format and if the online business is faster with really good logistics, it gives the customer a relaxed shopping experience. You don't need to care about replenishment of stores and the right amount of pieces within the stores etc.

Trend 3: The positioning of the brand may change depending on the demographics. Luxury will not change, because the rich are rich and brands like Gucci will not produce more simply, to keep their exclusivity. It might affect brands like Esprit that need to adjust their strategy.

Question 7: Fast Fashion

Question 7a) Please define the fast fashion concept in five sentences!

Fast fashion is design, trend, mid – low quality, affordable products to be brought to customers really fast.

Question 7b) In your opinion, is fast fashion an independent business model or just a concept of operational excellence? Justify your opinion in detail!

It is a mix between both. It started like a business model and nowadays the business models will be diluted into operational excellence. Maybe it is more a business model: Operational excellence is more about quality and not about speed in general. In luxury there is no fast fashion. Gucci for instance is not fast, it is high quality compared with a certain image.

Interview MK

Part I. Master Data

Name: Dr. Michael Kaib

Professional Status: CIO

Length of Service at Esprit (in years): 5

Industry Experience (in years): 17

Brief Description of the main fields of activity:

- Implementation of IT projects, setting up of IT support for new capabilities and processes within the company, such as verticalization or omni-Channel

- Managing stable operation of infrastructures, systems and of Supplier relationships regarding data transfer

Part II. Theory of the Firm

Question 1: Theory of the Firm

Question 1a) Which of the factors stated earlier were of decisive importance 20 years ago? Please indicate the three most important success factors and provide the reasons why each of these factors is less relevant to success today.

- *Customer Knowledge was not an issue 20 years ago. There was little data, but the demand was high*
- *Production expertise merely served to differentiate in terms of cost.*
- *In contrast, strategic skills of the top management were of high importance.*

Basically, there are not many changes in priorities. Most likely, the issues related to commodities nowadays are more relevant than before. For logistics, companies that provide the products to the customers fastest have the highest competitive advantage.

Question 1b) How relevant was production optimisation to success 20 years ago? Why is it different today? Justify your opinion in detail!

Fashion does not include the most complex production processes. It was still important to find qualitatively good, scalable suppliers. Nowadays it is a standard.

Question 1c) How relevant were knowledge and skills to success of 20 years? Why is it different today? Justify your opinion in detail!

Today, people are basically the nuts and bolts and therefore extremely success relevant. Nowadays, however, the retention of employees is much lower and information is much more accessible. This means that one has no chance to exploit a knowledge and skills advantage for a long time, unlike previously.

Question 1d) How relevant were data and information to success 20 years ago? Why is it different today? Justify your opinion in detail!

The difference today is that we can talk about Big Data. In addition, there is social media content, which facilitates much better understanding of what the customer needs are, how they assess and perceive product. Previously you had to commission elaborate market research. Today, we have more opportunities with new databases, data collection costs have reduced and, in addition, you have the capacity to process and analyse such data

Question 1e) How relevant was production planning to success 20 years ago and today? Why is it different today? Justify your opinion in detail!

Through rapid exchange of data, we can react more quickly to trends and can accomplish shorter time to market by reducing the lead time; this production planning has become more important.

Question 1f) How relevant was sales planning to success 20 years ago and today? Why is it different today? Justify your opinion in detail!

One would like to have closer proximity to the market so that one can prioritise demand planning before production planning. You want more action oriented sales and provide production flexibility. This demand driven planning is more relevant than 20 years ago.

Question 1g) How relevant was total corporate planning to success 20 years ago and today? Why is it different today? Justify your opinion in detail!

The term has not been invented 20 years ago.

Question 1h) How relevant was branding to success 20 years ago? Why is it different today? Justify your opinion in detail!

Even 20 years ago, brands also had a brand value. The value of a brand has allowed companies to request a price premium from the customer. The company, which was able to invest in brand building had a real competitive advantage. Today, the customer is 'sprinkled' with brand messages. The omni-presence of brands across all channels makes it more difficult to gain a brand advantage today, but this made branding no less relevant.

Question 2: Industry Leader and Lessons

Question 2a) Which company do you consider to be the industry leader?

Zara

Question 2b) Why is the company the industry leader? Please think about the success factors mentioned in Question 1, in particular. Justify your opinion in detail!

I would justify it with the company's strategic skills. ZARA has managed to define a consistent business model and aligned the entire set of corporate functions with this business model particularly the Supply Chain and the distribution channel concept. In addition, it is creativity and design. The product comes first with Zara. The company is very stringent about this. The whole business model is centred on the product.

Question 2c) What can Esprit learn from the industry leader? Please suggest at least three learning points and, with reasons, justify why Esprit has to learn these lessons!

- Shortening the lead times by a consistent vertical model.*
- Another step is to accept the wholesale partners' purchase decision.*
- In addition the integration of the e-commerce channel and own retail channel is perhaps of high relevance to short lead times.*
- Then we can take advantage of working with suppliers, for instance early blocking fabrics, negotiating large numbers etc.*

Part III. Digitalisation and Data

Question 3: General Importance of Information and Data

Question 3a) How relevant was data exchange with suppliers and distributors, and the general availability of data and information, to success 20 years ago? How important is it today? Justify your opinion in detail!

20 years ago, there was no data exchange. Today it is not only important and relevant, it has become a standard. What was formerly a differentiation is a 'hygiene factor' today. You must provide the

appropriate transparency along the Supply Chain for all Supply Chain partners.

Question 3b) How important was data collection on customer purchasing behaviour 20 years ago? How important is it today? Justify your opinion in detail!

What is important is not always easy to determine. Of course, information was also previously important and those who knew more about consumer behaviour were able to leverage the company's performance. However, it is much more difficult to get the relevant data. With comparable costs, the potential has become much higher. Yet, the amount of available information has increased so that the costs of information acquisition is also higher. However it is evident that the more information available, the higher are the efforts and costs to get the really important data from the increasing multitude of channels.

Question 4: Importance of Information and Data in Daily Operations

Question 4a) How has the availability of data and information changed your work in the last ten years? Name the three most important changes and explain these changes on the level of daily business in detail!

The general availability of enterprise data relating to all operational processes has increased significantly. The effort to get data required for decision making was three times higher 20 years ago. You have much information at your fingertip. Associated with this high data availability the dealing with the information has changed. Instead, the challenge is to find the information among all the data.

Today, the problem with information overload arises. The effort to prepare the available data for decision making is perhaps lower. 20 years ago, rather one has to consider, which data is necessary to make the right choices. Today we no longer wonder what decision points we

must substantiate with data, we ask for the available information to derive decisions from the existing data.

Question 4b) In your industry experience, wWhat distinguishes Esprit from other firms concerning the handling of data and information? Justify your opinion in detail!

Esprit suffers from clarity about data. The questions are: what are my operational processes in each area and what are my 'decision points' in this process? And what data do I need for these 'decision points'? Therefore, it appears to be necessary to establish a completely new form of reporting considering the verticalisation issue.

We presented the topic in the recent Investment Board, especially against the background that we have changed the business model towards verticalisation, and to answer the question of what the essence of the new business model in the different areas is, and which reports fit to verticalisation. This is even more true for companies which are not fast movers.

Part IV. Industry Trends

Question 5: Trends in Retrospection

If you look back at the fashion industry over the last few decades:

Question 5a) Which company area, for instance marketing, sales and production, has changed the most? Why has it changed? Justify your opinion in detail!

Sales and Supply Chain are the areas that have changed the most. Sales by the availability of information, increasing competition and the increasing speed of the emergence and obsolescence of brands. And, in recent years, e-commerce has also revolutionised the sales process. This applies not only to the fashion industry but also to most industries.

Question 5b) What are the causes for this change? Justify your opinion in detail!

- *Increasing competition and lower barriers to entry through the increasing availability of market data.*
- *The procurement market for the new player is also more transparent and provides more services. Today, one can start a t-shirt company with little start-up capital. A new market player can fly to Bangladesh, search for a supplier which offers not only the production facility, but also in-house design departments and other additional services.*

Question 6: Future Trends

Question 6a) Which three major developments or trends will change the fashion industry decisively in the next 20 years? Justify your opinion in detail!

- *The permeability of channels will also be granted to the customer. There is no need to assess whether to buy something in wholesale, retail, or online at all. The trend towards the omni-channel business continues.*
- *The increasing speed of the entire business leads to the situation that the IT department will not be merely a service provider in the near future, but increasingly a developer of flexible business processes. Hence, the IT department will become a process engineering department.*
- *The integration of all partners along the Value Chain will lead to the dissolution of boundaries between companies and the corporate environment.*

Question 6b) What impact will each of these trends have on strategy and the dominant business model in the industry?

Trend 1: The vertical omni-channel approach lead to extinction of the traditional pre-order wholesale business. If you want to be vertical, you must also take over the purchase of the wholesaler, which will provide only retail space. It is basically the concession issue, you must have sovereignty over the stock and do not wait for the wholesaler's buy decision. You must also streamline the complete supply chain so that you approach the Just-In-Time production, which is triggered by the customer, in order to decrease stockpiles to virtually zero and avoid to prolonging product cycles to clear the stock.

Trend 2: The increasing fast pace in the industry is a trend that continues. No market saturation is apparent and this trend will continue. Fashion companies have to react more quickly with shorter product cycles, a faster assortment policy and faster distribution. Also, the integration of Supply Chain partners and the exchange of information between partners will increase dramatically, in terms of the volume and the availability of data.

Question 7: Fast Fashion

Question 7a) Please define the fast fashion concept in five sentences!

Fast Fashion is based on the principles that processes are defined by which a company is able to respond to trends and changes in market demand, by the expansion or extension of the range of products in a very short time. Fast Fashion shortens product development cycles and sourcing cycles through closer cooperation with suppliers and sales partners, which is made possible by a streamlined organisation of the Supply Chain and information chain.

Question 7b) In your opinion, is fast fashion an independent business model or only a concept of operational excellence? Justify your opinion in detail!

Fast Fashion is basically operational excellence based on verticalisation. However, when a company in any industry introduces a similar approach, all other companies come under considerable pressure to follow by adopting similar strict and streamlined operational processes.

Interview PK

Part I. Master Data

Professional Status: SVP Global Vertical Merchandise Management

Length of Service at Esprit (in years): 10

Industry Experience (in years): 18

Brief Description of the main fields of activity:

- Optimisation of Esprit's purchase to customer spending patterns

Part II. Theory of the Firm

Question 1: Theory of the Firm

Question 1a) Which of the factors mentioned above were of decisive importance 20 years ago? Please state the three most important success factors, and provide the reasons why each of the factors you indicate is less relevant to success today.

- Strong brand was key to success in the 1980s and 1990s, which was the age of consumerism. Moreover, the Main Street was the main 'front' to the customer. Therefore, the competition for shopping space was also decisive. If a firm had a strong brand recognition and the ability to expand the shopping space, then excessive growth was the result
- Employees: 20 years ago with a lack of data and digitisation, success was mainly driven by the strength of individual employees and teams, their experience and failures. Data allows for mitigation of success and failure in a much quicker way, so the need for the "one hit wonders" has decreased substantially.
- Customer Knowledge: The fashion manufacturer relied on the data from its Supply Chain partners and, which was not transmitted in a standardised reporting process but only by means of interpersonal B2B

relationships 20 years ago there was a lot more peer-to-peer and B2B sales, and reliance on interpersonal relationships, in order to gain customer knowledge. The interpretation of customer preferences was more difficult because the data user was not in direct contact with the consumer but relied on the reports of others. Therefore, one person's interpretation of customer purchase behaviour transferred to another person, and the distance from the customer inferred greater chance of error.

Question 1b) How success-relevant was production optimisation 20 years ago? Why is it different today? Justify your opinion in detail!

It was a competitive advantage, but now it is absolutely necessary. Optimising production enables greater gross profit, higher flexibility and in today's world you must take advantage of it, in order to compete.

Question 1c) How relevant to success were knowledge and skills 20 years ago? Why is it different today? Justify your opinion in detail!

It was a matter of length of experience, and the Theory of the Firm suggests that data allows knowledge to be gained much faster.

Question 1d) How success-relevant were data and information 20 years ago? Why is it different today? Justify your opinion in detail!

Primary data collection methods were previously very different from what they are today, the choice customer survey or conducting sales pattern analysis. The general availability of enterprise data relating to all operational processes has increased significantly. You have much

information at your fingertip. Associated with this high data availability the dealing with the information has changed. Instead, the challenge is to find the information among all the data.

Question 1e) How success-relevant was production planning 20 years ago and today? Why is it different today? (Justify your opinion in detail!)

Production planning today enables organisations to take advantage of a much wider set of supply bases and to react more quickly to market needs, by means of emerging markets and globalisation. The movement of production in relation to macroeconomic factors, to exchange rates and to geopolitical influences is a lot easier than it was 20 years ago.

Question 1f) How relevant was sales planning to success 20 years ago and today? Why is it different today? Justify your opinion in detail!

Sales planning 20 years ago allowed a very top line approach to how sales were planned, the margins and units. However, in today's world, sales planning is much more bottom up than top down, due to the amount of data that can be collected as a result of digitisation. Twenty years ago sales planning was a top down methodology, and now it is a sales driven, customer approach.

Question 1g) How relevant was total corporate planning to success 20 years ago and today? Why is it different today? Justify your opinion in detail!

Corporate strategy provides the glue between the different departments, and sharing information exchange has become much more important, in order to use synergies, working towards the same

goal. If you compare the mainly family led businesses, they have a very top down approach, since the owner is the family.

Question 1h) How relevant was branding to success 20 years ago? Why is it different today? Justify your opinion in detail!

Today it helps a lot, but competition is much more intense, again it's a result of consumer purchase behaviour. There was less space available, and you have to look at the square metre selling space in the last 20 years to understand that 20 years ago having a strong brand was a huge benefit.

Question 2: Industry Leader and Lessons

Question 2a) Which company do you see as the industry leader?

Zara

Question 2b) Why is the company the industry leader? Please think about the success factors mentioned in Question 1, in particular. Justify your opinion in detail!

The leverage of data and speed across the entire supply chain, with focus on the end consumer.

Question 2c) What can Esprit learn from the industry leader? Please name at least three learning points and justify your responses concerning why Esprit has to learn these lessons!

All of them are not relevant to Esprit, due to our heritage and brand position, however we are able to learn from Zara's speed of reaction and focus on the customer. If we apply our brand heritage, quality and delivery of our brand, I think we have the best of both worlds, because speed of reaction comes at a cost.

Part III. Digitisation and Data

Question 3: General Importance of Information and Data

Question 3a) How relevant was data exchange with suppliers and distributors, and the general availability of data and information, to success 20 years ago? How important is it today? Justify your opinion in detail!

Esprit is actually a great example of a purely vertical company. When Esprit went bankrupt in the States Michael Ying who owns our supply base, took advantage of the brand and was one of the first guys to leverage end to end control from the factories to the end consumer. As a result, Esprit grew 30-40% year on year. Other companies came and perfected what we did and got faster than we were, so that we lost our competitive advantage. Esprit is a great example of the fact that it is data exchange within your Supply Chain, which enables you to grow faster. Hence this represented competitive advantage 20 years ago but today it is a given.

Question 3b) How important was data collection on customer purchasing behaviour 20 years ago? How important is it today? Justify your opinion in detail!

The companies that were able to do it had a competitive advantage but now it is a given. We've gone from a world in which a person has an idea and s/he pushes it through the market, and if it is a good, s/he gets

a lot of money. However now, the ideas must be really specific to customers in the different geographies.

Question 4: Importance of Information and Data in Daily Operations

Question 4a) How has the availability of data and information changed your work in the last ten years? Name the three most important changes and explain these changes on the level of daily business in detail!

Most of my career has been within a data led environment. So, data has enabled me to take decisions quicker and faster and with less risk. The biggest change that I have noticed is the amount of data and its accessibility. Tools have evolved that can handle a much higher volume of data, and you can get many more insights, and more interesting dimensions on the data that you have. This simply wasn't possible 10 years ago, you may have had big data, but the data wasn't crunchable. Now you have big data, and it is even bigger, but it can be analysed, since the tools are out that enable you to view it in multi-dimensions, and to gain different insights.

Question 4b) In your industry experience, what distinguishes Esprit from other firms concerning the handling of data and information? Justify your opinion in detail!

The fashion industry is going through a data revolution. We have lots of data, but most companies don't necessarily leverage it in the way than other companies do. Actually, many companies have many data 'islands'. The data environment is such that they have pockets of data isolated in different geographies, different times, different systems and the unification of all that data would be a huge value. *Some companies have 10 to 15 systems, some of them are internals, some of them*

owned by third parties and enabling all of this data to come together and create one data set should be the top priority.

Part IV. Industry Trends

Question 5: Trends in Retrospection

If you look back at the fashion industry in the last few decades:

Question 5a) Which company area, for instance marketing, sales and production, has changed the most? Why has it changed? Justify your opinion in detail!

You can split the industry into marketing driven companies like GAP, DKNY and into sales and data driven companies like ZARA and Esprit. One group of that has a big idea, pushes it out into the market and hopes to find a customer. The other group reads the market to see what the big idea is and reacts. The role of marketing within companies has become significantly less important.

Question 5b) What are the causes of this change? Justify your opinion in detail!

The world around us has changed at an exponential rate. There are so many different ways of accessing information: the internet, mobile technology and simply the availability of all the data.

Question 6: Future Trends

Question 6a) Which three major developments or trends will change the fashion industry decisively in the next 20 years? Justify your opinion in detail!

- Within merchandise management there is a lot of talk about customer centric assortment planning, which takes the level of data capture to a whole new meaning; the synergies across the different data sources, maximising geographical data with time depending data, with purchasing behaviour. These three synergies allow us to know when, where and how our customers are shopping. Predictive assortment planning will drive a huge change in the fashion industry and from middle management level to the bottom levels, will allow much leaner organisations.
- Merging different data sources.
- 3-D printing and the ability for consumers to start producing their own clothing.

Question 6b) What impact will each of these trends have on strategy and the dominant business model in the industry?

Trend 1: Run much leaner companies, and data will become the middle manager.

Trend 2: Same as 1.

Trend 3: Minimum impact. Maybe for companies like Nike, or in terms of cutting the supply chain cost and delivery to the end consumer. However, there are lots of areas to overcome.

Question 7: Fast Fashion

Question 7a) Please define the fast fashion concept in five sentences!

Reaction to customer's needs, and the entire company supply chain effort regarding that factor.

Question 7b) In your opinion, is fast fashion an independent business model or just a concept of operational excellence? Justify your opinion in detail!

It is an evolution of an existing operational model, so it is operational excellence. Any business model is born out of taking advantage of niches in certain markets, doing things faster, cheaper and, more efficiently. Fast fashion represents the evolution of taking the vertical model to its extreme.

Appendix II: Company Data

Data Source: Morningstar Database.

5y-Average Growth Rates

Company Name	2011	2012	2013	2014	5y-Growth Rate
Abercrombie	-17%	-9%	-34%	-21%	-20%
Adidas	1%	34%	36%	-40%	8%
American Apparel	-38%	42%	27%	32%	16%
ASICS	0%	0%	41%	45%	22%
Esprit	-73%	76%	35%	-37%	0%
Fast Retailing	16%	37%	57%	0%	28%
Gap	-32%	57%	16%	14%	14%
Guess	-36%	-24%	26%	-32%	-17%
H&M	-4%	7%	34%	-9%	7%
Inditex	2%	64%	17%	-9%	18%
Kate Spade	29%	-100%	172%	3%	26%
Nike	22%	12%	17%	9%	15%
Puma	8%	4%	68%	19%	25%
Tom Tailor	0%	92%	1%	9%	26%
Under Armour	36%	47%	83%	74%	60%

Market Cap

Company Name	Currency	2010	2011	2012	2013	2014
Abercrombie	Market Cap USD Mrd.	5.063	4.198	3.817	2.514	1.986
Adidas	Market Cap EUR Mrd.	10.372	10.498	14.055	19.181	11.547
American Apparel	Market Cap USD Mrd.	123	76	108	137	181
ASICS	Market Cap USD Mrd.	2.279	2.279	2.279	3.21	4.666
Esprit	Market Cap USD Mrd.	5.929	1.625	2.868	3.88	2.429
Fast Retailing	Market Cap EUR Mrd.	12.088	14.012	19.231	30.165	30.234
Gap	Market Cap EUR Mrd.	10.324	6.99	10.956	12.72	14.477
Guess	Market Cap USD Mrd.	4.354	2.767	2.09	2.637	1.797
H&M	Market Cap USD Mrd.	55.362	53.045	56.819	76.1	69.182
Inditex	Market Cap USD Mrd.	51.843	52.715	86.362	100.696	91.608
Kate Spade	Market Cap USD Mrd.	676	870	1.451	3.943	4.069
Nike	Market Cap USD Mrd.	0.956	1.162	1.3	1.516	1.648
Puma	Market Cap USD Mrd.	37.03	39.89	41.58	69.832	83.074
Tom Tailor	Market Cap CHF Mrd.	0.111	0.111	0.213	0.215	0.235
Under Armour	Market Cap USD Mrd.	2.292	3.109	4.567	8.365	14.524

5y-Average Market Cap Growth Rat

Company Name	in %
Abercrombie	-20%
Guess	-17%
Esprit	0%
H&M	7%
Adidas	8%
Gap	14%
Nike	15%
American Apparel	16%
Inditex	18%
ASICS	22%
Puma	25%
Tom Tailor	26%
Kate Spade	26%
Fast Retailing	28%
Under Armour	60%

Revenue in USD bn

Company Name	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Abercrombie	2.785	3.318	3.751	3.541	2.929	3.469	4.158	4.511	4.117	3.744
Adidas	8.262	12.663	14.114	15.884	14.473	15.918	18.580	19.137	19.245	19.316
American Apparel			0.387	0.545	0.559	0.533	0.547	0.617	0.634	0.609
ASICS				2.196	2.589	2.558	2.966	3.097	2.681	3.129
Esprit		3.005	3.800	4.780	4.449	4.342	4.339	3.888	3.339	3.123
Fast Retailing	3.494	3.860	4.464	5.689	7.330	9.289	10.336	11.608	11.773	13.138
Gap	16.023	15.943	15.763	14.526	14.197	14.664	14.549	15.651	16.148	16.435
Guess	0.936	1.185	1.75	2.093	2.128	2.487	2.688	2.659	2.571	2.418
H&M	8.221	9.282	11.603	13.581	13.333	15.079	16.962	17.842	19.721	22.137
Inditex			12.930	15.308	15.453	16.630	19.205	20.503	22.209	24.077
Kate Spade	4.848	4.994	4.577	3.985	3.012	2.5	1.519	1.505	1.265	1.139
Nike	13.74	14.955	16.326	18.627	19.176	19.014	20.862	24.128	25.313	27.799
Puma	2.214	2.975	3.253	3.713	3.431	3.592	4.190	4.206	3.964	3.950
Tom Tailor						0.462	0.574	0.810	1.204	1.239
Under Armour	0.281	0.431	0.607	0.725	0.856	1.064	1.473	1.835	2.332	3.084

Gross Margin in % Revenue

Company Name	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Abercrombie	66.5	66.6	67	66.7	64.3	63.8	60.6	62.4	62.6	61.8
Adidas	48.2	44.6	47.4	48.7	45.4	47.8	47.5	47.7	49.3	47.6
American Apparel			55.7	54.9	57.3	52.5	53.9	53	50.6	50.8
ASICS				43.7	42.6	42	43.8	43.4	43.7	43.8
Esprit		52.7	53.6	53.6	52.1	54.7	53.9	50.4	49.6	50.2
Fast Retailing	44.3	47.3	47.3	50.1	49.9	51.7	51.9	51.2	49.3	50.6
Gap	36.6	35.4	36.1	37.5	40.3	40.2	36.2	39.4	39	38.3
Guess	40.7	43.8	45.3	44.1	44.2	43.8	43.3	40.1	38	35.9
H&M	59.1	59.5	61.1	61.5	61.6	62.9	60.1	59.5	59.1	58.8
Inditex			56.69	56.83	57.09	59.25	59.31	59.76	59.33	58.34
Kate Spade	47.4	47.8	47.3	47.8	46.4	49.5	53.3	56	57.4	59.7
Nike	44.51	44.05	43.86	45.03	44.87	46.28	45.58	43.4	43.59	44.77
Puma				51.8	51.3	49.7	49.6	48.3	46.5	46.6
Tom Tailor						46	49	52.9	55	57
Under Armour	48.3	50.1	50.3	48.9	48.2	49.9	48.4	47.9	48.7	49

Days Inventory

Company Name	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Abercrombie	112.19	129.98	112.08	109.26	119.29	101.16	106.4	107.38	113.32	126.43
Adidas	126.6	92.64	109.02	119.32	111.58	104.66	119.95	116.54	127.09	123.75
American Apparel			226.43	188.92	221.1	230.24	263.02	226.6	200.31	192.97
ASICS				135.98	114.12	105.36	109.69	119.83	129.99	135.16
Esprit		69.39	56.96	56.71	68.12	65.04	78.22	95.29	95.01	97.71
Fast Retailing	53.29	59.02	64.63	67.92	68.19	68.87	77.16	77.2	83.72	104.15
Gap	63.09	61.91	61.09	61.93	64.25	64.41	63.65	64.93	68.26	68.66
Guess	67.17	78.74	88.53	73.55	74.7	70.66	74.65	80.08	82.52	78.9
H&M	87.19	92.52	90.89	88.23	87.88	98.6	105.32	108.29	110.86	105.63
Inditex			89.97	83.76	78.57	78.91	81.02	81.29	87.42	85.51
Kate Spade	77.13	79.09	85.84	88.15	88.68	88.12	124.21	114.08	137.1	136.53
Nike	82.45	84.79	83.6	81.28	82.78	78.58	76.44	81.05	86.71	87.74
Puma	94.59	93.96	118.94	120.57	118.7	105.65	117.58	117.51	122.65	125.69
Tom Tailor							100.05	111.59	116.91	138.36
Under Armour	127.78	114.24	149.57	171.67	136.13	124.48	129.64	122.93	120.35	116.75

Cash Conversion Cycle

Company Name	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Abercrombie	72.86	103.81	85.95	83.6	92.8	74.27	75.08	77.13	88.65	97.57
Adidas	114.2	88.81	106.01	103.37	88.5	68.41	72.76	71.94	81.4	87.51
American Apparel			209.21	164.23	191.93	204.8	228.25	194.21	168.31	161.8
ASICS				173.77	147.07	138.35	138.43	148.45	160.52	163.51
Esprit		25	15.11	15.61	26.58	9.89	10.09	22.37	14.07	70.89
Fast Retailing	-10.04	5.13	15.93	14.24	15.24	24.28	28.09	24.9	79.17	99.38
Gap						26.34	28.33	29.71	33.04	33.4
Guess	45.68	55.67	61.41	56.04	62.66	62.18	67.18	78.06	79.68	71.69
H&M	74.12	75.48	69.04	61.75	60.69	71.11	78.51	83.3	86.77	83.38
Inditex			-68.54	-62.29	-65.11	-71.02	-66.02	-65.57	-70.87	-62.99
Kate Spade	72.49	75.26	85.07	85.7	84.89	73.29	76.21	55.46	60.18	73.32
Nike	102.18	102.46	98.6	91.62	96.79	90.84	83.3	88.74	91.49	88.24
Puma	29.51	36.7	51.25	75.95	96.7	81.33	83.62	88.44	93.95	77.1
Tom Tailor							39.04	46.5	45.31	41.43
Under Armour	121.52	104.06	140.18	152.84	112.27	103.12	114.41	107.08	103.32	102

Payables Period

Company Name	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Abercrombie	43.78	30.85	30.85	31.16	35.46	35.94	38.81	37.89	32.1	34.75
Adidas	67.71	46.89	53.94	68.05	76.75	83.38	93.34	86.23	89.74	83.38
American Apparel			32.87	35.75	40.06	36.95	47.32	45.37	44.57	44.96
ASICS				63.83	56.46	58.27	57.95	55.68	60.63	56.85
Esprit		86.63	83.06	86.8	93	95.38	103.96	109.63	114.74	59.73
Fast Retailing	66.98	59.07	54.96	60.84	60.55	51.44	52.49	52.57	60.86	82.03
Gap	42.63	39.73	38.33	39.82	43.12	43.18	41.62	42.54	44.19	43.44
Guess	47.95	56.21	80.18	62.73	59.54	56.03	54.94	47.7	43.82	41.39
H&M	17.46	21.38	26.48	32.9	34.35	34.64	34.43	31.86	31.63	30.4
Inditex			176.45	164.45	160.27	163.1	160.45	162.64	176.44	165.4
Kate Spade	36.56	37.26	38.21	38.14	40.3	49.26	87.37	87.86	107.38	92
Nike	38.48	39.17	39.67	41.49	40.04	40.85	43.78	40.85	41.33	42.51
Puma	67.94	60.43	71.38	75.41	80.91	81.28	93.41	87.11	85.57	102.17
Tom Tailor							101.36	93.32	91.69	116.54
Under Armour	65.76	63.14	59.15	62.81	58.1	52.48	44.48	46.64	47.2	43.63

Asset Turnover

Company Name	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Abercrombie	1.78	1.64	1.56	1.31	1.03	1.2	1.39	1.49	1.41	1.4
Adidas	1.3	1.43	1.23	1.21	1.13	1.23	1.21	1.29	1.25	1.21
American Apparel			2.16	1.92	1.69	1.63	1.68	1.89	1.92	1.94
ASICS				1.22	1.34	1.25	1.22	1.2	1.14	1.17
Esprit		1.82	1.98	1.91	1.66	1.52	1.31	1.19	1.1	1.04
Fast Retailing	1.49	1.38	1.42	1.53	1.58	1.68	1.58	1.65	1.54	1.47
Gap	1.7	1.84	1.92	1.89	1.83	1.95	2.01	2.1	2.11	2.12
Guess	1.77	1.61	1.48	1.72	1.53	1.55	1.52	1.49	1.48	1.44
H&M	1.85	1.99	2.03	1.9	1.92	1.91	1.84	2.01	2.04	2.14
Inditex			1.33	1.4	1.38	1.38	1.33	1.34	1.26	1.24
Kate Spade	1.57	1.5	1.35	1.54	1.72	1.75	1.38	1.62	1.35	1.2
Nike	1.65	1.6	1.59	1.61	1.49	1.37	1.42	1.58	1.53	1.54
Puma	1.57	1.56	1.33	1.34	1.26	1.24	1.22	1.28	1.23	1.22
Tom Tailor							1.28	1.15	1.19	1.2
Under Armour	1.79	1.75	1.78	1.65	1.66	1.74	1.85	1.77	1.71	1.68

ROIC

Company Name	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Abercrombie	40.13	35.18	31.47	14.86	0.24	8.06	6.86	12.82	2.86	2.83
Adidas	13.53	13.55	12.61	13.19	6.27	10.99	11.75	8.2	11.23	6.84
American Apparel	0.1	3	17.73	11.33	6.51	-28.67	-3.62	-0.23	0	0
ASICS				11.65	11.7	7.24	8.67	9.21	9.04	8.25
Esprit		39.95	48.33	46.03	31.27	23.74	0.55	5.23	-25.43	1.41
Fast Retailing	19.62	18.95	12.77	16.37	17.58	20.64	16.97	19.49	18.33	12.65
Gap	17.88	13.44	16.73	21.87	23.71	22.4	16.91	25.03	30.65	29.78
Guess	19.71	30.23	26.52	28.42	26.39	27.57	23.65	15.74	13.67	8.56
H&M		58.02	45.4	44.32	42.38	44.19	35.85	38.37	38.52	41.3
Inditex			27.14	26.18	25.43	29.6	27.98	29.75	26.85	25.4
Kate Spade	18.32	23.86	12.68	20.89	14	17.84	18.96	11.35	9.64	6.25
Nike	20.2	20.77	20.49	24.22	16.56	19.21	20.49	20.9	21.32	21.77
Puma	40.29	27.53	24.59	19.23	10.25	15.52	15.52	4.29	0.34	4.1
Tom Tailor							7.99	0.18	-4.43	1.51
Under Armour							7.99	0.18	-4.43	1.51