ISCTE ◈ Business School
University Institute of Lisbon

Stock Disruption in store – Decathlon Case

João Bernardo Meleiro Parreira

Dissertation submitted as partial requirement for the conferral of

Master in Management

Supervisor:

Professor Doutor Eurico Brilhante Dias – Marketing, Operations and Management Department

October, 2017

"The challenge of the retail business is the human condition."

Howard Schultz

Acknowledgments

The present project has been a remarkable and extraordinary experience, marked by both hard but also gratifying events, particularly those concerning the complexity of the real world retail industry.

It all began in September 2015, when returning from my incredible mobility experience in Shenzhen, China. Impelled by its success and achievements in the management field and as a pleasant professor among students, I decided to ask help from Professor Doctor José Dias Curto, in helping me in the search of a Thesis Supervisor.

I was thrilled with is advising and positive feedback in providing me great professor names who could be a great help to me. During this phase, I was also being lecture by Professor Jorge Langler at the Seminar Research Class. Both professors launched me challenges in order to expand my horizons in the academic field, so that I could full field my doubts in terms of a thesis theme.

Furthermore, I began to work in the retail industry, at *Decathlon* Amadora Store, in which I found my passion and inspiration to conclude a successful project. With this in mind, I asked Professor Doctor Eurico Brilhante Dias to guidance me on my search for a theme related to my passion. I could not ask for a better counselling than the one I received from my amazing supervisor, who had the amiability to provide me interesting themes for me to investigate, became therefore my MSc supervisor.

There are not enough adjectives to express my enormous appreciation and gratitude to my MSc supervisor, Dr. Eurico Brilhante Dias, not only for being an expert on the management field, but also for its outstanding coaching expertise, always providing me the best of advices and challenging me. Permanently available for my worries, doubts and something silly questions, for my structuring thesis problems, for his positive mind, motivating me in making sure that he believed in my skills, giving me his trust in being my supervisor, his open-minded attitude, but also for being an exceptional human being very ambitious and focused on the best thesis we could present. It would not have been possible to achieve a better final project without his leadership and determination, providing me knowledge not only for thesis purpose but mostly for my professional path.

Lastly, my dearest family, the pillar for my success. Firstly, my father, Carlos Parreira, for encouraging me to pursue more for my work, inspiring me through a life full of sacrifices in working hard so that I could have the opportunity to be at this stage of my life, but also by always providing me knowledge and valuable advices for the management field. My mother, Isabel, for being a woman I feel proud, being passionate in providing the best at her professional life but also by staying at my side in every late night and worries throughout this process. To my brother, for his enormous advices and recommendations in making sure I could have the best support in providing the present project, by always encouraging me to challenge myself. Finally, my sister whom taught me to follow my dreams and passion.

Honestly, the present thesis was only possible to present due to the great people I have the fortune to be surrounded by, them know how and encouragement was what made me continue in pursing this path.

Resumo

Verificando-se uma indústria retalhista cada vez mais competitiva, torna-se fulcral a disponibilidade do produto na prateleira, a fim de garantir o crescente aumento da quota de mercado e ganhos para o retalhista. Desta forma, as ruturas de stock representam um entrave e serio obstáculo à rentabilidade, tanto para o retalhista como para o fornecedor. Assim, por se tornar capaz de provocar perdas diretas ou indiretas, torna-se de grande importância a sua melhor gestão. A sua importância deve-se ao facto de que poderá ter impactos no serviço ao cliente, o que fará com que o nível de satisfação do cliente diminua, traduzindo-se assim, não só na possibilidade de originar problemas na cadeia de abastecimento, como também na lealdade do cliente.

O tema central da tese foca-se na possibilidade de gerar um melhor entendimento nas causas e estratégias a implementar no âmbito das ruturas de stock. O sucesso do estudo, deve-se a uma extensa revisão da literatura, surgindo três questões fulcrais que estão na base do estudo. As áreas principais centram-se nas causas, prevenção e estratégias, sendo que a *Decathlon* será o caso alvo de estudo.

A teoria recolhida vai em concordância com a literatura, todavia há uma grande lacuna nesta matéria. Ainda, a tese pretende explorar os impactos nos consumidores e na empresa.

Palavras-chave: Gestão cadeia de abastecimento, stock, interação consumidor, estratégia, impacto, prevenção.

Abstract

In an increasingly competitive industry, product availability on the shelf emerges as a key requirement for increasing the market share and profitability of the retailer. The stock disruption at the point of sale thus represent a critical problem, capable of causing direct and indirect losses, both to the retailer and to the supplier. Its importance lies in its ability to affect the level of customer service, leading to high levels of dissatisfaction that could lead to loss of loyalty and the possibility of generating inefficiencies in the supply chain.

The central purpose of the present thesis is aimed to provide an enhanced understanding on the stock disruption causes and strategies. The successfulness of the study is ensured by an extensive literature review, from where three main questions arises, giving support to the main goal of the thesis. There are two principal areas causes, prevention and strategies. Collected theory will the frame of reference to the present project, focused on Decathlon overview on the matter.

Statements collected go in concordance with the explored theory, despite the lack of research in the field. Furthermore, it intends to explore impacts on customers and in the firm.

Keywords: MSC, stock, customer interaction, strategic, impacts, prevention.

General Index

List of Figures

List of Graphs

Abreviations

CRM – Customer Relation Management;

CSCMP – Council of Supply Chain Management Professionals;

GSCF – Global Supply Chain Forum;

MSC – Management of Supply Chain;

OOS – Out-of-stock;

SC – Supply Chain;

SD – Stok disruption.

RFID - Radio-frequency identification.

Introduction

The essentials of supply chain management assume a supply chain following processes from suppliers to final consumers (Lambert, & Rogers, 2001).
Throughout the study there will be made an extensive literature review on the main definitions, one that considered to be clearer and complex is,

"A supply chain consists of two or more legally separated organizations, being linked by material, information and financial flows. These organizations may be firms producing parts, components and end-products, logistic service providers and even the (ultimate) customer himself" (Stadtler, 2000).

Increasing the organization's attractiveness is one of the main objectives when managing a supply chain. This can be done through a better coordination of material, finance and information flows (Stadtler, 2000; C. S. Tang, 2006). These days, instead of competing companies, we speak of competing supply chains. None of the single organizations or organizational entities as part of a supply chain are directly responsible for the overall product or service as received by the customer, making supply chain management a crucial part of increasing competitiveness (Stadtler, 2000; Zsidisin & Ritchie, 2008).

When faced with a linear break, about 26% of consumers change brands and another 31% decide to change stores (Corsten and Gruen, 2003). Yet, if these situations occur frequently, the likelihood of these changes becoming permanent is indeed high. These reactions from consumers imply strong consequences that result in direct and indirect costs for both the retailer and the supplier of the brands. With a global cutback rate of around 8.1%, this phenomenon has been a growing concern over the years, not only by providing low levels of service, but also by generating a set of inefficiencies along the chain supply.

The primary goal of Supply Chain Management is to provide greater customer satisfaction. For this, it is essential to establish a level of service that meets the needs and expectations of the same. Customer service is a powerful source of competitive

advantage, providing additional value to the consumer by delivering the right products at the right time and in the right place. In fact, availability is a central theme throughout the supply chain, which should be treated as a matter of priority by the various members, with the aim of establishing a set of solutions that allow the reduction of the rupture rate and increase satisfaction and consumer loyalty.

Development in supply chain management has facilitated the creation of many collaborative retail initiatives and techniques, focused on sharing information and using advanced technologies to reduce existing inefficiencies and inefficiencies through cooperation and the attempt to visibility of real demand. However, despite all the efforts made to reduce the number of break-ups and simultaneously increase availability levels, this phenomenon has not shown much improvement, so the problem continues to affect the retailers' shelves and the operations of the remaining members supply chain.

It is in this sense that the interest arises to investigate and understand the behavior of the stock breakages at the point of sale, to analyze possible solutions and different approaches for the reduction of high rupture rates.

Methodology

Methodologically the present study starts by presenting secondary sources in order to produce a brief literature review on the issues already mentioned on the other topics.

It is presented as a preliminary point; how can *Decathlon* prevent and define a strategic plan for stock disruption. Assembling that, the study intends to contribute and to present proposals to the referred matter, having as base the various overviews, theories and practices from authors all over the world. The differentiation factor of the thesis method to evaluate from the other conducted studies, is the fact that it adds an approach a real case, *Decathlon Amadora* store, but also it evaluates selected individual's opinions, the perception of customers on the quality of processes. In this sense, no similar study has been found.

So that the project guarantees its success, a literature review of scientific articles has been carried out, so that it could provide important and relevant information on important issues in the development of these thesis perspectives, practices, opinions and other initiatives.

Moreover, there are also other issues to be studied, such as, impacts on the customer's purchases, if they react when facing stock disruption, also, main causes for these phenomenon, and finally why it is so critical for *Decathlon* to manage and response to these situation with a strategic plan.

Objectives

In what it concerns to the perception of the fulcra points for the present study it was established the need to comprehend and understand strategies and practices already being followed by the company, and also if it is in fact showing results.

The research is presented in three levels: the construction of the theoretical framework, which results from the overview of the main articles studied, an approach to Decathlon and representing the most important part the individual's opinions.

Plus, the work intends to understand how does Stock Disruption impacts consumer's purchases, resulting in loss for the firm.

Research Questions & Hypothesis

Question 1: Stock disruption when perceived by the client, impacts their purchases.

Hypothesis 1: Stock disruption when perceived by the client, have a negative impact on their purchase.

Hypothesis 2: Stock disruption when perceived by the client, have a positive impact on their purchase.

Question 2: What are the causes for stock disruption?

Question 3: Why is responding to stock disrupting so critical for *Decathlon*.

Structure

Concerning the structure and organization of the present thesis, in addition to the introductory memo, the work is divided into the first part, the literature review, and second in the empirical study itself.

Regarding the first part, and as the title suggests, it is the theoretical framework of the project, by providing articles on this context, that provided issues and statements addressed to the matter being studied.

The second part, is represented by the empirical study, that is, in fact, the actual research of the study. It starts by presenting the research methodology, i.e. presenting the research

questions, objectives and hypothesis, the approach being used and techniques of gathering data and information.

Furthermore, the last chapter aims to explain the process of the obtained data, by presenting the results produced, and concluding on the main findings. Also, there will be affirmed the limitations of the study, recommendations and proposals for future studies on this matter.

Literature Review

Chapter I - Management of Supply Chain

Across the ages supply chains have progressed under the influence of the improvement of supply chain management trends, therefore consequently it as became more complex and intricate. Even though, all these trends lead to competitive advantages, they also can generate supply chains whom are more exposed to risks and disruption impacts. Dealing with SC (Supply Chain) disruptions or Out of stock (OOS), are some of today's greatest business challenges for supply chain management, especially at the retail industry.

The present chapter intends to conceptualize the issue being studied, by analyzing the main phenomenon behind and that are in the base of the study subject. On a first bases, the thesis aims to contextualize some of the most relevant definition for the study, as well as the state in which the areas of knowledge are.

Further, the literature seeks to explain the challenges and business transformations that allow to make it competitive in the socio-economic scenery currently. Plus, the importance of the collaboration in the chain of supply, with already studied techniques, the way clients react to OOS and why does it happen in today's market, where the digital area is getting more and more relevance.

Finally, and approach to *Decathlons* business and manage will be explored in a way to achieve more concrete and relevant information to the present thesis.
In summary, the literature review will be divided in:

- Part 1: Supply Chain Management;
- Part 2: Customer Service;
- Part 3: Stock disruption causes;
- Part 4: Overview.

Supply Chain (SC) Management – Definition

Knowing how to manage the SC is an integral part of most businesses and is essential to company success and customer satisfaction, however it is a relatively recent concept, being still in progress (Gibson *et al.* 2005; Cooper *et al.,* 1997). The management of it is a term started by two advisers Oliver and Webber, in 1982, however it is only in 1990 in which the concept had his diffusion, covering, from this date, of significant distinction, causing the interest of several managers and in terms of academic investigation at the level of several areas of the knowledge (Frankel *et al*, 2008; *et al.,* 2010; Gibson *et al.,* 2005;).

SC emerged when concerns linked to materials flow were first introduced. Since the 1990s, however, the term showed an exponential rise in popularity, along with its corresponding concept of supply chain management, introduced by consultants in the 1980s (Arshinder and Deshmukh 2008; Chen and Paulraj 2004).

Although, being a popular but recent concept, over the years, it was not gain, yet, a global definition of what SC is (Williams, 2006; Mentzer *et al.,* 2001; *Stock* and Boyer, 2009). Because it is a recent topic (Gibson *et al.,* 2005) and also, to its many multidisciplinary views (Croom, *et al.,* 2000; Chen e Paulraj, 2004; Trent, 2004). Still, many authors have dedicated themselves to the search of a clear and simple definition that allow firms to implement and manage it in an efficient approach (Mentzer *et al.,* 2001; *Stock* and Boyer, 2009; Gibson *et al.,* 2005).

Many of the studies developed in this area, have shown the tendency of stress out the importance of only one, or one set of limited elements in the SC (Chen and Paulraj, 2004),

therefore, giving a restrict and partial functional optic, unable of showing the real complexity of the dynamics of the MSC (Chen and Paulraj, 2004).

Given that, the MSC must be faced in a more open perspective, based on the integration of all the activities associated with the flow and transformation of goods, which occur through raw materials to the final consumer, as well as all the flows of information's related to it (Handfield e Nicholas, 1999 *Stock* and Boyer, 2009; Cooper and Ellram, 1993).

The concept of the MSC could be considered as a management philosophy, in which the development of it has emerged from the combination of two separate and distinct variables, namely Purchasing and Supply Management, and Logistics and Transportation – representing two perspectives when understanding the MSC (Tan *et al.,* 2002; Chen e Paulraj, 2004; Croom et al., 2000). The first, is focused on the production industry and based on the partnership with suppliers in a way to moderate and eventually abolish loss, and optimize internal and external capabilities, technology – to create a balanced SC (Tan, 2001; Morgan e Monczka, 1996 apud Tan et al., 2002). On the other hand, Logistics and Transportation, centered in the retail industry, has as its main operation method to, replace the inventory for information in order to increase viability and decrease the uncertainty of demand (Tan, 2001; Handfiel, 1994 – apud Tan et al., 2002).

Figure 1 - **Evolution of Supply Chain Management**
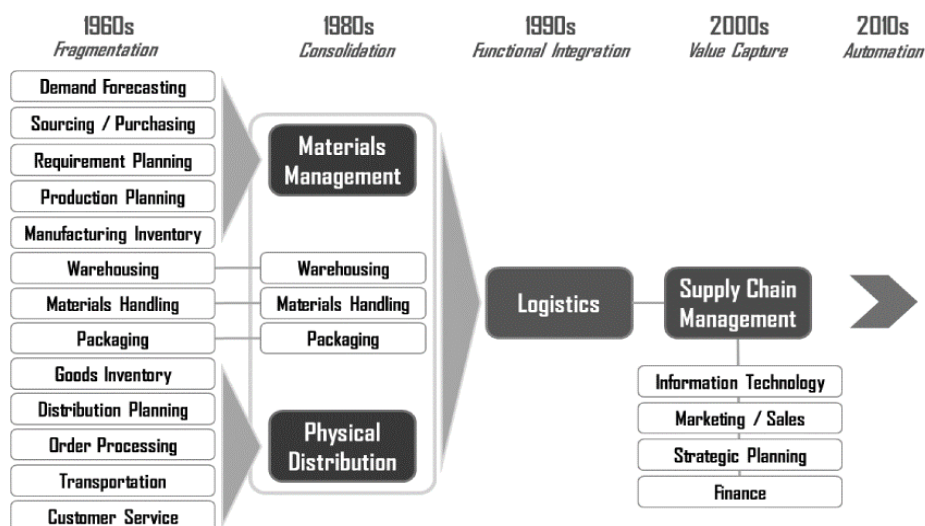
Source: Ballou, 2004

Supply chain management has become a complex sequence of activities aiming at value capture and competitiveness. More recently, the growing level of automation of supply chains has been a dominant element of the evolution of both physical distribution and materials management.

Initially, logistics was an activity divided around the supplying, warehousing, production and distribution functions, most of them being fairly independent from the other. With the new organization and management principles, firms were following a more integrated approach, thus responding to the upcoming demand for flexibility without raising costs. At the same time, many firms took advantage of new manufacturing opportunities in developing countries through outsourcing and offshoring. As production became increasingly fragmented, activities related to its management were consolidated. Spatial fragmentation became a by-product of economies of scale in distribution.

Moreover, the Supply chain is perceived as a set of related processes instead of being on separated, not related, activities (Trent, 2004; Ballou, 2007; Cooper *et al.,* 1997; Fawcett and Magnan, 2001). So, in this context the SC could be described as:

"*the integration of the key processes, from the final consumer until their original suppliers, of products, services and information's, that allow it to create value for the consumers and stakeholders*"

Global Supply Chain Forum (Lambert *et al.,* 1998:1; Lambert e Cooper, 2000; Cooper *et al.,* 1997).

Given the fact that, it SC is characterized as a network of organizations linked up streamed and down streamed, trough processes and activities creating value added (Christopher, 2011), its integration represents a key factor when obtaining competitive advantages. Its importance lies on the fact that, it has the capacity to optimize results as a whole, achieving a better performance than the sum of all parts separated (Christopher, 2011; Childerhouse and Towill, 2011; Cooper *et al.,* 1997). Nevertheless, only if combined in order to achieve better results, inter organizational and inter functional cooperation, Chen et al. 2009.

Croom *et al.,* 2000; Lambert *et al.,* 1998; Christopher, 2011; Bowersox *et al.,* 2002; Lambert, 2008, defend that managing the SC can only be done through the management of the multiple organizational relationships, without it, managing the flow of materials or information would be a failure. Many authors, defended this theory by presenting many strategies with the importance of generating mutual benefits (Chen and Paulraj, 2004; Bowersox *et al.,* 2003; Christopher, 2011).

Given that, two definitions arise:

- Walters and Lancaster (2000: 162): The management of interface relationships between stakeholders and functional areas, which occur to maximize value creation;
- Christopher (2011: 3): the management of upstream and downstream relationships with suppliers and customers, with the aim of offering a superior value to the customer, at the lowest cost possible for the entire Supply Chain.

Furthermore, Mentzer *et al*., (2001), suggested, through the comparison among different definitions, a more concrete and complete one, in which they suggested the importance of managing the SC as an all. It aims to concentrate it into an only system, where all members work together to improve it and to make it more competitive. Therefore, it can be taken as a strategic coordination among all functional areas from the firm, and, between members of the chain, to retain, from all the intervenient, a higher performance to that chain in general. Across this method, it is possible to verify that MSC is not only focused on the efficient managed of flows, materials and information but as well as, combining, services flow and financial resources, flows that are considered as being bidirectional, flowing up and down in the SC, Stock and Boyer, (2009).

Additionally, the *Council of Supply Chain Management Professionals* (CSCMP) refers that, the Management of the SC includes planning, management of sourcing and procurement activities, conversion and all logistics activities – also, comprises the coordination and collaboration of all partners along the chain, whether are they suppliers,

intermediaries, logistic or customer service providers, in its essence, the SC integrates the management of the demand and supply inside and between companies – CSCMP (2010). It is clear that, the MSC is now being perceived as a fulcra element for the company's strategy, they could potentially gain, through its management of, better quality in customer care and in the competitiveness of the firm, presenting a real value added to the client.

Lastly, it is importance to point, as this is a study focused on the retail industry, that, the Management of the Supply chain represents and extension of the concept of Logistics. In this sense, CSCMP (2010), defines Logistics and an integral part of the Supply Chain responsible for planning, implementing, controlling flows and store goods, services and information regarding to the beginning until the final post of consume, in a way to better meet customer's needs.

Objectives of SCM

The fundamental objective is to "add value".

Increasing rentability and competitive advantages for all partners and members of the SC is the principal objective (Christopher, 2011; Li et al., 2006; Mentzer et al., 2001; Tan, 2001; Trent 2004), it can be achieved by cost leadership, increasing efficiency and the organization productivity, and through its capacity of differentiation from the competitors. Still, by cooperating and collaborating with the different partners of the SC, areas and processes, it seeks, on one hand to increase the efficiency of operations (Bowersox et al., 2002), and on the other hand, to add superior value to the consumer (Mentzer et al., 2001; Stock e Boyer, 2009; Trent, 2004).

Nowadays, it has become critical to keep a MSC customer oriented, Christopher (2011), these relationships represent a key to success in what it relates to the optimization of the SC, in terms of rentability and profitability. Through it, it is possible to comprehend needs and preferences of the consumer, allowing organizations to personalize their offers and invest in areas preferred by them (Stank et al., 2003). The information obtained is used, not only to, increase responsiveness, but also to, deepen the level of intimacy stored, in a way that it would be difficult, for the competitors to follow the same track (Stank et al., 1999).

Principales and Practices of MSC

In the early years of MSC gained relevance in the management field, David Anderson, Frank Britt and Donavon Favre (1997) published one article called "The Seven Principals of Supply Chain Management". Despite, at that time it was a new term, the principals still make sense for managers. The principles, help managers decide on how to proceed:

- **Principle 1:** Segment customers based on the service needs of distinct groups and adapt the SC to assist the profitability of them: Companies traditionally have grouped customers by industry, product, or trade channel and then provided the same level of service to everyone within a segment. Effective supply-chain management, by contrast, groups customers by distinct service needs, regardless of industry and then tailors services to those segments;

- **Principle 2:** Customize the logistics network to the service requirements and profitability of customer segments: In designing their Supply Chain Management network, companies need to focus intensely on the service requirements and profitability of the customer segments identified. The conventional approach of creating a "monolithic" Supply Chain Management network runs counter to successful supply-chain management;

- **Principle 3:** Attend to market signals and align demand planning accordingly across the supply chain, ensuring consistent forecasts and optimal resource allocation: Sales and operations planning must span the entire chain to detect early warning signals of changing demand in ordering patterns, customer promotions, and so forth. This demand-intensive approach leads to more consistent forecasts and optimal resource allocation;

- **Principle 4:** Differentiate product closer to the customer and speed conversion across the supply chain: Companies today no longer can afford to stockpile

inventory to compensate for possible forecasting errors. Instead, they need to postpone product differentiation in the manufacturing process closer to actual consumer demand.

- **Principle 5:** Manage sources of supply strategically to reduce the total cost of owning materials and services: By working closely with their key suppliers to reduce the overall costs of owning materials and services, supply-chain management leaders enhance margins both for themselves and their suppliers. Beating multiple suppliers over the head for the lowest price is out, Andersen advises.

- **Principle 6:** Develop a SC wide technology strategy that supports multiple levels of decision making and gives a clear view of the flow of products, services and information: As one of the cornerstones of successful supply-chain management, information technology must support multiple levels of decision making. It also should afford a clear view of the flow of products, services, and information.

- **Principle 7:** Adopt channel-spanning performance measures to gauge collective success in reaching the end-user effectively and efficiently: Excellent supply-chain measurement systems do more than just monitor internal functions. They adopt measures that apply to every link in the supply chain. Importantly, these measurement systems embrace both service and financial metrics, such as each account's true profitability.

Regarding an efficient management of the SC it becomes mandatory that companies/organizations adopt practices and procedures that allow the firm to achieve the proposed objectives (Mentzer *et al.,* 2001; Li *et al.,* 2006). As seen in the previous chapters, there are no consensus in the definition of the set of procedures. There are authors whom look at the SC as a set of key processes of business related among each other's, managed by many firms (Trent, 2004; Lambert, 2008).

Accordingly, to the produced work by Global Supply Chain Forum (GSCF), Lambert (1998), they identify eight practices of MSC, that need to be integrated, thought the collaboration of every partner involved in the SC. By understanding these concepts, it will be possible for the firms to increase their competitiveness and rentability.

The practices are:

- Managing the relationship with the customer (CRM – Customer Relationship Management);
- Customer Service;
- Demand Management;
- Order Fulfillment;
- Product Flow management;
- Supplier Management;
- Development and commercialization of products;
- Return Management.

Challenges in a competitive SC

The competitive business environment is constantly changing. New challenges and complexities have arisen continuously in the area of management in general, and in particular the area of Logistics and Supply Chain Management, provoking the emergence of new strategic issues and business models, essential for the success of organizations in the actuality (Christopher, 2011; Bowersox et al., 2000).

From the last decade, the emergence of new paradigms has been witnessed, resulting in the transition from an industrial society to a globalized era, oriented to information technologies. (Bowersox et al., 2000; Bowersox et al., 2002). Inserted in this new competitive environment, organizations need to be able to adapt to change, seeking to build on principles that promote value creation for the end consumer (Bowersox et al., 2000). In order to better understand the initiatives, strategies and facilitators that make it possible to obtain sustainable competitive advantages for all Supply Chain Management,

it is important to highlight, first, a set of critical transformations that need to take place within the organizations and which constitute the new organizational paradigm.

Business Transformation

The success of Supply Chain Management requires changes in the traditional basics that have guided industrial organizations for a long time (Christopher, Bowersox et al., 2000). We are in an age characterized by "network competition," where managing and coordinating relationships with other organizations represents a more effective way of meeting customer needs. It is hoped that these interdependent and collaborative relationships will be mutually beneficial and will commit to delivering a superior value to the customer. (Christopher, 2011).

The new competitive environment has provided the adoption of new orientations, priorities and competencies by the organizations, shaping the current structure and strategies of Supply Chain Management. (Christopher, 2011; Kopczak and Johnson, 2003). Some of the most common changes are:

- **From Supplier-centric to customer-centric:** oriented to the final consumer, towards receiving attention from the customer and not only to minimize costs – there must be understatement from the market to customer's needs;
- **From the production system "push" to "demand pull":** establishment of a SC leadership by demand, production only executed when sought after consumers, focus on management not on forecasts – higher level of flexibility on the SC resources, investments in IT (POS; ERP..);
- **From inventory to information:** Information share through SC, decrease on dependency on inventories, reduction of risk of over or under-stocking, SC based on information – investment in IT, there must be endorse a relationship of credibility, trust among all SC members;
- **From transaction to relationship:** Customer Relationship management, real information on the product to the customer regarding forecasts and time issues – identify key consumers and manage their needs;

- **MSC "end-to-end":** Encounter all members in SC, better management of time at SC – usage of performance tools;
- **From function to process integration:** Come across better management of key-business processes to create added value to the consumer, focus on the decrease of trade-offs that may occur- create multidisciplinary teams, process oriented;
- **From independent rivalry to individual rivalry between networks:** Rivalry between integrated SC, collaboration and cooperation between the different partnerships, combine competences to create value for the consumer – CRM, mindset on "sin-sin" situations, share vision and goals and trust.

SC Collaboration & Benefits

Over the last few decades, it has been possible to witness a change in the strategic orientation of Supply Chain Management, moving from a competitive perspective to a posture and mentality that is focused on cooperation and collaboration. (Bowersox et al., 2003, Bowersox et al., 2000, Speakman et al., 1998).

In an environment characterized by uncertainty and complexity, organizations have sought to meet the dynamic needs of the market by leveraging resources, technologies and competencies of their customers and suppliers by establishing collaborative relationships and partnerships with other members of the Supply Chain (Fawcett and Magnan, 2004; Christopher, 2011).

The collaboration represents a critical element for the excellence of Supply Chain Management (Christopher, 2011; Gibson et al., 2005), contributing to the long-term profit optimization, obtaining competitive advantages (Simatupang and Sridharan, 2008; Fawcett et al., 2008) and, ultimately, to its success (Ballou, 2007; Shue et al., 2006).

High levels of collaboration are needed throughout the Supply Chain in order to transform independent organizations into cohesive teams that promote the integration of the various business processes and resources. (Christopher, 2011; Fawcett and Magnan, 2004; Bowersox et al., 2003). The establishment of collaborative relationships among various members of the Supply Chain has been the subject of many discussions (Leeuw and

Fransoo, 2009). However, despite the existence of an unanimity regarding its importance and the benefits it provides, its implementation has been complexed to perform, being associated with several conflicts (Shue et al., 2006; Bowersox, et al., 2003; Simatupang and Sridharan, 2002).

Collaboration can be characterized as strong cooperation between autonomous business partners, who pool resources and competencies to meet customer needs, effectively and at the lowest possible cost (Simatupang and Sridharan, 2005). It is a joint decision-making process with shared responsibilities and risks (Stank et al., 2001; Anthony, 2000), which requires the "sharing of information, common development of strategic plans and the synchronization of operations" (Bowersox et al., 2003: 18). The success of this organizational model will depend on the ability of organizations to recognize their interdependence with the remaining elements of the Supply Chain (Sheu et al., 2006, Simatupang and Sridharan, 2002) to achieve common goals and mutually beneficial relationships (Chen and Paulraj, 2004), based on high levels of trust, commitment (Handfield and Bechtel, 2002) and a long-term orientation.

Trust and commitment form the basis of any collaborative relationship, since they contribute to the establishment of stable long-term relationships (Handfield and Bechtel, 2002), where partners are expected to not proceed opportunistically, allocating the necessary resources for the achievement of jointly defined objectives. (Chen and Paulraj, 2004, Lambert et al., 1998). High levels of trust and commitment foster a shared vision of the future, recognizing that the "*long-term success of the Supply Chain will be as strong as its weakest member*" (Chen and Paulraj, 2004: 150).

Collaboration in the Supply Chain provides substantial benefits and advantages to the various members of the Supply Chain. (Mentzer et al., 2000). Through collaborative relationships, organizations create joint policies and integrate operational processes, with the purpose of eliminating duplicate and redundant work, maximizing their productivity. (Bowersox et al., 2003). Its main objective is to make an effective link between demand and supply (Christopher, 2011, Simatupang and Sridharan, 2002) to increase the visibility of real demand throughout the Supply Chain, through the sharing of information (Christopher, 2000, Simatupang and Sridharan, 2008).

Main benefits through literature review (Mentzer *et al.,* 2000; Barrat and Oliveira, 2001; Simatupang e Sridharan, 2002, 2005; Crespo *et al.,* 2010; Bowersox *et al.,* 2003; Matopoulos *et al.,* 2007; Fawcett *et al.,* 2012; Min *et al.,* 2005):

- Reduction of stocks, promoting a more efficient management of stocks;
- Reduction of order / lead-time cycles;
- Increased performance and profitability;
- Increasing the competitiveness of the entire Supply Chain;
- Increase in sales and market share;
- Improved customer service;
- Reduction of stock breakages at the point of sale;
- Greater concentration on the core competencies of the organization;
- Joint and more accurate forecasts;
- Reduction of transaction costs;
- Greater sharing of information, resources and technology;
- Joint development of new products;
- Faster and more flexible deliveries - greater responsiveness;

For it all to work successfully and efficient, there ought to understand some enablers for a strong and active collaboration, therefore there as been identified as key factors the following: (Simatupang and Sridharan, 2005,2008; Barrat, 2004; Sheu *et al.,* 2006; Crespo *et al.,* 2010; Cooke, 2003; Bowersox *et al.,* 2000; Bowersox *et al.,* 2003; Bowersox *et al.,* 2002; Spekman *et al.,* 1998; Min *et al.,* 2005; Stank *et al.,* 2001), recognition of the independent between members of the SC, sharing of relevant, accurate and up-to-date information among the various partners, with a view to obtaining greater visibility of the real demand needed for joint and effective decision-making, establishing relationships that foster trust and mutual commitment, define rules, involvement of top management in the creation and formalization of collaboration process, implement structures and policies that provide collaborative behavior, system of rewards and punishments and define common interests and objectives, based on the same future vision, aimed to create added value to the consumer.

Furthermore, the organization ought to develop a strong long-term relationship with certain partners in order for the SC to work and function perfectly, develop assessment systems and implement appropriate performance measures that serve as guidelines for achieving individual and SC improvements, also, accurate the definition of processes that facilitate the flow of products, information and financial throughout the SC, in order to satisfy consumers requirements quickly and at the lowest cost (focus on process and not on functions).

This set of elements or facilitators is the basis for successful collaboration, with the ability to guide daily operations between partners, as well as long-term strategic planning (Min et al., 2005).

Although more emphasis is placed on some than on others, the existence of a multiplicity of elements shows the great complexity associated with the implementation of collaborative practices. (Fawcett et al., 2008). In addition to this being a challenging process, the fulfillment of the necessary requirements for the development of these initiatives involves an intensive consumption of resources (Moberg et al., 2003 apud Fawcett et al., 2010).

Barriers to the MSC

Although it is of extreme importance for the success of a well-managed SC the collaboration among every element, it may be more difficult to implement than it seems (Sheu *et al.,* 2006; Barratt 2004; Min *et al.,* 2005). One of the main reason for its failure is due to a gap on the weak relationship among partners across the SC, making it difficult for them to collaborate.

Moreover, its maximization will depend on the analysis of the context in which collaboration will take place, making it imperative to define aspects such as, why, with whom, where and in what activities the collaborative relationships should be established (Barratt, 2004).

Thereby, below the is described some of the barriers found cross the literature review (Barratt e Oliveira, 2001; Barratt, 2004; Simatupang e Sridharan, 2002; Crespo et al., 2012; Fawcett et al., 2008; Fawcett et al., 2010):

- Excessive reliance on information technologies for the development and implementation of collaborative practices;
- Lack of trust between partners;
- Conflict of interests regarding what they want to achieve through collaboration (divergence of objectives, competition for scarce resources, struggle for autonomy)
- Poor communication between the various constituent elements (inadequate / non-existent);
- Failure to select the partners with whom they will establish collaborative relationships (need for segmentation of customers and suppliers);
- Lack of procedures and policies that foster an appropriate level of cooperation between the different parties (non-aligned strategic and operational policies);
- Difficulty in adopting a global perspective necessary for the effective management of the Supply Chain, translating into opportunistic behaviors where individual interests are placed first;
- Existence of performance measures and incentives outdated, inconsistent and directed to the individual performance of organizations;
- Decision-making focused on profit and loss of the particular organization;
- Significant investment of time for its implementation;
- Low willingness to share complete and truthful information with the remaining elements of the Supply Chain, resulting in asymmetric information giving rise to suboptimal decisions and opportunism;
- Resistance to change and existence of a closed culture;
- Unbalanced benefit and cost sharing;
- Lack of alignment or consistency between strategic and operational policies;
- Lack of technology platform or use of inadequate technology.

To sum it up, it is possible to verify that the most common barriers to the establishment of collaborative relationships are related to organizational and cultural issues of the

companies themselves. The existence of functional structures geared to achieving individual objectives, the lack of alignment between strategic and operational policies, and the strong resistance to change expressed by many employees, leave the company with the will and ability to collaborate effectively and significant, along the Supply Chain (Fawcett et al., 2008; Fawcett et al., 2010: Crespo et al., 2010; Cooke, 2003).

Collaboration among members of the Supply Chain requires changes not only in organizational processes, structures and practices (Bowersox et al., 2003, Stank et al., 2001), but also requires changes in the mentality, organizational culture and strategic orientation of the organizations belonging to the Supply Chain (Spekman et al., 1998; Cooke, 2003). However, despite the existence of these potential barriers in various companies and industries, collaborative practices have become increasingly a necessity than an option (Matapoulos et al., 2007).

Chapter II - Understanding Customer Service

Manufacturing industries purchase raw materials from suppliers, transform them into finished goods to be sold to customers. Customers' needs or markets' needs in general have always been a great worry for organizations either of the public or private sector. Customer service is one of the most important key activities of business logistics in the sense that it allows to determine in concrete terms customers' needs and wants logistics to be positively met or answered.

In this sense, the present chapter intends to give response to:

Q1: Stock disruption when perceived by customers, impacts their purchases (negative or positive impact).

Managing service is a delicate task that requires a proper knowledge of the matter to effectively and efficiently responds to customers' expectations. For O' Laughlin and Copacino (Figueiredo et al. 2003:3), customer service requirements command the structure of the supply chain, including manufacturing, marketing, and logistics and to understand such requirements is a fundamental step for the design of a customer service

strategy that meets customer satisfaction. Bowersox, Closs and Cooper (2002:73) add that the primary value of logistics is to accommodate customer requirements in a cost-effective manner.

Although most senior managers agree that customer service is important, they sometimes find it extremely difficult to explain what it is and what it does. While common expressions of customer service include 'easy to do business with' and 'response to customers' to develop a full understanding of customer service, a more thorough framework is required. Kiely and Armistead (2004:2) referring to technological and demographic changes, underline the point that integrated knowledge systems will enable a wide range of tailored services to be offered.

However, such technological opportunities will have to be balanced against the costs of automation and the expectations and technical readiness of customers. Demographic projections and changing lifestyles will produce an increase in the number of people employed in customer service, together with an increase in 'nonstandard' employment contracts. Changes in technology and employee expectations will mean that future customer service professionals are increasingly likely to work from home or other locations.

It is imperative to highlight that the identification of specific customer service needs and the response to those needs by using available resources to satisfy those customer requirements remain a priority number-one for all successful business organizations in general and manufacturing industries. Failure to do that, business organizations are doomed to disappear or to close doors.

According to Stock and Lambert (2001:97), customer service can be defined as a process which takes place between buyer, seller and the third party. The process results in a value added to the product or service exchanged. This value added in the exchange process might be short term as in a single transaction or longer term as in a contractual relationship. The value added is also shared, in that each of the parties to the transaction or contract is better off at the completion of the transaction than they were before the transaction took place. Thus, in a process view: customer service is a process for providing significant value-added benefit to the supply chain in a cost-effective way.

Doctker (in Ballou 2004:93), considering customer service in terms of a fulfilment process, define it as '… the entire process of filling the customer's order. This process includes the receipt of the order (either manual or electronic), managing the payment, picking and packing the goods, shipping the package, delivering the package, providing to the customer for the end user and handling the possible return of the goods.

Finally, Emerson and Grimm (in Collins, Henchion and O'Reilly 2001:2) distinguish between marketing and logistics customer service, both of which are required to meet customer expectations. They describe logistics customer service activities as providing 'place, time and form utility, by ensuring that the product is at the right place, at the time the customer wants it and in an undamaged condition.' Its activities are restricted to those that take place during the individual order cycle, from order placement to order delivery. Marketing customer services, on the other hand, are those outside the context of the order cycle. They 'facilitate possession utility by creating awareness of the product, offering a mechanism such as price, by which the buyer-seller exchange can take place, and often offering follow-up service and warranty on the product.

Importance of Customer Service

Dodds (2003:49) notes that customer service is the set of activities that increase the value customers receive when they buy by constantly and consistently giving them what they want. This conceptualization of customer service goes beyond the traditional way we think about customer service. It covers activities that do not directly involve customers at all. Manufacturing, purchasing and quality control may never 'talk' to the end user of products yet they are vital in meeting customers' needs.

Delivering an expensive product that doesn't work and delivering it late, affects customer service just as much as a rude salesperson. The entire organization must pull together to provide excellent customer service.

Customer service is the most important component of the logistics system. Not only do customer service decisions have a direct impact on the firm's customers and employees, but they also determine how the rest of the logistics mix will be structured (Gourdin 2001:57). Bloomberg, Lemay and Hanna (2002:65) believe customer service defines the effectiveness of integrated logistics in the channel of distribution.

A 98 percent in-stock level means that the desired product is available to the customer when required 98 percent of the time. This also means that the firm accepts a 2 percent stock out level.

Integrated logistics activities determine stock availability, which may, in turn, determine whether the firm loses a customer or loses a sale, two major factors in customer service cost. To increase availability of the product from 95 percent to 98 percent and improve customer service levels, a manufacturer may choose air transportation over trucks. For distances over 500 miles, air is usually faster than roads in getting the product onto the shelves. Shorter transit time means lower inventory levels.

Tseng, Qinhai and Su (1999:1) sum up the importance of service by underlining the fact that the growing importance of the service sector in almost every economy in the world has created a significant amount of interest in service operations. In practice, many services sectors have sought and made use of various enhancement programs to improve their operations and performance to hold competitive success.

As most researchers recognize, service operations link with customers. The customers as participants act in the service operations system driven by the goal of sufficing his / her added values. This is one of the distinctive features of service production and consumption.

Tseng, Qinhai and Su (1999:2) add the fact that poor service experience of customers will reduce the potential customer base of an organization and in turn have an adverse impact on the organization's performance. A negative service experience of customers do not only force the existing customers to migrate to competitors but also, due to the effect of negative word of mouth, results in fruitless effort of the organization to attract new customers.

A sensitive measure of how customers regard a product or service can be sales or market share. After all, if the relative value to a customer changes, sales and market share should be affected, although there may be an occasional delay caused by market and customer inertia. Sales levels can be strategically important. Increased sales can mean that the customer base has grown. An enlarge customer base, if we assume that new customers will develop loyalty, will mean future sales and profits. Increased share can provide the potential to gain SCAs in the form of economies of scale and experience curve effects. Conversely, decreased sales can mean decreases in customer bases and a loss of scale economies (AAKER: 2001:113).

Elements of Customer Service

Customer service is a broad and complex term, consisting of a diverse and multifaceted set of elements ranging from product availability to after-sales service maintenance (Ballou 2001, Emerson and Grimm 1996).

According to Lalonde and Zinszer (2002), elements of the customer service maybe classified into three different groups, since the moment of the transaction between the supplier and the consumer: before, during, and after the transaction, producing the following categories:

- Pre-transaction elements: they relate to a set of policies and organizational procedures that allow establishing an environment conducive to the provision of good customer service. These aspects strongly influence customer perceptions of the company, and consequently impact total sales. Some of the elements included in this group are: Written and formalized rules about customer service policies, system flexibility, and organizational structure, among others.
- Transaction elements: refer to a set of variables directly related to the physical distribution of products to the customer. (Christopher, 2011) The level of availability of stocks, availability and accuracy of order information, consistency in delivery time and order fill rate are some of the essential elements of this category.

- Post-transaction elements: represent the services intended to support the product during its use by the customer, ie after the sale has occurred. Some examples of the elements included here are the warranty conditions, the repair and return of the product, the handling of complaints.

Bowersox and Closs (1996) emphasize the need to define a set of performance indicators to assess the level of service offered. In this sense, and in a more in-depth perspective, the authors identify three fundamental dimensions of customer service, at a basic level: Availability; Operational performance; and Trust. These authors divide customer service into basic service and value-added service, depending on the level of commitment assumed with customers.

The first regarding availability, this dimension concerns the ability to possess the amount of stock required to respond consistently and timely to customer requests. Achieving high levels of availability involves a diverse set of activities, resources, and decisions that encompass every logistics system. This element includes aspects such as the constitution of basic and security stocks, planning and design of the logistics system in terms of the location of warehouses and warehouses, sales forecasting, among others. Availability is assessed through the following performance measures: frequency of stock breakdowns; order fill rate and the issuance of complete orders.

Then, there is Operational performance, is closely linked with the competence of a company's logistic operating cycles. This attribute comprises the set of operational variables that influence the performance of the order cycle time (time elapsed between the moment the order is received and the moment the product or service is delivered to the customer) in terms of speed, consistency of delivery, operational flexibility and failure recovery.

Finally, there is Trust, this dimension has significant impacts on the quality of the logistics service and refers to the ability of a company to meet the levels of availability and operational performance previously stipulated. It also includes the ability to provide accurate information on logistics operations and order status to customers.

Another important indicator of customer service performance is the Perfect Order. This concept has been increasingly recognized and embraced by companies in that it captures customer satisfaction by combining multiple performance measures into a single indicator. Perfect Order is achieved when the performance of each service element goes (Stock and Lambert, 2002), and can thus be defined as the number of times customers' requirements are fulfilled in their entirety. (Christopher, 2011). It can be computed by: (Stock and Lambert, 2002)

$$[Perfect\ order = \%\ on\ time\ \text{x}\ \%\ in\text{-}full\ x\ \%\ error\text{-}free]$$

It is an indicator expressed as a percentage, where it usually includes the following measures: (Christopher, 2011, Stock and Lambert, 2002):

- "on-time" - number of orders that are delivered on time, based on a previously established lead time;

- "in-full" - number of orders delivered with the specifications and quantities requested. It is associated with the order fill rate.

- "error-free" - expresses the efficiency of the "order fulfillment process" and considers errors in documents, damages in the product or its packaging and other errors in the quality of the respective process.

Customers reaction to stock disruption

It is a situation that every consumer, when visiting a store, has been through, at some point, sometimes driven by a simple advertised promotion showing how exclusive the opportunity and the shelves are empty. To consumers it can be very inconvenient, if not infuriating, when walking into a store and the item is out of stock (OOS), therefore there is stock disruption t the shop. As a retailer or a brand, they effect can be much worse, it can be devastating to your bottom line.

Consumers can react in many ways to items OOS such as: (shelvspace.com source)

- They may switch stores and buy the same item at another retailer;
- If they are a very loyal customer of the store and it is not a dire need, they may wait and buy the item later;
- If they are loyal to the brand, they may substitute a different size or variety of the same product;
- They may switch brands all together;
- They won't buy the item anywhere.

Reactions that can be immediately seen at the POS (Point of sale), but the emotional or mental reaction can tell much more to the retailer. If the product has been heavily advertised and promoted, consumers may be left with a feeling of being let down or in extreme cases, of being baited. Both reactions can be detrimental to both the retailers and the brand's image in the public eye.

In terms of numbers, the impact may be much worse. According to the Food Marketing Institute and Grocery Manufacturers of America promotional and fast selling items average being OOS in excess of 10% of the time and cost the retailers of the country a full 4% off of their annual sells margin.

In one recent joint study by Goizueta Business School at Emory University, The College of Business and Administration at the University of Colorado and the Institute of Technology Management at the University of St. Gallen in Switzerland, it was reported that customers will buy the same item at another retail outlet 21%-43% of the time, 25% of the time not make any purchase period and the rest of the time will opt for a similar but lower priced alternative. From the point of view of either a brand or a retail establishment, these add up to major profit losses, without even mentioning the loss of consumer confidence they may experience.

People are creatures of habit and operate as much on an emotional level as they do on a logical one. That is the basis of most modern advertising theory. By not delivering the product as promised, you may be doing more harm than good by advertising products that are not delivered and these wasted expenditures should also be factored in when

calculating the impact that OOS products have on your company's bottom line. More over an approach to *Decathlons* will reveal if the same is felt at Amadora *Decathlon* store.

Customer Service Improvement

It is a responsibility for organizations which look for a high sales level to regularly establish strategic planning regarding service to meet the market's needs. Gourdin (2001:50-51) has identified three vectors for improving customer service. These vectors will be briefly discussed in order to provide basic information on customer service improvement.

- Understand customer needs - It is essential that management learn what services their customers most value and how much they are willing to pay for those amenities. Invariably, this sort of research will show that all customers do not seek the same things. This effort will, in turn, give managers the information needed to conduct an ABC analysis whereby customers can be categorized, based on the profits they provide to the firm. Customer service strategies can then be developed to meet these specific needs;

- Monitor service delivery - Because the uncontrollable variables discussed earlier can upset the best laid plans, managers must seek constant customer feedback in order to ensure that service deficiencies are quickly identified and corrected. Customer surveys and interviews can provide useful insights, as can personal experience. For example, managers may choose to put themselves into their customers' place by acting as a patron within their own organization;

- Train employees - Employees must understand what the firm's customer service strategies are so that they know what their role in implementing those plans is. Very often, the only interaction the customer has is with the front-line worker: the vehicle operator, order taker, or clerk. Therefore, for many customers, the company is represented by the lowest- ranking people in the entire organization. It is crucial that these employees understand the critical role they play in providing customer satisfaction and receive the training necessary to carry out their tasks.

Top management must also give these customer contact workers the freedom and authority to take whatever action they deem necessary to keep the customer happy.

Stock Disruption at Store

Point-of-sale stock breaks, often referred to in the English literature as Stock outs or Out-of-stocks, represent one of the most critical problems in the food distribution industry, affecting the various members of the supply chain, whether retailers, distributors or manufacturers. Due to the high competitiveness observed in the retail in the days in which they run, the level of product availability on the shelves has become a basic requirement to maintain market (Gruen et al., 2002).

This chapter will contextualize stock disruption at the point of sale, given this, throughout it, and the understanding of it aims to gives response to:

Q2: What are the main causes for stock disruption?

Definition

Several definitions of shelf stock rupture have been reported throughout numerous studies developed on this subject. This multiplicity of meanings, derived from individual interpretations, represents one of the limitations present in investigations of this scope, in that it ends up causing confusions and discrepancies in the results obtained (Gruen et al., 2002; Gruen and Corsten, 2008).

Despite this diversity, Gruen et al. (2002) present a generally accepted definition, based on the determination of the rupture rate as a percentage of products not available on the shelf at a given point in time. In other words, a SKU's are in disruption whenever a customer moves to purchase a given product and is not physically available, in the expected place and on salable conditions (Gruen and Corsten, 2008; ECR Europe, 2003).

In addition there is a distinction between a break occurrence and its respective attributes.

The latter are related to a set of variables that, when calculated, allow us to characterize a given break, namely (Gruen and Corsten, 2008):

1. Number of occurrences over time - Routine index by product;
2. Number of simultaneous occurrences - Breakdown index by product category;
3. Duration of breakage;
4. Shelf availability;
5. Loss of sales (in unitary and monetary terms).

There should be also taken in consideration the fact that, stock disruption may occur due to several variables, such as, products department, store dimension and specifications, time and date in which it occurs, promotions, among others. Although there has been, efforts in order to overcome the barrier in which stock disruption puts the retail industry, such as, IT systems, new approaches to inventory and better management, there has been no significant change in the world (Gruen et al. 2002).

Main causes to stock disruption

Over the past years, OOS occurrences reveal that the majority of the causes for stock disruption arise from within the retailer store. Angerer (2004), in a summarizing study conducted by The Coca-Cola Research Council (1996), noted that 28% of stock out issues were caused by upstream supply chain activities, with in-store processes, contributing for 72% of the out of stock occurrences.

Actions which influence OOS occurrences within the store include planning of product range and assortment, establishment of a Planogram, shelf space management (Gruen et al. 2002; Corsten & Gruen 2003), replenishment activities (Fisher et al. 2000; Fernie & Grant, 2008; van Zelst et al. 2009),) and store-based ordering (Corsten & Gruen 2003; Fox, Montgomery & Lodish 2004). Actions outside the store that influence OOS and OS occurrences include planning of transportation deliveries, back store management, inventory ordering activities of manufacturers, supplier management and the warehouse/distribution Centre servicing the stores (Gruen et al. 2002; Clark 2004).

Studies on OOS causes in retail stores have generally found that stock disruption occurrences are closely linked to the way in which in-store processes have been carried out (Kotzab and Teller 2005; Fisher et al. 2006), with the bulk of the problems – 35% excluding forecasting (Gruen & Corsten 2002) and 47% including forecasting (ECR Europe 2003) – emanating from store ordering.

In addition to process-related OOS occurrences, poor communication between headquarters and stores within the same retail chain and inadequately trained staff have also been identified as factors contributing to OOS situations, despite the existence of standard operating policies (Fernie and Corcoran 2011).

Corsten and Gruen (2003) combined the three top causes, revealed at general processes at store:

- **Ordering practices**: failures in this area may arise when no order is made or when orders are placed insufficient or out of time (generated late). This may show a prediction of misaligned demand for reality.
- **Replenishment practices**: situations where the product is in the store (retention warehouse or other location) but not on the shelf. This may demonstrate the existence of inefficient replenishment procedures, congestion of the retention warehouse, insufficient space allocated to the product on the shelf due to its rotation level, lack of employees, among others.
- **Planning practices**: in this group are included a set of failures that originated upstream in the supply chain. Some of the problems covered here are: lack of communication between retailer and supplier when products are introduced or discontinued; lack of capacity and supplier coordination to meet store demand, providing incomplete deliveries; weak demand forecasting and inadequate order management for the articles on promotion; lack of alignment between the capacity of the shelf and the frequency of delivery of products; inadequate allocation of assigned spaces on shelves, among others.

In a more operational perspective, Gruen and Corsten (2008) chose to divide the causes according to the identified breaks in store or on the shelf. According to the authors, problems related to the accuracy of product information, precision forecasting of the demand and the order system, as well as the replacement in the stores, fall into the causes originated in store. On the other hand, aspects such as shelf capacity, planogram management and maintenance, and shelf replenishment are related to shelf problems (Gruen and Corsten, 2008).

Methods for the improvement of OOS

Corsten and Gruen (2003) present an improvement proposal based on the implementation of an integrated process, based on three fundamental pillars:

- Improvements in the responsiveness of processes (Responsiveness);
- Increased operational accuracy;
- Alignment of incentives / objectives among members of the supply chain.

According with, Daniel Fritsch (2015), Head of EazyStock Global Demand Generation, the optimization of inventory in terms of best practices to overcome OOS are firstly to categorize inventory – to better manage a track items demand, also, automate demand forecasting, company's performance are often dependent on external conditions such as seasonal demand, market trends, economic conditions and other business trends that can cause unpredictable demand variability.

Plus, it is referred that implementing a centralized inventory management system could enable the company to better track inventory levels and prepare unexpected occurrences. Moreover, they suggest an investment on technology platforms such as ERP and WMS to drive planning, forecasting and replenishment processes.

Furthermore, there will be given a step of method and practices that the present study investigator found to a good way for a better Stock disruption (SD) management at store.

Chapter III - Decathlons Overview

Part of the Oxylane Group, Decathlon is a privately-held company engaged in the retailing of sports accessories (MarketLine, 2016). The company's first store was opened in 1976, near Lille, in France, and it was driven by the concept of playing sports items affordable to many consumers (Euromonitor International, 2016a), ranging from sports lovers to beginners.

In Portugal, Decathlon opened its first store in 2000, in Amadora (*Decathlon*, n.d.-c), and in 2014, Decathlon Portugal (hereafter "Decathlon") launched its online store decathlon.pt, that is currently also accessible through a smartphone app. Today, the company has 25 Decathlon stores, 3 Decathlon Easy, 1 Spot across the country, as well as one national supply Centre in *Setúbal*.

Decathlon's products' offer is a mix of the company's own brand, known as *"Marca Paixão"*, and of other international brands in sportswear and sports equipment (Fonseca, n.d.). Some of the products sold by the company are produced in Portugal, as it is the case for 50% of the bicycles sold by Decathlon throughout Europe. B'Twin, Tribord, Quechua, Artengo, Domyos and Fouganza are some of the exclusive sub-brands that Decathlon has. Apart from its actual products, Decathlon also offers various services to its customers, such as in-store personalization and repair services as well as a flexible return policy.

Its two core values rely on vitality and responsibility, trying to give their consumers products made based on continuous improvement and innovation and also working permanently to ensure safety and reliability to their customers and collaborators.

Moreover, they commit to make clear to their stakeholders that their current strategy goes through an effort to be environmentally conscious, dedicated to the continuous development of their collaborators and contribute to the social development of local communities and sports' organizations (Decathlon, 2016). Hence, the brand tries to

transmit a human trait, based on the respect and concern for their internal and external clients.

Regarding the engagement with their stakeholders, in Portugal, Decathlon has a community blog where are posted information about the company, social events, technical recommendations for sports practice, innovation in their products, among others.

The present topic will give ground to the question:

Q3: Why is responding to SD so critical for decathlon?

Decathlon in Portugal

In 2000, in *Amadora*, opens the first Decathlon store in Portugal. The main strategy at that time, was to take advantage of the location of the space, where it already existed several stores, like *Makro, MediaMarkt*, Ikea or Jumbo. Having the highways A5 and A36 converging near that area made this commercial area one of the most profitable in Europe. It was meant to be successful right from the opening. By now it's still the most profitable store in Portugal.

There are 24 stores opened in Portugal since that, all over the country, with projections to open new stores in the North of the country. In 2011, in *Setúbal*, it was created the Regional Logistic Warehouse, so that products can be stored first in the warehouse in *Setúbal*, and not coming directly from the Central Logistic Warehouse from Spain and France. This project is crucial for the strategy of Just in Time stock, since the products take no longer than a day to come from the *Setúbal*, instead of a 7 days trip from the central warehouse. It allows to better control the stock, not having the need to have security stock in the stores.

Optimizing the logistic and scale economies is an objective, and having most of the products near the stores is important for that. The only products that are stocked outside the country are heavier and more expensive products, like professional tennis nets or basketball backboards. In 2014, online sales were launched, allowing customers to buy

their products at home, and picking them wherever they want. It's not an innovation, but another service that complement Decathlon's offer.

Stock Process Control

The replacement process starts when the truck, which comes from the distribution center, arrives at the store's dock. At 8h, the doubloon (person in charge of every activity within the store during that day) and the section manager open the store and head to the warehouse, to the gate where the truck connects for the products unloading.

Then they start unloading the products to the middle of the warehouse, expecting that the employees arrive at 8h30. Every section has their own employee which is responsible for opening the boxes, sorting them and remove the papers which are inside the clothes and shoes and put alarms on the products which are from international brands, like Asics or Nike.

After finishing this task which usually takes some hours, each employee goes to their section to replenish the products into the shelves. In this process, there are no specific procedure. For instance, an employee might sort the boxes with stock of his section inside the warehouse and another one can do the opposite, and not sort the boxes, coming directly to the store to replenish. The time both spend in this action can be very different and it must be decided which is the best way to do it.

Decathlon stores are equipped with an information system that updates the store sales in every 5 minutes. This allows controlling the stock automatically, which means that if a product is sold today before 6 pm, the same product will be included in the truck of the next day. After that hour, the merchandise only comes two days after.

There is a central warehouse in France, where the most expensive and less sold products are stocked, and a regional warehouse in Portugal, in *Setúbal*, which is provided with every other product. If the product is in *Setúbal* then it happens as described, the

merchandise comes one or two days after the selling. If not, the order is automatically created and the product comes directly from the central warehouse, in approximately 1 week.

Once the truck arrives at the store, the doublon and the section manager start to unload it and place it in the warehouse in no specific place. When there is no space in the warehouse, they place it next to the exit, already inside store. The clothes that are made from Decathlon brands come with hangers, meaning that they are ready to be replenished. For international brands clothes, there is a need to put an alarm on it, and also to put the hanger.

After sorting all products from the cardboard boxes and magnums, and placing them into bacs, the employee from each section need to transport them to their section. For that, the bacs are placed in wheel cars, and the employee drives them to the section. When he gets there, he starts placing the products without any kind of organization. Some employees start by replenishing the "quick replacement products", like balls, socks or backpacks. Others start by replenishing the most sold products, to have those already replenished when the store opens, like shoes.

Controlling

Sales have increased by 11 percent last year, and attributes part of that growth to an ambitious radio frequency identification deployment at all its 951 stores worldwide, as well as at approximately 43 warehouses (logistics centers). During the same time (2014), the company experienced a 9 percent reduction in shrinkage, says Jean-Marc Lieby, Decathlon's RFID[1] project leader.

Most of the stores are now using RFID technology for inventory checks at the point of sale and at security gates. The company's stores in India and Brazil, however, are

---

[1] **Radio-frequency identification (RFID)** uses electromagnetic fields to automatically identify and track tags attached to objects. The tags contain electronically stored information. Passive tags collect energy from a nearby RFID reader's interrogating radio waves. Active tags have a local power source (such as a battery) and may operate hundreds of meters from the RFID reader. Unlike a barcode, the tag need not be within the line of sight of the reader, so it may be embedded in the tracked object.

using RFID only for tracking inventory. As the firm opens new stores around the world, those sites will also become RFID-enabled.

Decathlons (2016, annual report), affirms that about 2.5 percent of the sales increase to improved stock availability due to the RFID-based inventory-tracking system. However, the company adds, the launching of new stores and decreases in the prices of some of its merchandise also played a role, about 85 percent of the products are eligible for RFID-tagging, Lieby afirms.

The stores themselves vary in size and in the merchandise, they carry. They typically measure 1,000 to 12,000 square meters (10,800 to 129,000 square feet) in size and offer an average of 35,000 different items for sale, covering 65 different sports.

The company began investigating ways in which RFID technology that could improve inventory accuracy across its many stores and logistics centers, thereby ensuring that products were on store shelves when customers needed them.

According to a Decathlon survey, the first source of dissatisfaction for a customer is always the same: failing to find a product on the shelf. The company was also interested in enabling faster and easier transactions at the point of sale for shoppers, and thus began researching how RFID tags on products might make that possible as well.

After researching various RFID companies and the solutions they offered, Decathlon launched its own RFID firm in 2010. That company, known as Embisphere, designs, manufactures and deploys both RFID software and hardware, not only for Decathlon but for other retail customers as well.

Revenues

According to Decathlon Annual Report (2016), in its home territory of France, with 301 stores, the turnover reached 3.3 billion euro, up 2.2 % compared to the year before. General manager François De Witte admitted that that *"growth was not as strong as*

anticipated, but there are multiple reasons for that: bad weather in spring, which is an athlete's preferred season; social unrest in June and the terror attacks. All of these impacted sales."

Internationally, Decathlon grew a lot: foreign turnover grew 12 % to 6.7 billion euro. It now has 1,176 stores (including franchise stores) thanks to 164 new sports supermarkets over the past year. It also entered an additional five countries, bringing the total to 28. It's like-for-like turnover also grew 4.4 %, which is slightly below the 5 % from 2015. Back in 2010, the company "only" generated a 6-billion-euro turnover.

Future Improvements

In what it regards to Decathlon, as it is a massive warehouse, they believe that if the products keep continually coming at a short value to the customer, they will keep the business growth.

However, Decathlons is following a new trend in which they affirm "transforming business to sustain our purpose". They have reached the billion markers for the number of products sold. This growth is partly a result of the growing number of stores, not just in Europe but also in China, India, Russia and new countries like Mexico, Malaysia, Singapore and Ivory Coast. It's also partly since they've intensified efforts to listen to and observe sports users, with 50 signature sports and exclusive new products.

The world is experiencing rapid changes that create a certain degree of instability. Technological revolutions have posed many questions, and have sometimes helped to widen the inequality gap. Citizens are also demanding greater transparency and more vigilance.

Signs that the environment is deteriorating can now be seen and felt. 2016 marked new record average temperatures worldwide, increasing evidence of the tangible effects of climate change and numerous peaks in air pollution levels, all of which is concerning for our health. Businesses must help to meet these challenges and transform themselves; they must be agile, responsive and inclusive.

Given that, Decathlons is already listening to the emerge of a new era, the digital area. The one strategy that can fight stock disruption, being crucial for them to develop and manage the strategy as rapidly as the market is growing, otherwise they will eventually start to decrease revenues.

Chapter IV – Methodology

Type of study

It is a descriptive nature study, cross-sectional, exploratory study with a qualitative approach to reality is a documentary research, sought to verify the archived data on occasion stock disruption happenings at *Decathlon Amadora*. Different approaches will be used, from the perspective of insiders (cycle of specific products) and outsiders (consumers view).

The investigator is alert to recognize the interrelationships between the information collected to find new ideas. The main methods used in exploratory studies, surveys on secondary sources (documentary and literature), experience survey conduct through questionnaires. In the sense that empirical evidence should generate feedback to the theory.

The research in question will take place in three stages: the construction of the theoretical framework, resulting from the overview of the main scientific studies already carried out and of great importance because it provides current and important data for research, the data collection techniques; and the sources of information: the use of questionnaires.
To better understand the complexity of stock disruptions it will be conducted a survey among:
- Consumers (outsiders): to help identify possible gaps in the shop that may justify and in the future help to manage stock disruption;
- Products (insiders): to help identify the management of stock in the shop and also the cycle of products.

Investigation Model

Considering the objective of the study which is to better understand stuck disruption practices (understand its complexity and how to prevent it), particularly, of *Decathlon Amadora*, and their customers perception, it was developed a face-to-face and online questionnaire (Annex 1).

As its main goals, it was to gather as much information regarding *Decathon* customer's perception to products disruption, and on the other hand, to understand the cycle of products to better identify and help employees to manage disruptions during a regular day.

It was developed not only on online bases[2] but also, to include a larger sample vary, conducted face-to-face at *Decathlon Amadora* front-office. The purpose was exactly to include as much of variety among population the investigator could possibly have, to give more credibility to the results showed.

Outsiders Perspective

Given that, on the outsider's perspective, the method used for the analysis of the responses/data was based on frequent technics used in social sciences. In a sense to better characterize the sample demographic data, such as gender, age, among others, were asked (Freitas, 2013). The main reason for using this method it was not only due to financial resources but also because it gives several different opinions and population behaviors and habits.

The questionnaire was built in a way it was clear for the population to understand what was asked. At the very bottom, it indicated the principal objective while conducting the study and anonymity was asked. It was a structure questionnaire in which, there were, firstly closed-ended answers, starting with the demographic ones. Furthermore, there were introduced check-lists questionnaires in other to understand preferences and habits of the population, regarding retail firms. Although it is a simple questionnaire, the fact

---

[2] www.survio.com/pt - Aplication that provides the creation of questionnaire

that it is very precise on each question, it was possible to deduct many points of view from it.

<u>Insiders Perspective</u>

To fully understand and to combine what was gathered in the literature review regarding how the phenomenon of stock disruption does behaves, it will be analyzed the cycle of several decathlon products among all departments, such as fitness, water sports, mountain sports, collective sports, and others.

Following the same line of thought, to better characterize and to have a sample who could describe and be a complete sample of the products of decathlon, it was chosen 44 products from all store departments of *Decathlon Amadora*, the shop being used for the case study.

This part of the process is meant to fully analyses *Decathlon* response to a products cycle, meaning how is the store organized when a product enters in disruption. In the end, the study aims to help employees in their daily work, turning decathlons business into a strong growth in sales and profits, as well as in overall amount of profit.

Objectives

General purpose

Firstly, the study aims to analyses how customer's response to stock disruption. Starting from a point where customers are faced with a situation on not having the product they would like to purchase. Further, what are the reasons for that and if there was any possible justification or arrangement in order to overcome that gap.

On the other process of the study, it intends to fully understand how is the life cycle of a product at *Decathlon Amadora*, by tracking its availability at store, warehouse and eventually production factory. With this, it will be possible to conclude on how the many causes for having stock disruption and how decathlon could prevent/diminish it from happening.

Specific Objectives

- If stock disruption, when perceived by customers, impacts their purchases, in a positive or negative way;

- Main causes for stock disruption;

- Is decathlon being effective in their response to stock disruption?

Question & Hypothesis

Q1: Stock disruption at *Decathlon Amadora*, when perceived by customers, impacts their purchases;

H1: Stock disruption at *Decathlon Amadora*, when perceived by customers, have a positive impact on their purchase;

H2: Stock disruption at *Decathlon Amadora*, when perceived by customers, have a negative impact on their purchase;

Q2: What are the main causes for stock disruption?

Q3: Is Decathlon strategy effectively responding to stock disruption?

Chapter V – Characterization of the study sample

Outsiders Method

A questionnaire is one of the most essential and used instruments, at the management level, due to the fact that it gives support to a more complete analysis, helping in the decision-making process. One of the fulcra advantages it as is the fact that it is low in budget and there is a lower probability for error.

Thereby, a questionnaire was conducted to *Decathlon Amadora* customers (outsider's perspective):

Online-platform:

- Constructed through Survio[3], and then sent through social networks, such as Facebook and e-mail, although only meant for *Decathlon* buyers. It was attained a total sample of n-102 answers, in between May 2017 until of July 2017.

Face-to-face method:

- It was conducted at the region of *Alfragide*, *Amadora*, inside *Decathlon's Amadora* Store. Although the store would not allow for the questionnaire to be done inside the store, every day, between the period of May and July 2017 the questionnaire was asked to customers who were leaving the store (this point is essential, due to the reason that by asking when they were leaving I could get a sense of the situation they had faced inside the shop, if they had been exposed to stock disruption). A total sample of n- 535 answers were given at the shop.

- Both samples were imported to Excel[4] to analyses the data collected, whom when mixed represented one sample to this questionnaire, given the fact that the questioned had the same answers to response to, having a total sample of n- 535 answers.

---

[3] http://www.survio.com/pt/ - Aplication which provides the creation of questionnaires

[4] https://products.office.com/pt-pt/excel - Software developed and manufactured by Microsoft Corporation that allows users to organize, format, and calculate data

Online and Face-to-Face Data

Graphic 1- Study Sample - Gender

GENDER

■ Male   ■ Female

48%

52%
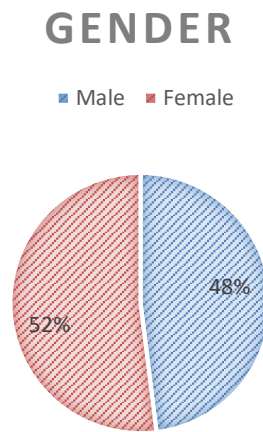
Source: Investigator questionnaire

The survey sample consisted on the answer of 257 responses from the gender Male, and 278 responses from the gender Female. In percentage terms, the gender Male represent 48% of the total sample questionnaire, while the gender Female represent 52% of the total sample questionnaire.

Graphic 2- *Study Sample - Age*

AGE

■ > 18   ■ 18-25   ■ 26-45   ■ 45-65   ■ <65

1%

12%

35%

37%

15%
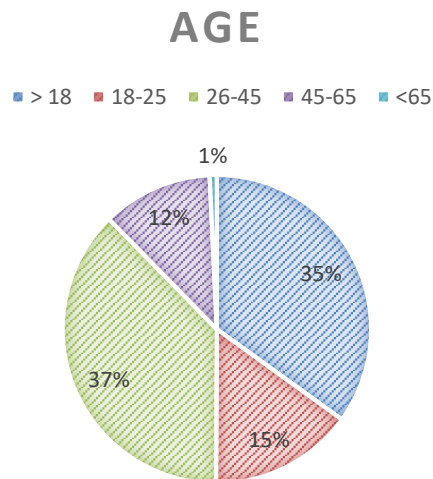
Source: Investigator questionnaire

- The variable of ages present in the sample that revealed more relevance to the study was in between 26-45, with a total of 201 answers (37%);

- The subsequent largest percentage on responses was given by the population with age with less than 18 years old, whom provided 187 answers (35%);

- Succeeding, the population with ages compressed between 18 and 25 years old, whom answered a total of 81 questionnaires, whether it was online or at the store (15%);

- Following, the population between the ages of 45 and 65 years old, giving a total of 62 answers (12);

- Finally, the lowest amount of answers, from the population with more than 65 years only, providing 2 answers (1%). It can be explained by the fact that through social networks it is very hard to finds population with that age, and also at the Sore where the questionnaire was conducted there is a short amount of population with that period of age.

Graphic 3- Study Sample – Frequent Store

FREQUENT STORE

■ Amadora ■ Matosinhos ■ Cascais ■ Faro ■ Almada ■ Braga ■ Guimarães
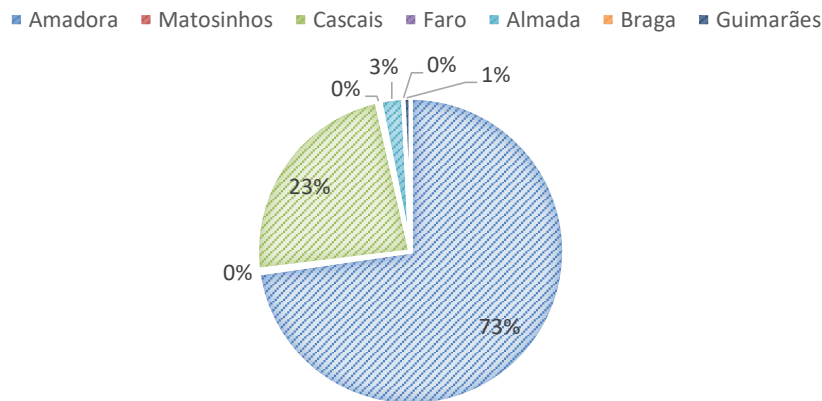
Source: Investigator questionnaire

Regarding this part of the questionnaire, it focuses on which store do customers go with more frequency, giving an idea of how the sample is distributed. The regions asked on the questionnaire are explained by being the ones with *Decathlon* stores at *Portugal Continental*.

Given this, it is possible to conclude, firstly, that, the store which the sample being study go with more frequency, therefore, the store in which customers purchase or go for a product the most is the one in *Amadora* (389 responses). If the sample includes a larger percentage of answers conducted in front of the shop, the value given by the graphic is explained by the fact that it levied on customers leaving that store. Secondly, the store in which the sample goes the most is the one in Cascais, with a percentage of 23%, representing 125 answers.

Although the sample questionnaire gives more relevant content on population in the region of Lisbon, justified by face-to-face surveys, it was also conducted through Social Networks, whom reach a much more variety of population. Assuming that, stores located at, according to NUTS II[5], North, Centre and Algarve region are not statically relevant

---

[5] The Nomenclature of Territorial Units for Statistics (NUTS), extends from NUTS1, NUTS2 and NUTS3 regions. Nuts II: Portugal is divided into five regions (Norte, Centro, Alentejo, Lisbon, Algarve) administered by the Commissions for Coordination and Regional Development (Portuguese: *Comissões de Cooperação e Desenvolvimento Regional*) in mainland Portugal, plus the two autonomous regions that are their own NUTS II regions.

for the conducted study (however it does not represent a gap in the study given the fact that it is focusing on the region of *Amadora*, Lisbon).

Graphic 4- Study Sample – Frequency per month

FREQUENCY (PER MONTH)

■ 1 - 3 times   ■ 4 - 6 times   ■ 7 - 10 times   ■ > 10 times

0% 0%
3%

97%
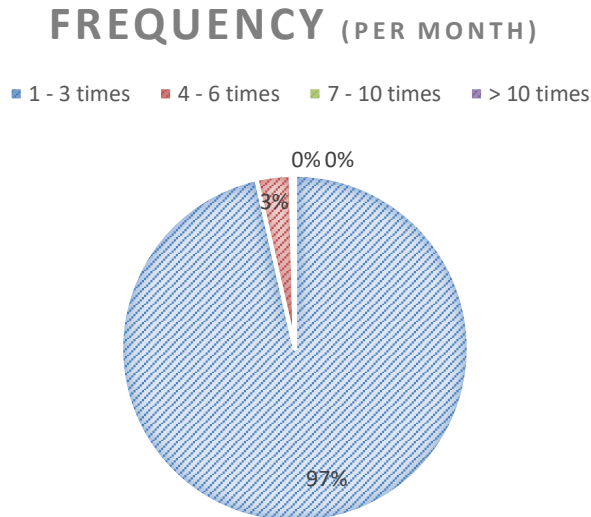
Source: Investigator questionnaire

The study begins to focus on the customers relation with the stores, to understand if they felt the impact of stock disruption only by being there one time, or if is frequent at any of decathlon stores. However, has said previously, the study sample contains more respondents from the region of Lisbon. Implicit that, the variable with more relevance to the study is the one, one to three times per month. It is a behavior tracked among the population in general. Also, with 3% is the variable four to six times per month. Lastly, the other two variables do not represent data that is statically relevant for the study.

Graphic 5-- Study Sample – Sport Practice

SPORT FROM WHERE BOUGHT THE MOST

■ Collective sports ■ Fitness ■ Cycling ■ Water Sports ■ Mountain ■ Other
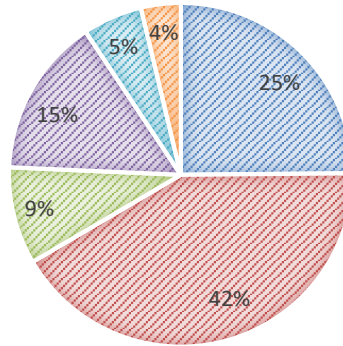
Source: Investigator questionnaire

For a better comprehension on preferences customers, for a further approach on if preferences are related to Stock disruption in terms of following a pattern.

Firstly, the present graphic aims to understand in which department of the store customers mainly seek for. As seen stated above, most consumers go for fitness clothes, and everything the department comprises. It can be explained by the simple fact that today's society are getting healthier and concern on their appearance, therefore, sales revenues on everything that is related to sport practices is gaining field on the retail industry.

As a matter of fact, the sport that is mainly practiced by the general society is at local gyms, reason why it is the department with more relevance (42% respondents prefer buying fitness). Then, following population trends there is collective sports with an amount of answers of 25%. Right after, water sports combine 15% of answers, it could be for the fact that the questionnaire was made on summer season, and therefore, consumers visited the store more often to find items to take on vacancies, for example. Finally, cycling, mountain and other sports, are all under 10% of the total sample answers.

Graphic 6- Study Sample – Frequency in OOS products
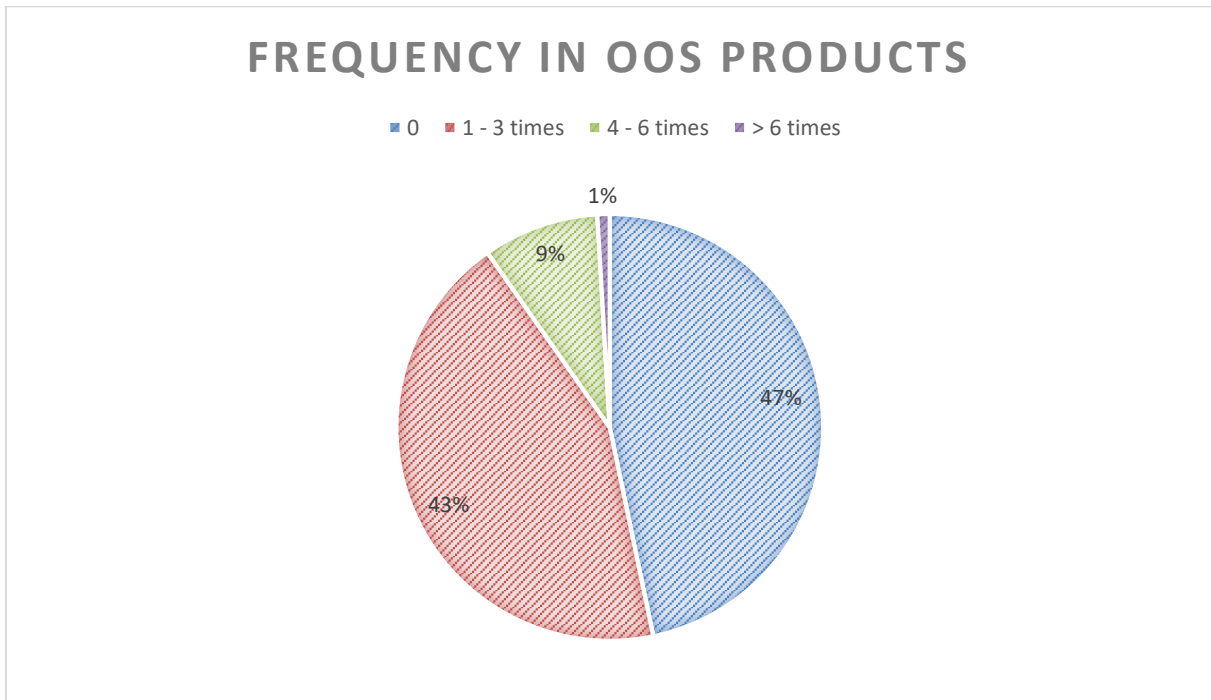
Source: Investigator questionnaire

The previous graphic intends to give a perspective on how often do customers go to the store and not find the product they were looking for, which can serve as study to see if the strategy for managing stock disruption is being effective or not. Meaning that the, the more consumers do not find the product they were to purchase, the less the strategy for OOS is at is greater stage.

Given that, as shown by the graphic *Decathlons* strategy for fighting OOS is being well conducted, almost half of the respondents to this questionnaire, whether online or face-to-face found the products they were searching for when visiting the store (representing 47% of the sample – 250 answers), since in all of the times they went there 0 situations occurred of not having the stock available at the moment.

Subsequently, the second highest percentage, also a low frequency noted, is when consumers when visiting the store had between one to three times issues in finding the stock they were aiming to purchase. Known that *Decathlons* is a massive store in terms of products it is a well indicator that OOS occurrences are not that frequent.

Finally, there is the variables between four to six times, and more than six times, which do not represent more than 10% of the total sample, although important, they do not represent a relevant value for the study.

Graphic 7- Study Sample – Justification for OOS by store assistant

	Not available at moment	Sold out	End of life	Available at store but not exposed
Justification	287	106	44	98
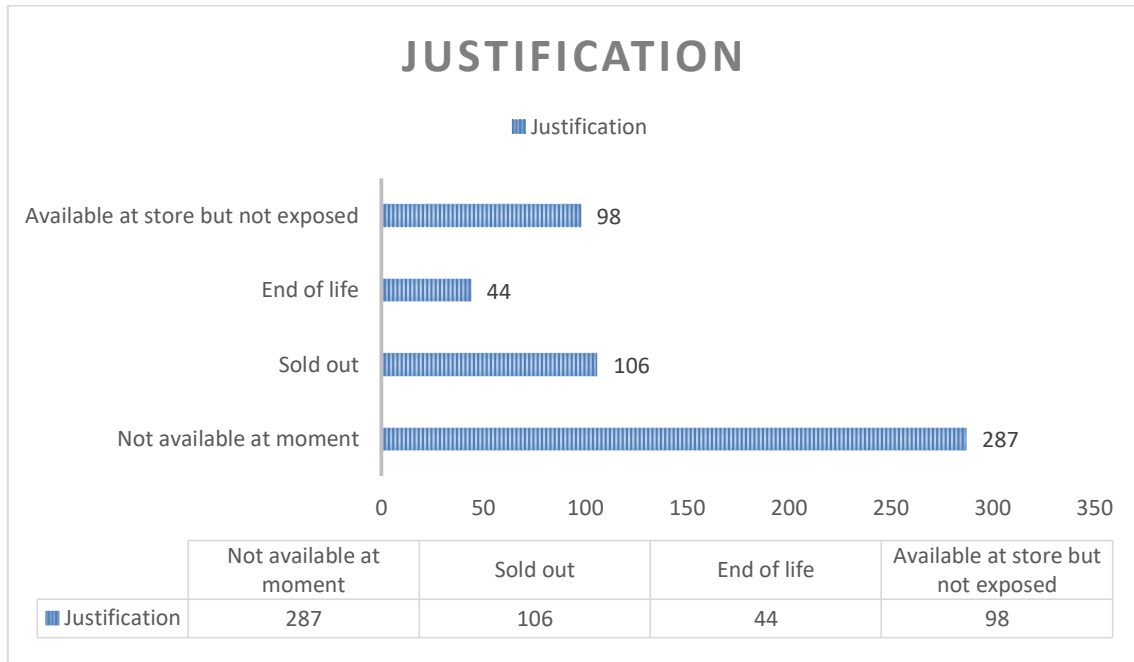
Source: Investigator questionnaire

Following the same path, the study in this question aimed to see if employees are giving the right justification for not having the product available and also to see the most common causes for not having the product (the study moreover intends to give more detailed information on this matter).

Briefly explanation on four variables asked:

- Available at store but not exposed – meaning that the product is in the wrong shelf or in the hands of other consumer that has not yet purchase the product, and for that matter the product although not correct placed in the shelf, it is available in the Decathlons stock system;
- End of life – means that the production of the product has stopped, and for that reason it will no longer be available at any shop (until the last item of the

collection is sold – could still be available at any other store until the end of the last collection);

- Sold out – refers to products that have been all sold on that store, it will no longer be available until the manager requests for more to the warehouse – sometimes market studies can help on this matter to present that a product for which there is a massive demand does not sell out before its end of life (sometimes could be due to promotions);

- Not available at the moment – Meaning that it could still be packed in the stores warehouse, or sold out at that store, for that matter the store assistant as to request to other stores the product.

Assuming that, representing almost 54% of the sample respondents say that when asking employees for an OOS product the most common response is that the product is not available at the moment, meaning that the stores assistant can help for the stock to any other store in order to answer to the consumer needs and demand.

Right after there is when the product is sold out, similar to the previous variable but at this stage the main warehouse needs to receive an order for the shipment of more items due to consumers demand. Also, one of the main problems in having a vast store is that sometimes consumer seek for other products leaving around the store products that they had already chosen, meaning that the product is available but not in the correct shelf, making it more difficult for the store assistant to find it (representing almost 18% occurrences).

Lastly, there is end of life, represent only 44 answers of the total 535 from the sample, despite being not that common it is an issue in which the store cannot provide a solution, given the fact that the product as end their production (store assistants can take the opportunity to sell similar products).

Graphic 8- Study Sample – Consumers reaction

CONSUMERS REACTION TO OOS

■ Consumers reaction

	Look in other sports stores	Buy online	Do not buy	Wait for the shipment	Replace for a similar product	Other
■ Consumers reaction	233	44	23	211	20	4
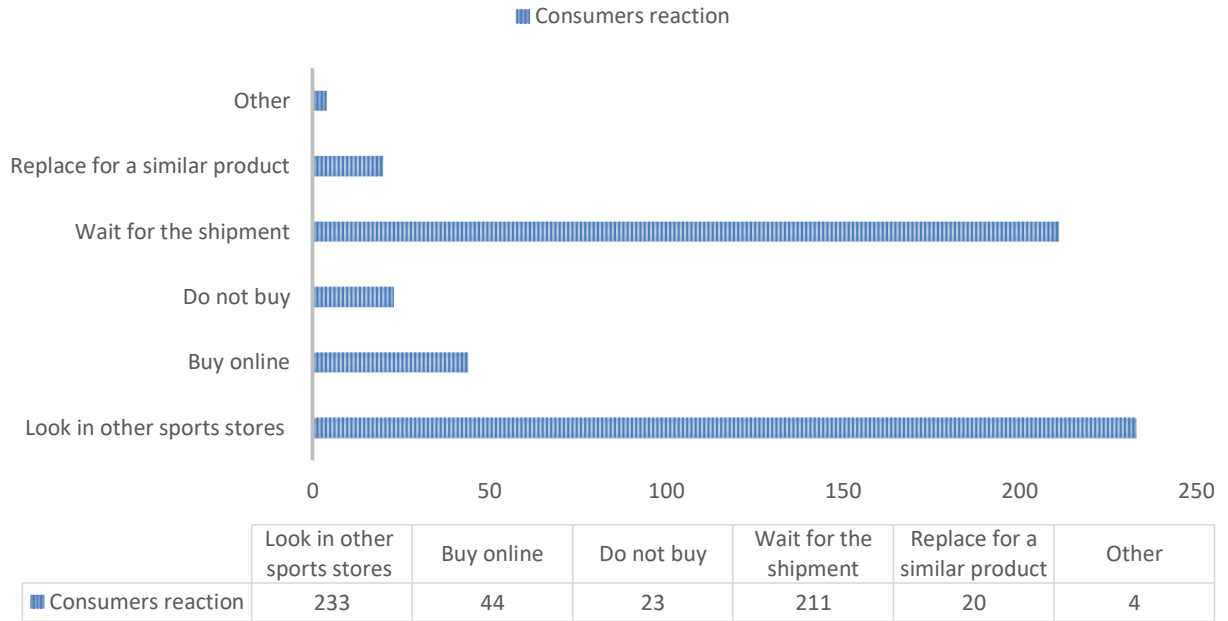
Source: Investigator questionnaire

On this part of the study respondents were asked to give their feedback on their reaction when facing an OOS episode. This part can help managers delineate a strategy according to consumer's reaction.

On that matter, as seen it is possible to notice that if the store does not follow consumers' needs in order for providing them what they demand, they rapidly seek for solutions besides their preference. That is why it is so important to study the market, so that when consumers pursue for a product they first, first Decathlon and secondly, they buy there, representing higher sales revenues for the store. Almost half of the studied sample (approximately 44%), affirms that when pursuing for a product they are available to see at any sports store, leaving aside their preference in the first store visited. Also, following another higher percentage of nearly 40% of the studied sample, respondents affirm that when facing an OSS occurrence, they prefer to wait for the next shipment at that store, it could be due to proximity to the store or simple by preference. Also, in this matter CRM strategies help a lot by the fact that, when using Decathlon card, they receive rewards, whether promotions, points accumulation among others (as explain in the *Decathlons* Overview chapter), for that consumers have a preference to wait for the product, that sometimes takes only 1 to 2 days to arrive.

Finally, the digital area is nowadays getting more relevance in the retail industry and for that matter, nearly 8% of the sample as answered to go online when facing a stock disruption. It is a strategy that is being perfected during time, so that on day, not far from the near future, consumers start to only buy at an online level.

Moreover, Replacement for another product and Do not buy variable are not statically relevant (when separated) for the study as they represent very little of the sample. However, every answer counts for an improved management, and on this matter, *Decathlons* managers could take advantage from this study in this specific part, given the fact that there is still respondent's take leave with no product when facing OOS products occurrences. Meaning that, not every employee is trying their best to sell similar products or to find solutions that better fit the consumer when the product is not available at that specific time.

To conclude, the variable Others in this particularly case is not statically relevant for the study.

Insider's method

In order to fully understand and to combine what was gathered in the literature review regarding how the phenomenon of OOS does behaves, the investigator, at this stage of the study intends to analyses how products behave during their life cycle, and how does the store manage their disruptions. At the very bottom of the study, it aims to assistance employees in their daily work, turning decathlons business into a strong growth in sales and profits, as well as in overall amount of sales revenues - profit.

The investigator has analyzed 44 products from all the store:

Graphic 9- Products Collected Decathlon

Code	Product	Price
2011383	Luvas Musculação	9,99 €
1783310	toque de equitação	24,99 €
2011580	meias cano alto Fitness	4,99 €
2008320	chuteiras futebol Size 32	19,99 €
2011555	bicicleta elétrica	899,99 €
2021124	casaco corta-vento Size M	34,99 €
2021123	Casaco corta-vento Size S	34,99 €
2021125	Casaco corta-vento Size L	34,99 €
2021111	Fio de pesca	9,99 €
1857749	Fato de surf	11,99 €
1773263	galocha de caça Size 43	44,99 €
800313	Polar Size M	9,99 €
800323	Pó para escalada	3,79 €
800328	calções Musculação Size L	5,99 €
800309	Calças desportos Raquete Size M	14,99 €
2012283	Luvas Musculação SIze L/XL	14,99 €
2012288	Luvas Musculação Size S/M	14,99 €
2067733	GPS Golf	149,99 €
1863314	Roda patins	7,99 €
2021112	Calças impermeáveis Size L	7,99 €
2005720	Saco desporto Size 10L	3,99 €
2005722	t-shirt Fitness Size S	3,49 €
2008096	Casaco sem capuz Ginástica Size L	12,99 €
2008090	Casaco sem capuz Ginástica Size S	12,99 €
2008091	Casaco sem Capuz Ginástica Size M	12,99 €
2008079	Casaco sem Capuz Ginástica Size XS	12,99 €
2008080	t-shirt Regular Homem Vermelho Size M	4,99 €
2008081	t-shirt Regular Homem Vermelho Size M	4,99 €
2008086	t-shirt Regular Homem Azul Size M	4,99 €
2008083	t-shirt Regular Homem Branco Size M	4,99 €
2015824	Saco Desporto Size 30L	19,99 €
2015825	Camisola Yoga Size L	8,99 €
2015826	Camisola Yoga SIze M	8,99 €
2015828	T-shirt Regular Mulher Size XS	4,99 €

582788	Sapatos para Fitness Size 43	29,99 €
582789	Sapatos para Fitness Size 44	29,99 €
833639	Passadeira TC	599,99 €
833644	Cinto Bagagem rosa	5,99 €
833655	Corda para saltar	1,99 €
833656	Capacete Bicicleta	24,99 €
833659	Sapatilha Size 41	9,99 €
833664	Sapatilha Size 45	9,99 €
821909	Bola Pilates Size M	8,99 €

Source: Investigator Work

The investigator as during around nearly 2 months, tracked each product every day, 5 times a day, in order to fully understand when they were available, if they were in Stock disruptions and why.

The investigator then, concluded that the products could be grouped into 4 groups (to better analyse the causes for stock disruption, by tracking the products cycle around 2 months):

- Group 1: Products with little time in rupture since it is caused by bad replacement – meaning that they could be in the wrong shelf;
- Group 2: Articles centralized in the warehouse of Setubal giving the maximum 2 days of rupture (time that takes the arrival of the product to the store) – means that if the product is not at the store, there is stock disruption and then it is asked to the main warehouse for the shipment of more stock, taking 2 days to arrive;

- Group 3: Centralized in the warehouse of Setubal but that entered rupture in the own warehouse – which means that the product is not available at the main warehouse, and so the manager needs to ask for the shipment of new stock to the Europe main warehouse for Portugal that is located in France, which can take around 4 days to arrive (from France to Setubal – 2 days – then from Setubal to *Amador*a Store – 2 days);

- • Group 4: Products centralized in the warehouse of France, that when are not available, they take around 2 weeks to arrive there (from China) and another 4 days to the store.

Each group of products was evaluated based on an average of the behavior of each product, in what concerns to stock disruptions.

The next graphic intends to briefly explain how the process of shipment works in Decathlon does:

Graphic 10- Hierarchy of stock shipment at *Decathlon Amadora*
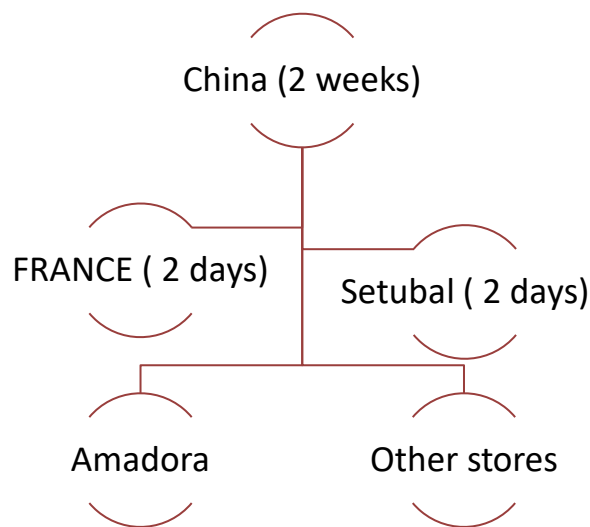
Source: Investigator work

It is important to notice that, only when there is no availability at Setubal warehouse, the stores assistant asks the shipment from another store, otherwise, they call to the store to keep it for the customer to grab it directly at the store in which the product is available.

Given this, as explained before, the products were grouped to follow a path among them and to better understand each one of them to see how managers can better succeed in stock disruption strategies.

Graphic 11- Products accordingly to their group

	Group 1	Group 2	Group 3	Group 4
	1 day/hours	2 days	< 4 days	> 2 weeks
Products Code	2011383	1773263	2012283	2008090
	1783310	800313	2012288	2008091
	2011580	800323	2067733	2008079
	2008320	800328	1863314	2008080
	2011555	800309	2021112	2008081
	2021124		2005720	2008086
	2021123		2005721	2008086
	2021125		2005722	2015824
	2021111		2008096	2015825
	1857749			2015826
				2015828
				582788
				582789
				833639
				833644
				833655
				833656
				833659
				833664
				821909
Total Products	**10**	**5**	**9**	**20**

Source: Investigator work

Given this it is possible to conclude that, most products are in stock disruption due to bad market studies, in which they send less than there are consumers demand for. This is verified in almost small products, and fitness ones, whom are also the products for which consumers go the most in terms of purchases. Also, it is verified that there are many articles who are available at the system but are not available at moment buy the store assistant – it can mean that it is in a different shelf from where it is supposed to, or it has been stolen from the store. From the 44 products analyzed 10 correspond to group 1. Despite being not the group with more products is one that should be managed in a better way, it is the group that when improved could represent the most significant one in terms of sales.

Furthermore, to group 2 there is corresponding 5 products, representing the lowest group, sometimes it can be due to a wrong judgment on the stores demand by the consumers, meaning that the store was not predicting that the products were to have such a good response, and therefore they asked less than they would have sold. Plus, it almost translates the cost of opportunity[6], when the manners decided not to ask for more stock, for being afraid the store would end up with more stock then sold, in this case the opposite occur and the manager lost potential revenues from the product – the manager did not that the risk.

Moreover, there is group number 3 with 9 products correspondingly, which refers to the fact that the warehouse of Setubal had more demand for the product than they predicted, from stores all over Portugal. It can also be since, the products had received a stop order – it is a situation verified when more than 3 products present defect on their material constitution and it is revealed by consumers, the store are forced to send back all articles for tests, and so the products are no longer available until the situation is settle.

Finally, group number 4, represents products for which there has not been enough production, in this case the production of the product is only done if there is an enormous amount of demand that could justify a new production, otherwise the product as reach an end of life cycle. The group represents 20 products from 44, the highest amount of the sample products being studied. This situation could represent products that have enter in stock disruption due to promotions, and therefore the store sold almost everything as well as others stores, reason why the warehouse of France needs to ask for new production on these products, only when there is demand for it.

Chapter VI – Discussion of Results

The present study had as a principle to be understood, what are the main causes for stock disruption and how is *Decathlon* strategies responding to it, in addition to the perception of customers, meaning how does OOS products impact consumers purchase. By conducting the questionnaire, it was possible to take in consideration what are the key

---

[6] Opportunity Cost: Refers to a benefit that a person could have received, but gave up, to take another action. Consulted at: Investopedia.com at 30 of August 2017

factors that customers retain and go for when facing OOS occurrences and also, how do products behave during their life cycle.

Concerning that, concluded an extensive literature review it was promising to identify questions that needed to be full field, such as the impact of stock disruption situations in consumers life, what are the main causes for stock disruption and finally in an investigator analyses how can *Decathlon* prevent it, why it is so critical for the company to create strategies in order to diminish it.

Starting, by crossing information and analysis on the data sample population it is important to mention that the majority or the answers were given by ages between 45 to 65 years mainly, which, can only be a positive factor to the credibility of the study, given the fact that it is common sense that are still adults who are the more talkative to store assistants. Also, the fact that fitness is the one sports items for which consumers chose more often, concerning today mind-set of society it makes total sense, in a way that the population in now more concern on getting healthier and therefore gymnasium registrations are getting higher, for that matter revenues on items for the gymnasium are representing improvements on the retail industry.

In what it relates to products, it represents a low sample of the total items to choose from decathlon, but although small, it is much significant given the fact that they are distributed around the groups mentioned before for which the study aimed to study and to follow a path among them.

Question 1

Secondly, the study aimed to understand, if in fact customers when faced with OOS occurrences if that situation had impact on their purchase. On this matter, it is possible to conclude that, although having an impact, as referred by Emerson and Grimm (2001), there is a need for logistics and marketing to correspond to consumers' needs and expectations. Therefore, there should always be enough product or similar for the consumers, in order to meet their expectations and full field their desires. Consumers are

the ones who impact the company's growth by purchasing and continuously preferring to purchase at the store in specific.

Given that, on the literature review it was also possible to conclude by the Institute of Technology Management at the University of St. Gallen in Switzerland, consumers buy the same item at another retail outlet 21%-43% of the time, 25% of the time not make any purchase period and the rest of the time will opt for a similar but lower priced alternative. From the point of view of either a brand or a retail establishment, these add up to major profit losses, without even mentioning the loss of consumer confidence they may experience. Meaning that is does impacts their purchases.

However, the present conducted study, reveals that to:

Q1: Stock disruption at *Decathlon Amadora*, when perceived by customers, impacts their purchases;

- H1: Stock disruption at *Decathlon Amadora*, when perceived by customers, have a positive impact on their purchase; - Rejected
- H2: Stock disruption at *Decathlon Amadora*, when perceived by customers, have a negative impact on their purchase.

Has stated in the graphic 8 referring to what customers do when perceive a OOS situation, was that more than half of the sample, went to see the product at another competitor store. At that time the purchase customers were seeking to do, have represented a negative impact, given the fact that they went to purchase the product at another store.

Also, as seen in graphic 7 the main reason that *Decathlon* employees give for OOS, is when the product is not available at the moment, representing a negative impact for the consumer and therefore revenues. It can be managed by employees, since if the product is available at the warehouse there should be a person in charge for the reposition of disrupt stock, for not having the consumers waiting for the product or in the worst scenario leaving without buying.

Moreover, in the insider's method, it strengths the idea of OOS having an negative impact, given the fact that more than half of the products chosen for study were in group 4,

representing product that would take at least 2 weeks to arrive. Meaning that, the consumer would not purchase anything at the store. It can be managed, if employees are trained for ensuring that customers, when facing this situation, leave with similar products in order to fight competition, and to optimize consumer's purchases.

As referred on the literature review, by Lambert (1998), at GSCF, there are practices to take under consideration when managing the supply chain, making one of them CRM, managing the customer relationship. At this stage of the study, it has been possible to conclude that it does in fact has an impact on the customers purchases, for these reason it is highly recommended to implement strategies such as the Loyalty card (despite having already there should be done more campaigns).

Question 2

At this stage of the study, the investigator wanted to approach OOS occurrences and really focus on main causes for stock disruption. The study targets the comparison between what was retain from the literature review as main causes and see if they are aligned with what the study concluded.

Q2: What are the main causes for stock disruption?

Firstly, as mentioned by Coca-Cola Research (1996) mainly stock disruption causes are revealed at upstream supply activities, such as, suppliers, purchases and production lines. Plus, Carsten and Gruen (2003) have mentioned top causes for SD giving as example, general processes at store, like, ordering practices, when there is made a wrong prediction of misaligned demand for the reality, replenishment practices, when the product is in another's product shelf, that sometimes could be justified by lack of employees or even insufficient space allocated to the product due to its rotation level. Plus, planning practices, when there is a lack of communication between retailer and supplier, or even when the market study is conducted poorly.

As a result, the study aimed to focused on main often causes for SD at *Amadora* store, by analyzing each product cycle, grouping them in groups of causes for not being available

at that time. By doing this the investigator, could retain possible causes for the disruption to achieve solution to help the strategy of Decathlon.

Given that, it was possible to obverse in the chosen products that stock disruption are occurring due to:

- Replacement products, due to lack of employees or robberies, that in that case, the system for replacing products does not warns the employee to replace the product, leaving to stock disruption;
- Bad judgment on ordering stock – due to misconducted market studies, that lead to a wrong read on consumers demands and needs;
- Stop order – when products are forced to leave stores due to defects;

As a way to overcome the obstacle, manager ought to train employees to be more careful when replacing products at stores, at to be in constant warn for products shelfs. Also, market studies should be focused on each region in specific to really approach to the population needs.

Question 3

Sports market is a global market which has been growing at an annual average rate of about 2 to 3% for over a decade (Ohl & Tribou, 2004). Due to tough rivalry, brands are very dynamic (Chantelat, 2008), constantly seeking better positioning and new ways of gaining market shares (Bouchet & Hillairet, 2008).

Given that, the present study aimed to focus on helping Decathlon strategies in terms of stock disruption, so that they could be more competitive and therefore increase their market share, revenues and profit. Understanding what Decathlon needs to improve in their strategy, and after a carful literature review on this topic the question number 3 has escalated:

Q3: Is Decathlon strategy effectively responding to stock disruption?

By analyzing, the outsider's method it was clear to see that Decathlon, although having a good management and having CRM strategies to support customer service, they are not giving enough training to employees. The main cause that the investigator retained from the study was that, when customers perceived that the product was not available they left the store, instead of having left with similar products to the one that was in stock disruption.

Furthermore, there should be given an assistance to sales assistant in terms of providing stock that is available at the store warehouse, or even when the product is in a wrong shelf. There should be increase the level of help among each department in the store, so that once an employee sees that the product, for example from fitness is in the department of water they would tell the head of that department to fight one of the main causes for stock disruption.

Also, Decathlon as most products studied in stock disruption for more than 2 weeks, meaning that, the communication between the factory and the stores are not effective. The demand is higher than the shift products. Clients are not willing to wait that amount of time when products are available at other stores, implying lost profit for the store.

Despite decathlon haves CRM strategies such as loyalty card, there should be more done to reward consumers who buy at the store, especially when there is a lake of competitors waiting for *Decathlon* consumers.

Final Considerations

The main objective of this dissertation was to analyze the current situation of the OOS products at decathlon for future improvements, presenting improvement proposals that would reduce the existing rupture rate and ultimately increase the effectiveness and efficiency of the whole chain supply.

The retail industry has suffered heavy losses by amplifying the demand variability along the supply chain, as a result of the placing of order orders in batches and the occurrence of several stock breakages on the shelf that are not even revealed by the cash register, this effect is intensified and reduces the efficiency and effectiveness of the entire stock management process, the ordering system and, finally, the level of service offered.

Based on the research questions of this study:

1. Impacts on consumers when face with OOS occurrences;
2. Causes for SD;
3. Why it is critical for *Decathlon* to respond to SD;

A literature review was developed focusing on two main themes: Consumers perception and Stock Disruptions at the point of sale. These two themes, together with the concepts of Supply Chain Management and Customer Service, supported the results analysis performed, as well as the suggestions for improvement exposed.

On this note, Stock disruption will continue to exist however the study approached the topic in two ways for future improvements, and also the study aimed to give two possible views on the same matter.

Firstly, it was important to retain that in terms of consumers care it is still a pillar for business revenues that managers should carefully track and explore in order to fulfilled their expectations, needs and desires. The present study concludes that half of the revenues lost during stock disruptions occurrences could be potentially resolved by

improvements on employee's trainee, improved CRM strategies and also enhance market studies.

On the first suggest, it arises from the fact that, as stated by Carsten Gruen (2003), wrong disposition of products at stores at the main consequences for clients leaving the store without the product they aimed to purchase.

Given that, if employees, were trained to, firstly, monitor shelfs and products left around the store by customers in order to place them in the correct place so that it would lead to SD, it could represent higher revenues. Also, in second, with the correct posture and training, employees when justifying the consumer, the reason why there is no product, they should take that opportunity to suggest a similar product so that they would lose the consumer to *Decathlons* competitors. Thirdly, there should be taken in action the promotion of more CRM strategies to promote the relation between the brand and the consumer. By that, the consumer would fell appreciated at the store as well as rewarded for buying there, and therefore, when facing OOS products, they would wait for the next shipment of the product. By CRM strategies, the study concluded on the loyalty card, where consumers can accumulate points, receive promotions and rewards for being at Decathlon.

In addition, the study concluded on the main causes for SD, and when comparing to the literature review results and the present study, the reasons for that are always, more or less, similar. Meaning that, the retail industry could take that opportunity to learn with companies who are fighting against stock disruption, such as Amazon[7] by investing on online purchases.

Also, according to the study the main causes are revealed by the lack of well-done market studies. If managers took time to understand consumer's wants and desires they would deliver products in a more efficient way, besides, going for strategies that do not afford risks. It means that, if managers focus on the consumer demands, they would know exactly what to order from the main warehouses, so that they would never have OOS products but also excess of products at store (many managers do not study the

---

[7] Amazon.com/pt – Founded in 1995 by eff Bezos, one of the largest online shopping websites in the world, known for wide selection of books, music, furniture and apparel.

environment in which they are and order less products, so that there is no risk in having excess products, instead of worrying in not having enough product to match the customers' demands).

Plus, the communication among the Supply Chain ought to be improved and to flow in the correct form, so that suppliers, managers, store assistants and the final consumer know exactly what they have to produce, order, available and will eventually get.

Finally, it is so critical for Decathlon to follow the new management trends and to implement practices that go from the Management of the Supply Chain, Customer Service, Employees and Store storage and organization so that they can face new and old competitors on the retail industry, as it is an industry with potential to keep increasing over the years.

Contributions on the Management field

The conducted study concluded and has analyzed on recent strategies and consumers trends on this issue. The information that has been carried out and developed during this process could be crucial for professional who want to take advantages on the study, since it could potential be compared to other retail areas and stores. However, the strategies mentioned on the literature review ought to keep an eye on the author's recommendations and practices.

Given that, the present thesis aims to serve as a starting point for managers and professionals in the retail field, who pursue knowledge on consumers care on stock disruptions, and whom want to develop strategies to fight against that, having as sources the main bases for the business, consumers.

Plus, professionals must never forget that nowadays the world belongs to the digital era, where the society are changing constantly, meaning that firms should take that as an opportunity to really embrace the strategies mentioned and approaches, such as better market studies and improvements in the online channel.

Future investigation studies

In what it regards to my point of view, this research demonstrates that there is still a lot of work to do in the context and that there is a window of opportunity for new strategies.

I would high light, conducting a study for the merger of top strategies from each company from each industry, traditional and modern, in terms of comparing and fusion acquired information on each strategy to fight stock disruption. There come a times where textile retail, food retail, technological retail, among others, can learn with each other's.

Also, the Amazon case should be investigating in terms of what new technological practices can bring into the industry.

Finally, conducting a study to see if it is profitable for a company to end their sales at a store, and focus only on the online distribution channel, in order to see if stock disruptions losses could be overcome by only selling online.

Acquired Experience

Since I started my curricular path, and then professional, the retail industry as always been a part of my life. It not only represents a passion but also a huge interest of mine to keep studying it and to seek for better practices.

The more thee issues are developed and studied the more managers can take lessons from it, and apply it in daily professional life. The lack of information among firms could can to and end if firms take in advantage studies conducted in the industry, sometimes with competitors.

In this sense, the retail industry is a complex and multidisciplinary area, I realize that external factors represent crucial parts for the business growth and revenues, in a way that they should never forget to continuously study them. Also, I understood that as a professional in this area, one of the better ways for being successful is by pursing these external factors in order to forecast behaviors.

Study Limitations

The main limitations of perceived in the study, focused more precisely on the conducted insider's method. Despite working at the store, it was always difficult to track a product and to rely sometimes on the IT software, that as seen previously could be telling the wrong information on the stock, or sometimes the product could be at the store but somewhere that was difficult for the investigator to find it.

Plus, there is always resilience from firms to give details on strategies and stock information, such as order notes and suppliers cost. For that reason, the investigator found it to very difficult to follow a product path since its production until the final consumers, reason why the study was conducted at the store and with consumers.

Finally, the study sample was short on what it comes to focus on *Amadora* store, but, as explained before, stores compete with each other's, for that matters they do not provide information on their stock.

Bibliography

Arshinder, Kanda Arun and Deshmukh, S G,2008, "**Supply Chain Coordination: Perspectives, Empirical Studies and Research Directions**", International J of Production Economics, 115(2), 316-335

Ballou, R.H. (2004): **"Business Logistics/Supply Chain Management"**, 5th ed, Prentice-Hall, Upper Saddle River NJ;

Bowersox, D.J.; Closs, D.J.; Cooper, B.M. (2002): **"Supply Chain Logistics Management"**, McGrawHill, New York;

Bowersox (2007) : Bowersox, D.J., Closs D. J., and Cooper M. B. (2007). **Supply Chain Logistics**, 2nd ed., McGraw-Hill/Irwin, NY, pp.410;

Chen, I. J., Paulraj, A. (2004): **"Towards a theory of supply chain management: the constructs and measurements"**. In: Journal of Operations Management, 22/2: 119-150;

Childerhouse, P, Deaking, E, Bohme, T, Towill, D R, Disney, S M and Banomyong, R, (2011) **"Supply chain integration: an International comparison of maturity",** Asia Pacific Journal of Marketing & Logistics, 23 (4), pp 531-52

Christopher, M. (2001): **"Logistics and Supply Chain Management: Strategies for Reducing Cost and Improving Service"**;

Christopher, M., & Towill, D. R. (2000): **"Supply chain migration from lean and functional to agile and customized".** Supply Chain Management: An International Journal, 5(4), 206-213;

Christopher M.; Matthias Holweg, (2011): **"Supply Chain 2.0": managing supply chains in the era of turbulence",** International Journal of Physical Distribution & Logistics Management, Vol. 41 Issue: 1, pp.63-82;

Cooper, M., Lambert, D. and Pagh, J. (1997): **"Supply chain management: more than a new name for logistics",** International Journal of Logistics Management, Vol. 8 No. 1, pp. 1-14;

Corsten, D. S., & Gruen, T. W. (2003). "**Desperately seeking shelf availability: an examination of the extent, the causes, and the efforts to address retail out-of-stocks."** International Journal of Retail & Distribution Management, 31(12), 605-615;

Croom, S. and Romano, P. (2000): **"Supply chain management: an analytical framework for critical literature review",** European Journal of Purchasing & Supply Management, Vol. 6, pp. 67-83

David Anderson, Frank Britt and Donavon Favre (1997): **"The Seven Principles of Supply Chain Management"**, Supply Chain Management;

Fawcett and Magnan, (2004) Fawcett, S.E., Magnan, G.M., (2004): **"Ten guiding principles for high-impact SCM"**. Business Horizon 47 (5), 67-74;

Frankel, R., Bolumole, Y. A., Eltantawy, R. A., Paulraj, A., & Gundlach, G. T. (2008). **"The domain and scope of SCM's foundational disciplines— insights and issues to advance research".** *Journal of Business Logistics*, *29*(1), 1–30.

Gibson, B. J., Hanna, J. B. (2005): "**Periodical Usefulness: The U.S. Logistics Educator Perspective**", in: Journal of Business Logistics, 24(1): 221–240.

Handheld, R.B. and Nichols, E.L. (1999): **Introduction to Supply Chain Management, Prentice-Hall.** Englewood Cliffs, NJ;

Hartmut Stadtler, (2000): **"Supply Chain Management and Advanced Planning"** pp 7-28;

Johnson, M.E. (2003): **"The Supply-chain Management Effect"**, MIT Sloan Management Review, 44(3): 27;

Keely L. Croxton, Sebastián J. García-Dastugue, Douglas M. Lambert, and Dale S. Rogers (2001): **"The Supply Chain Management Processes",** The International Journal of Logistics Management, Vol. 12, No. 2, 2001, pp. 13-36;

Kopczak, L.R. and Johnson, M.E. (2003) **"The Supply-Chain Management Effect"**. MIT Sloan Management Review, Spring 2003, pp27-34;

Lambert, D., & Rogers, D. (2001). "**The supply chain management processes**" The International Journal of logistics Management, 12(2), 13-36.

Larson, P.D. and Halldarsson, A. (2002): **"What is SCM? and Where is it?"** Journal of Supply Chain Management, 38(4): 36-44;

Leeuw S., Fransoo J., (2009): **"Drivers of close supply chain collaboration: one size fits all?"**, International Journal of Operations & Production Management, Vol. 29 Issue: 7, pp.720-739;

Mentzer, J.T., Dewitt, W., Keebler, J.S., Soonhong, M., Nancy, W.N., Smith, C. and Z^charia, Z.G. (2001): **"Defining supply chain management"**, Journal of Business Logistics, Vol. 22 No. 2;

Morgan, J. and Monczka, R.M. (1996): **"Supplier integration: a new level of supply chain management"**, Purchasing, Vol.120 No 1, pp. 110-13;

Ronald H. Ballou, (2007): **"The evolution and future of logistics and supply chain management"**, European Business Review, Vol. 19 Issue: 4, pp.332-348;

Simatupang, Ramaswami Sridharan, (2008): **"Design for supply chain collaboration",** Business Process Management Journal, Vol. 14 Issue: 3, pp.401-418;

Stadtler, H. (2000): "**Supply Chain Management An Overview**" , in: Studde,, H., Kliger, C. (cu): Supply Chain Management and Advanced Planning Concepts, Models, Software and Case Studies, Springer Verlag, Berlin, p. 7–28

Stank, P. T., Goldsby, J. T., Vickery, K. S., Savitskie, K. (2003): **"Logistics service performance: estimating its influence on market share",** Journal of Business Logistics, 24(1), 27-55;

Stank, T.P., Daugherty, P.J. and Ellinger, A.E. (1999b): **"Marketing/logistics integration and firm performance",** International Journal of Logistics Management, Vol. 10 No. 1, p. 11;

Stock, J. and S.Boyer (2009): **"Developing a consensus definition of supply chain management: A Qualitative Study",** Internationla Journal of Physical Distribution & Logistics Management 39 (8), 690-711.

Tan, K.C., Handfield, R.B. and Krause, D.R. (2001): **"Enhancing firms' performance through quality and supply base management: na Empirical study"**, International Journal of Production Research, Vol. 36 No.10, pp. 281-337;

Tang, C.(2006): " **International Journal of Logistics Research and Application**", Journal of Business Logistics, Vol.9, 2006. pp. 33-45;

Trend (2004): **"The Use of Organizational Design Features in Purchasing and Supply Management";**

Walter, D. and Lancaster, G.(2000), **"Implementing Value Strategy Through the value chain",** Management Decision, 38(3), 160-78;

Williams, Robert (2006) **"Logistics answers, Distribution"**, October, p.7;

Zsidisin, G.and Ritchie, B (2008): "**Supply Chain Risk",** A handbook of Assessment Management, and Performance. p.p. 84-90;

Annex

Anexx 1 – Questionnaire

Portuguese/ English

Questionário/ Questionnaire

O presente questionário tem como objetivo conhecer a sua opinião sobre o Impacto das rupturas de stock no acto da compra.

Este questionário é parte integrante de uma investigação que está a ser realizada no âmbito de um trabalho de Mestrado.

Assim, solicita-se a sua colaboração que se traduzirá no preenchimento do presente questionário.

Todas as informações recolhidas serão apenas usadas na presente investigação e são estritamente confidenciais, como previsto pela Lei n.º67/98, de 26 de Outubro.

Agradece-se o seu contributo para esta investigação.

The present questionnaire intends to understand your opinion on the impact of stock disruptions when purchasing.

It is part of a Master investigation.

Therefore, your collaboration will be very important.

Every single information collected from the questionnaire will only be used for the purpose of the thesis investigation, as it is describe in the Portuguese Law nº67/98, of 26 October.

Your contribution is much appreciated.

I – Dados sociodemográficos: Sociodemographic data:

1 – Qual o seu género? Gender

☐ Masculino   / Male

☐ Feminino   / Female

2 – Qual a sua idade? Age

- ☐ >18 / years

- ☐ 18-25 / years

- ☐ 26-45 / years

- ☐ <65 / years

II – Questões / Questions

3 – Que loja da Decathlon frequenta mais vezes? Which Decathlon Store do you go the most?

- ☐ Almada;

- ☐ Amadora;

- ☐ Braga;

- ☐ Cascais;

- ☐ Faro;

- ☐ Guimarães;

- ☐ Matosinhos.

4 – Quantas vezes visita a loja? How often do you go to the store?

- ☐ 1-3 vezes/times;

- ☐ 4-6 vezes/times;

- ☐ 7-10 vezes/times;

- ☐ >10 vezes/times.

5 – Que categorias de produto compra mais? Sport from where you buy the most?

- ☐ Desporto Colectivo/ Collective Sports;

- ☐ Bicicleta/ Cycling;

- ☐ Fitness;

☐ Montanha/ Mountain;

☐ Agua/ Water Sports;

☐ Outros/ Other.

6 – Quantas vezes pediu um produto que não estava disponível? Frequency in asking for products that are not available.

☐ 0;

☐ 1-3 vezes/times;

☐ 4-6 vezes/times;

☐ >6 vezes/times.

7- Qual foi a justificação do colaborador? What was the justification given by the store assistant?

☐ Disponível mas não exposto/ Available at store but not exposed;

☐ Fim de ciclo/ End of life;

☐ Esgotado/ Sold out;

☐ Não disponivel/ Not available at the moment.

8- Qual foi a sua reação após o sucedido? How did you react to that?

☐ Procurei noutra loja/ Look in a different store;

☐ Procurei Online/ Buy online;

☐ Não comprei/ Do not buy;

☐ Aguardei pela chegada do produto/ Wait for the shipment;

☐ Comprei um produto similar/ Replace for a similar product;

☐ Outro/ Other.

FIM, OBRIGADA ☺

The end, thank you ☺