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**TOWARD AN EXTENDED PERSPECTIVE OF THE DUAL
ROLE OF PURCHASING IN GLOBAL NEW PRODUCT
DEVELOPMENT: A CASE STUDY OF AVON COSMETICS**

**EM DIREÇÃO A UMA PERSPECTIVA ESTENDIDA DO
PAPEL DUPLO DE COMPRAS NO DESENVOLVIMENTO
GLOBAL DE NOVOS PRODUTOS: UM ESTUDO DE CASO DA
AVON COSMÉTICOS**

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Dissertação apresentado ao Departamento de Administração da Faculdade de Economia, Administração e Contabilidade da Universidade de São Paulo, como requisito para a obtenção do título de Mestre em Ciências.

Orientador: Prof. Dr. Paulo Tromboni de Souza Nascimento.

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To Moacyr de Arruda Mendes

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¹ A traditional confectionary originating from the north-east of Brazil. Although there are different recipes for this crumbly dessert, they are usually made with shredded coconut, condensed milk and caramelized sugar.

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will always be an inspiration. For this reason, I dedicate this first step of my academic career to him.

Resumo

EM DIREÇÃO A UMA PERSPECTIVA ESTENDIDA DO PAPEL DUPLO DE COMPRAS NO DESENVOLVIMENTO GLOBAL DE NOVOS PRODUTOS: UM ESTUDO DE CASO DA AVON COSMÉTICOS

O presente estudo explora as práticas de gestão da inovação em empresas multinacionais por meio da interação entre Compras e outras áreas funcionais no processo de desenvolvimento global de novos produtos. O principal objetivo consiste em examinar como Compras pode exercer o papel duplo de suportar as atividades de inovação da empresa e, ao mesmo tempo, buscar os objetivos específicos da área. Como resultado dessa pergunta de pesquisa, a abordagem selecionada foi o estudo de caso longitudinal, conduzido na Avon Cosméticos. Esse formato metodológico, em combinação com a revisão da literatura existente, possibilita a investigação da reciprocidade dos objetivos estratégicos de compras e de operações com o processo de inovação em produto. As evidências coletadas por meio de estudo de caso desenvolvido na etapa de campo corroboram os quadros conceituais desenvolvidos por pesquisadores que se debruçaram sobre o tema anteriormente, possibilitando o refinamento das ideias e consolidando em um quadro analítico único que engloba todos os conceitos. Adicionalmente, as entrevistas demonstram que compras tem um papel importante na dinâmica da inovação, canalizando objetivos estratégicos de operações em direção ao processo global de desenvolvimento de novos produtos e garantido que os objetivos de inovação sejam comunicados à montante da cadeia de valor. A contribuição central do estudo reside na extensão da discussão sobre o papel duplo de Compras no processo global de desenvolvimento de novos produtos mediante o reconhecimento de interdependências e estendendo o conceito para outros objetivos de desempenho em estratégia de operações. Finalmente, a análise longitudinal das transformações que têm impactado a companhia tanto no nível do departamento de Compras quanto em nível corporativo oferece evidências contraditórias sobre a melhoria do papel duplo de Compras no processo global de desenvolvimento de novos produtos.

Keywords: Desenvolvimento de produtos, Compras, Papel duplo, Indústria de cosméticos

Abstract

TOWARD AN EXTENDED PERSPECTIVE OF THE DUAL ROLE OF PURCHASING IN GLOBAL NEW PRODUCT DEVELOPMENT: THE CASE OF AVON COSMETICS

The present study explores the innovation management practices in multinational corporations (MNC) through the interactions between Purchasing and other functional areas in the global new product development (GNPD) process. This research aims to examine how Purchasing can fulfill the dual role of supporting the innovation activities of the firm while also pursuing specific functional goals. As a result of this research question, a longitudinal case study approach was selected and conducted at Avon Cosmetics. This methodological design, in combination with an analysis of existing theory, allows an investigation of the reciprocal interplay of purchasing and operations strategy performance objectives with product innovation. The findings of the case study developed in the empirical phase of this research corroborate the frameworks developed by previous researchers, allowing the refinement of the ideas and consolidating them into one encompassing diagram. Furthermore, the interviews show that Purchasing plays an important role in the innovation dynamic, channeling strategic Supply Chain goals towards the GNPD process, while also ensuring that innovation targets are clearly communicated upstream in the value chain. The main contribution of this study is to deepen the discussions about the dual role of Purchasing in GNPD by acknowledging interdependencies and extending the concept to other generic performance objectives for operations strategy, as a way to convene an extended perspective to the innovation process of MNCs. Finally, the longitudinal analysis of the transformations impacting the company both at the Purchasing department level as at the global corporate level provide mixed evidences about the improvement of the dual role in GNPD.

Keywords: Product development, purchasing, dual role, cosmetics industry

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Acronym list

- CEO: Chief Executive Officer
- CPO: Chief Purchasing Officer
- GNPD: Global New Product Development
- HQ: Headquarter
- IPD: Integrated Product Development
- MNC: Multinational Corporations
- NPD: New Product Development
- NPE&D: New Product Development & Engineering
- PSM: Purchasing and Supply Management
- R&D: Research and Development

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1. Introduction

In dramatic arts, “dual role” refers to the casting practice of assigning two or multiple parts to one actor. A recent mainstream example of this elastic relationship between characters and performer can be found on “Last Days in the Desert” (García, 2016). In this intriguing Hollywood production, Ewan McGregor plays two very antagonistic roles: Jesus – or Yeshua – and Satan. In this case, the dual role is of thematic significance because it accentuates the dispute between both characters over the fate of a family in crisis, providing a compelling representation of the human side of Jesus (Holden, 2016).

In the Purchasing and Supply Management (PSM) literature, Schiele (2010) used the same concept to highlight the intrinsic ambiguity faced by purchasing professionals who need to “support the process of innovation while maintaining cost and integration responsibility over the entire product life cycle for the entire firm.” (Schiele, 2010, p.149). The dual role of Purchasing in global new product development (GNPD) is the focus of this dissertation. This research topic seems to be very opportune, as Purchasing is increasingly recognized for its broadened responsibilities and as a fundamental component of competitive advantage (Carr & Pearson, 2002; González-Benito, 2007; Narasimhan & Das, 2001).

Both scholars and managers have amply acknowledged the strategic importance of Purchasing. In this context, product development is one of the organizational processes in which this functional area has gained the status of competitive weapon. In the business arena, the case of Adidas during the 2004 European Soccer Championship is illustrative. As recalled by Niezen and Weller (2006), the company successfully delivered more than 145,000 customized jerseys right after Greece’s unexpected victory over Portugal in the final game. The quick reaction time was possible due to a combination of attentive new product development (NPD) efforts with efficient purchasing strategy and local sales structure. This allowed the sporting goods manufacturer to move products across international borders, delivering the commemorative jerseys to final customers in a timely manner.

Still in the managerial realm, it is worth mentioning Toyota’s product development process. As Sobek, Liker and Ward (1998) pointed out, the success of the Japanese automotive giant largely relied on its ability to integrate marketing, manufacturing, purchasing, finance and other business functions. Niezen, Weller and Deringer (2006) showed that more than 90% of the Purchasing executives participating in a survey conducted with a sample of 156 companies informed that they are being charged with new responsibilities.

Among these new duties is a more proactive participation in product innovation, which contradicts the conventional role of the department and causes a growing divide between the expectations of corporate leaders and the results that Purchasing teams are able to deliver (Niezen et al., 2006).

In the academic domain, the expanded role of Purchasing in NPD has been advocated in the literature since the mid-1980s (Tracey, 2004). The interest in this relationship grew within the academic community during the following decades, when the scientific research was intensified by studies concerned with the inclusion of suppliers in development projects (Wynstra, van Weele, & Axelsson, 1999; Mazzola, Bruccoleri, & Perrone, 2015). According to Schneider and Wallenburg (2013), this area will be of particular relevance for future research, as it “corresponds directly to the transformation towards an increasingly cross-functional process organization, which requires purchasing to increase its focus on interdepartmental cooperation and to intensify relationship management efforts” (Schneider & Wallenburg, 2013, p.152).

In the pages that follow, this dissertation attempts to explore and contribute to further understand the participation of Purchasing in innovation management activities carried out in multinational corporations (MNC). To examine this research topic a longitudinal single case study was conducted at the Brazilian unit of Avon Cosmetics, a large manufacturer of beauty products with operations in approximately 70 countries (Avon, 2016). For an easier understanding of the procedures employed in this study, it is imperative to explain each one of the subsequent sections and how they are linked with the research process as delineated by (Bryman, 2012).

In this initial section, the research object is introduced with the aim of stating the research question. This introductory chapter also details the main objectives, clarifies the justifications and reveals the underlying motivation for the present study. In the following chapter, the extant theory on Purchasing and GNPD management is laid out in order to shape the key operational definitions and to introduce the frameworks that will be employed in the empirical phase of the study. The methodology is described in the third chapter, with special attention to the data collection and analysis procedures utilized to answer the research question. The fourth chapter is dedicated to the presentation of the case study developed at Avon Cosmetics. Chapter five discusses the results of the case study and confronts the main findings with the theoretical review of the literature. The sixth chapter contains some concluding remarks, drawing managerial and theoretical implications. This closing section also reveals the study limitations and suggests a few directions for future research.

1.1. Research question

With the intention of complementing previous attempts to examine the contributions of the Purchasing department to the innovation process, this dissertation aims to discuss the fundamental research question below:

- How does Purchasing fulfill the dual role of supporting the global innovation activities of the firm while also pursuing specific functional goals?

It is essential to underscore that this interrogation was partially inspired by the work of Schiele (2010). As mentioned above, the author used the “dual role” concept to describe how the department is simultaneously engaged in the innovation process and in other company-wide pooling of requirements. Furthermore, it is relevant to emphasize that the focus of this dissertation aims to address one the research avenues revealed by Akin Ateş, van Raaij and Wynstra (2017). The recent suggestion to extend their analysis of competitive priorities beyond cost and innovation confirms that the specific objectives of this dissertation are current and relevant to the field. Therefore, the formulation of the aforementioned research question is in line with Bryman's (2012) recommendation to use the existing literature as a starting point to define the inquiry that will guide the investigation process.

1.2. Objectives

In order to address this inquiry, the following objectives are delineated:

- General objective:
 - Investigate the main activities and forms of organization that allow the Purchasing department to perform its dual role in GNPD.
- Specific objectives:
 - Analyze and refine the conceptual frameworks developed by previous researchers based on the case study conducted at Avon Cosmetics;
 - Extend the analysis of the dual role of Purchasing in GNPD by incorporating a broader set of performance objectives in operations management;
 - Take a longitudinal view of the contextual and structural changes in the case of Avon Cosmetics to illustrate how the dual role of Purchasing evolved over the course the past ten years.

1.3. Motivations

Subsequent to the introduction of the overarching goals of the present research, it is imperative to present its motivations. From a theoretical perspective, the arguments built on the pages that follow, primarily based on the case study of Avon Cosmetics, are aligned with the recommendation of Spina, Caniato, Luzzini and Ronchi (2015) to continuing employing qualitative methodologies to increase the maturity of Purchasing and Supply Management (PSM) research. Still in this line of thought, by adopting frameworks designed by previous authors, this investigation helps to test their central ideas, supports the definition of standardized labels and, ultimately, incites the development of internal middle range theory within PSM.

Besides the expected theoretical contribution to PSM research, the relevance of the business practices here discussed are also sources of motivation. Both product development and purchasing are central topics among management academics and practitioners (Lakemond, Echtelt, & Wynstra, 2001; Luzzini, Amann, Caniato, Essig, & Ronchi, 2015). With regards to the importance of NPD activities, Wheelwright and Clark (1992) argue that product development capabilities are crucial for the long-term competitiveness of manufacturing firms, as new product launches can ultimately result in improving market position, excelling financial performance and lead the renewal of the organization. In addition, it is important to mention the work of Danneels (2002) who contends that the dynamic and reciprocal relation between a firm's product innovation efforts and its competences are essential for organizational renewal.

In the international arena, GNPD efforts are often described in the literature as a competitive imperative, as it allows companies to take advantage of opportunities such as expanding its operations into different markets, gaining access to new technologies and better resources or reducing production costs (Søndergaard & Ahmed-Kristensen, 2015). Similarly, global competition has also raised the awareness about the operational and commercial benefits of shifting the scope of the Purchasing function from clerical activities to a more strategic approach (Cavusgil, Yaprak, & Yeoh, 1993, Lakemond et al., 2001, Kotabe & Murray, 2004, Watts, Kim, & Hahn, 1992, Chen, Paulraj, & Lado, 2004, Ateş, Wynstra, & van Raaij, 2015), following a pattern found on supply chain management (Khan, Christopher, & Creazza, 2012). The importance of the department is also endorsed by the fact that the purchase of raw ingredients, components and services comprise the majority of the total cost of goods sold in various industries (Ellram, 1996; van Weele, 2010). In a broader sense,

González-Benito (2007) contend that the alignment of purchasing capabilities with overall strategy is the basis for the department's contribution to business performance.

A third and more specific incentive for this research lies in the emphasis on Avon Cosmetics, as a representative case of the cosmetics industry. The focus on this sector allows the study of characteristics that are analogous to other companies in the fast-moving consumer goods (FMCG) sector, which includes companies that manufacture and sell products such as beverages, toiletries, over-the-counter drugs and packaged foods, but it also favors the analysis of aspects that are specific to beauty products. Although the innovation process in these industries is often associated with relatively lower development costs and substantial investments in merchandising and advertising expenses, it can provide interesting insights about the research question, as the competitive environment requires that companies continuously seek for fast product innovation while at the same time pursue cost reduction initiatives (Calantone, Randhawa, & Voorhees, 2014).

From a theoretical perspective, the cosmetics industry represents a stimulating opportunity to strengthen the external validity of the frameworks that analyze Purchasing integration in the innovation process. Focusing the involvement of suppliers in NPD, van der Valk and Wynstra (2005) stressed the fact that most of the research on the topic was conducted in large scale assembly industries, such as the automotive and electronics sectors. As a result, the authors indicated a gap in the literature that served as justification for their study of the food industry. Although a direct comparison between the industries is beyond the scope of this research, the analysis of the cosmetics industry in the empirical phase holds the potential for a fruitful theoretical contribution to the field.

From a practical standpoint, the cosmetics industry is interesting because it is highly innovative and traditionally lucrative. Kumar, Massie, & Dumonceaux (2006, p.292) posit that “[i]nnovation is the key to success in the cosmetic industry”. Despite the recent downturn in 2015, when the industry experienced its first decline (6%) after two decades of double-digit growth (Bortolozzi, 2016), its performance is prominent among other industries of the Brazilian economy. According to ABIHPEC (2017), Brazil is the fourth largest market in the world, with sales that totaled USD 29,3 billion in 2016. The country represents 6,6% of the global cosmetics market (USD 443,9 billion), behind the United States (USD 84,8 billion and 19,1%), China (USD 50,2 billion and 11,3%) and Japan (USD 37,1 billion and 8,3%) ABIHPEC (2017).

Also, the Brazilian cosmetics industry has characteristics that are generally applicable to the global market, which include the employment of state-of-the-art technology, constant new product launches and vicious competition between national and global brands (ABIHPEC, 2014). Additionally, it is interesting to note that companies competing in this industry often congregate different types of innovation in their portfolio, combining products with long life cycles – such as soaps, cleansers and deodorant – and products that are in the market for short periods – as, for example, lipsticks and nail polishes (Kumar et al., 2006).

The fourth source of motivation emerged after the first contact with the case company, when the research project was still in its embryonic stage. The company announced radical organizational changes during the initial discussions with the global Purchasing leadership, following a larger scale transformation plan (BBC, 2016). This event created a unique opportunity to conduct a longitudinal case study that allowed an in-depth investigation of the contribution of Purchasing to GNPD, exploring “context, content and process of change together with their interconnections through time” (Pettigrew, 1990, p.268). This is in agreement with Siggelkow (2007), who affirms that scholars are increasingly appreciating the role of dynamic processes. As a result, the author claims that longitudinal research is needed to provide details about how evolutionary processes play out over time.

Finally, it is imperative to underline the author’s personal connection with the research topic, as this was a meaningful source of inspiration. The distinct approach to Purchasing that constitutes the “dual role” concept motivated the selection of the research object, as it expresses the trade-offs and paradoxes found on a daily basis at large multinational corporations (MNC). Moreover, PSM and GNPD have long been the central components of both the author’s professional experience and research interest. As it will be explained in the methodology section, the author has been working in the Purchasing department of Avon Cosmetics for almost seven years. During four of these years the author had the opportunity to work closely with GNPD team, experiencing the dualities in practice. Going back to the reference to “Last Days in the Desert” (García, 2016), the apparent incompatibility between the execution of specific functional tasks and activities that support the innovation process is similar to the indecision that troubles the boy, divided between his dream moving to Jerusalem and the responsibility of helping his parents.

2. Literature review

In the present chapter, the literature is reviewed in order to define the operational definitions and explain the conceptual frameworks and propositions that guided the field study phase. In the first part, an analysis of the existing theory on NPD management is conducted with special attention to the integration between different functional areas and the global aspect of the product development dynamic. In the second part, the innovation process is then integrated in an overarching analysis of the integration of the Purchasing department in the NPD process. In the final part of this literature review, the “dual role” concept emerges from the confluence of the previous two theoretical streams.

Conscious of the impossibility of performing an exhaustive coverage the literature, this section follows the narrative review approach (Bryman, 2012), as a way of providing an general presentation of the research topic through a reasonably comprehensive examination and critical reading of the work of previous researchers. In other words, the main purpose of this methodologic choice is to organize the existing knowledge by building an intertextual coherence and positioning the present research project in relation to the literature (Bryman, 2012).

2.1. New product development and its global facet

The examples of Adidas and Toyota presented in the introductory section may also be used as a starting point for the literature review on NPD. The cases are emblematic because they highlight, at the same time, two fundamental aspects of the global product development dynamic that will be discussed throughout this dissertation. The first aspect is the importance of balancing a well-planned project with fast-paced and precise execution, which allows companies to develop successful projects before competitors (Cooper, 1993). Another critical feature that is highlighted in both cases is the continuous relationship between team members from the most important functions of the business within the NPD structure, conferring an integrated perspective to the process (Clark & Wheelwright, 1993; Tracey, 2004; Matthyssens, Bocconcelli, Pagano, & Quintens, 2015). These two topics are key to the analysis of the NPD literature and will also determine the course of the remainder of this section.

A generally accepted definition of NPD considers “the major sequence of activities involved in taking an idea from initial concept through prototype building and testing, and into commercial production” (Clark & Wheelwright, 1993, p.1). This system is typically composed of four distinct phases: a) concept development, b) product planning, c) product/process engineering, and d) pilot production/ramp up. An analogous definition

describes NPD as “the set of activities beginning with the perception of a market opportunity and ending in the production, sale and delivery of a product” (Ulrich & Eppinger, 2000, p.2).

The first two phases of Clark and Wheelwright’s (1993) model include activities required to define the main characteristics of the new product, reduce uncertainty and, in the end, get the project approved. This includes tasks such as analyzing market opportunities, competitive moves, technical and production requirements, defining the conceptual design, desired levels of performance, investment requirements and expected financial benefits. In the product/process engineering phase, detailed specifications of the new product and machinery required for commercial production are designed, prototyped and tested. Once the “design-build-test” cycle has been completed and the project has been signed off, the project moves on to the last phase, which is concluded with the total production system in place and suppliers ready to start mass-production (Clark & Wheelwright, 1993).

Still regarding the execution of NPD projects, Wheelwright & Clark, (1992) created a typology of development projects that classify projects according to the impact in the company product portfolio and the degree of change in the manufacturing process. These two dimensions are shown, respectively, in the horizontal and vertical axis of Figure 1. Based on this, the authors created five project categories: alliances and partnerships, derivative, platform, breakthrough, and research and development. The authors contend that each one of these project categories are vital for an organization and “requires a unique combination of development resources and management styles. Understanding how the categories differ helps managers predict the distribution of resources accurately and allows for better planning and sequencing of projects over time.” (Wheelwright & Clark, 1992, p. 3)

As it can also be understood from Figure 1, these categories are organized in a spectrum that starts with projects that combine modest changes in the product with enhancements for an existing manufacturing process – derivative projects - and end with projects that have the potential to create a new product category by establishing core products and process that are fundamentally different than the existing ones – breakthrough projects. In the middle of the spectrum, platform projects include products that represent higher degrees of change in product and process in comparison with derivative projects, but not as deep as the changes triggered by breakthrough initiatives. Research and development projects are defined as initiatives allow the company to generate the necessary knowledge about materials and technologies that will later be transformed in products. Lastly, alliances and partnerships

can include any of the other project types and consist in a mix of internal resources with a partner company (Wheelwright & Clark, 1992).

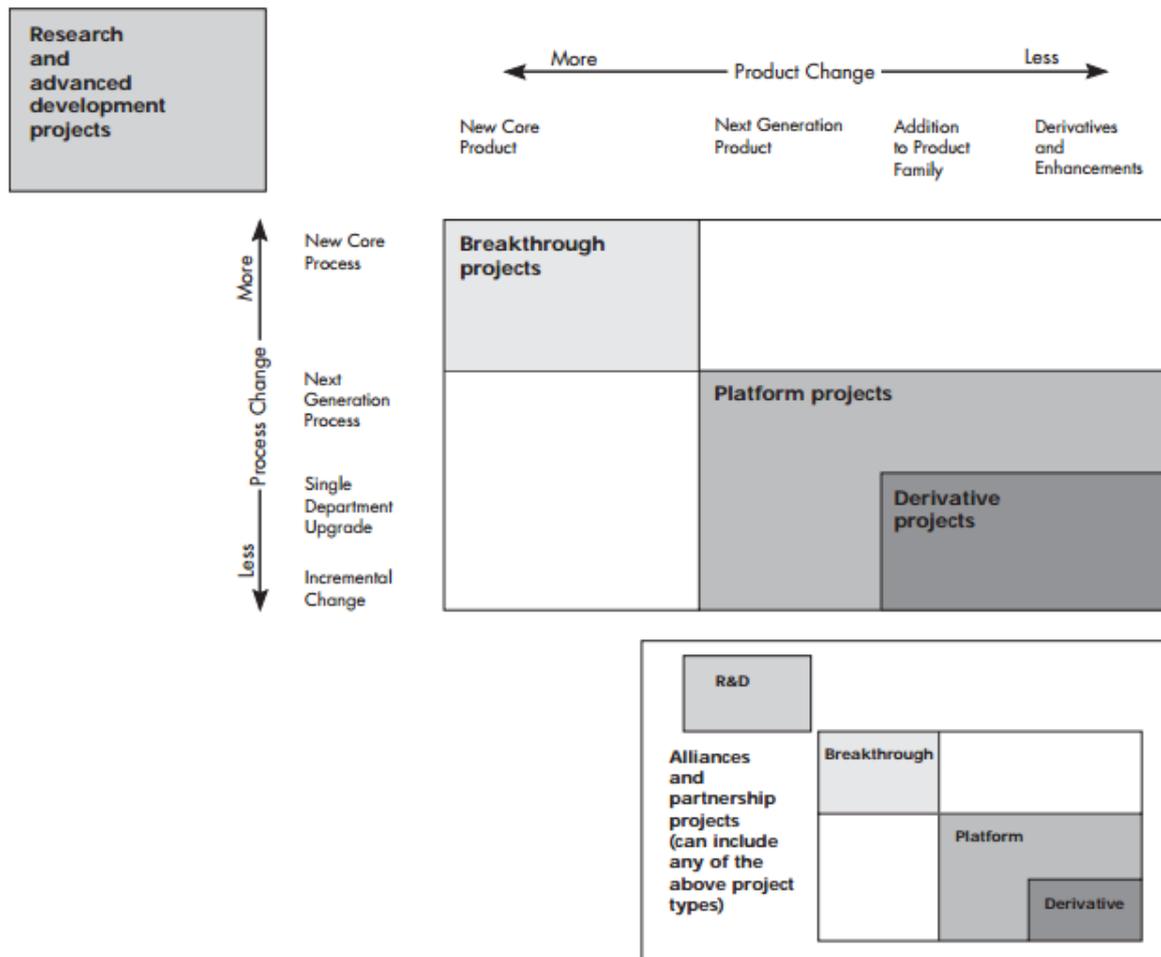


Figure 1 - Types of Development Projects

Source: Wheelwright & Clark, (1992)

Building on the classification developed by Wheelwright and Clark (1992), Sanderson and Uzumeri (1995) argued that the definition of derivative projects was rather broad. For this reason, they created another level of classification, dividing this type of development project in two additional categories: incremental and topological innovation. This last category includes different variations of the existing product attributes as well as aesthetical changes on the external components. Although this dissertation does not focus in a specific type of innovation, it is worth mentioning that most of the companies operating in the cosmetics market rely heavily on topological projects, as their product line is composed of a wide variety of items with rapid model replacement. Nevertheless, cosmetic companies also

need to invest a considerable amount of money in research and development (R&D) to fuel the innovation pipeline and to comply with strict government imposed regulations related to product safety (Kumar et al., 2006).

Another important component for a fast-paced execution of NPD activities is a well-structured project selection process. To illustrate this concept, Clark and Wheelwright (1993) developed the development funnel (Figure 2), which depicts a "firm's approach to identification, screening and convergence in the development process." (Clark & Wheelwright, 1993, p.291). The first phase of the funnel is the entry point for the innovation process. In this stage, organizations identify the ideas generated by several sources – such as internal departments and R&D centers, clients, competitors and suppliers – and select the few most promising for development. Once these ideas pass through the first screen, they advance to phase two, in which they are refined and grouped according to the strategic direction of the business. In other words, this stage aims to detail the key elements of the projects – such as cost, technical feasibility and resource availability – that will be used to assess which will be selected for implementation and which will be discarded. Lastly, the selected projects are executed by the development team on phase three (Clark & Wheelwright, 1993).

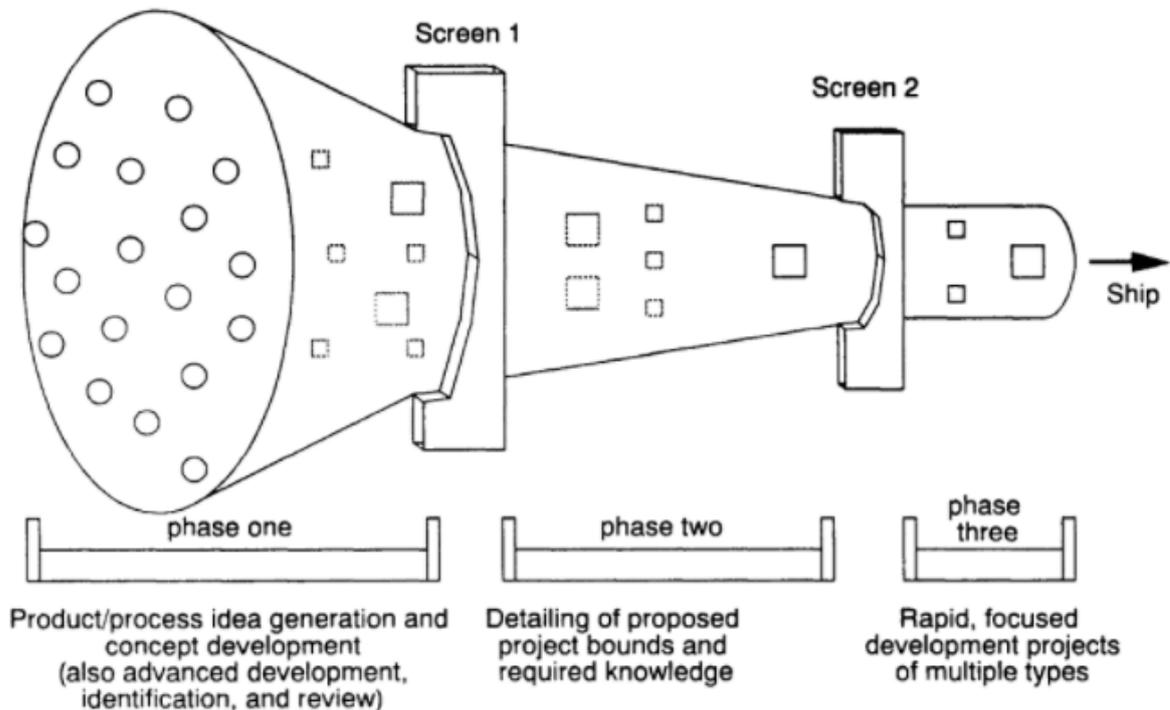


Figure 2 - Development Funnel

Source: Clark & Wheelwright (1993)

The ideas put forward by Clark and Wheelwright (1993) are largely referenced in academic studies and extensively employed by NPD managers. However, the literature contains several alternative models that can contribute to a more comprehensive understanding of the NPD process. The portfolio management approach developed by Cooper, Edgett and Kleinschmidt (2001) corroborates the frameworks presented above, as it is defined as a process in which “new projects are evaluated, selected, and prioritized [...] The portfolio decision process is characterized by uncertain and changing information, dynamic opportunities, multiple goals and strategic considerations, interdependence among projects, and multiple decision makers and locations.” (Cooper, Edgett & Kleinschmidt, 2001, p.3). The authors also created the Stage-Gate® process, which is comprised of seven sequential phases required for driving development projects from idea to launch. Similar to the development funnel, this model also contains checkpoints – called gate decision points – where senior management regularly analyze the available options to make Go/No Go decisions.

In order to address the second aspect highlighted on the examples of Adidas and Toyota, it is important to consider the work of Gerwin and Barrowman (2002). According to the authors, the use of cross-functional teams is one of the main characteristics of the Integrated Product Development (IPD) paradigm. They contrast this perspective with the traditional view of NPD to argue that IPD contributes to improved new product development performance through overlap and interaction of certain activities, which in turn require increased levels of coordination. This can be achieved “using other aspects of the NPD process (e.g., integrated technical tools), product definitions (e.g., frequent incremental projects), organizational context (e.g., low task specialization), and teaming (e.g., cross-functional teams)” (Gerwin & Barrowman, 2002, p.939).

Broader literature reviews such as the research by Brown and Eisenhardt (1995) and Krishnan and Ulrich (2001) can also be used further the discussion of the cross-functional aspect of NPD. In the former, the accumulated theoretical work in product development was divided into three streams, namely, rational plan, communication web and disciplined problem solving. This last perspective deserves special attention, as the authors classified in this stream – such as Takeuchi & Nonaka, (1986), Hayes, Wheelwright, & Clark (1988), Womack et al. (1990), Clark & Fujimoto, (1991) and Tabrizi & Eisenhardt (1995) – have a significant influence on the theoretical point of view adopted in this research. In this context, the disciplined problem solving stream is explained as “a balancing act between relatively autonomous problem solving by the project team and the discipline of a heavyweight leader,

strong top management, and an overarching product vision.” (Brown & Eisenhardt, 1995, p. 359).

Because these three perspectives have overlapping constructs and are complementary to one another, the researchers synthesized the past academic research into one integrative conceptual model for studies on NPD management. According Brown and Eisenhardt (1995), the integrative model is based on the underlying idea that the performance of innovative products is simultaneously affected by multiple actors. For the purpose of this study, it is also worth emphasizing the role attributed to suppliers in the above-mentioned model, as this will be one of the topics discussed in the next subsection of this chapter. According to the authors, early and extensive supplier involvement reduces complexity of the product development process and allows the project team to identify downstream problems earlier, when it is easier and faster to solve them (Burt & Soukup, 1985). Also according to the authors, this aspect of NPD management was still imprecisely captured in the empirical literature (Brown & Eisenhardt, 1995).

The second study, by Krishnan and Ulrich (2001), also organizes the literature in clusters. However, the existing academic production was grouped based on different functional perspectives of product development, that is, marketing, engineering and operations. Interestingly, the authors then went on to criticize this functional angle, arguing that product development systems need to be understood as a coordinated decision making process that considers the intrinsic interdependencies between these multifunctional decisions. Based on this proposition, the authors point to enticing research opportunities in the area of product development supply chains that enable firms to seek, at the same time, customer satisfaction and operational profitability (Krishnan & Ulrich, 2001).

According to Ulrich and Eppinger (2000), manufacturing firms can only achieve economic success if they are able to identify customer needs and create products to fill these voids. It is imperative, however, that such products are produced quickly and at a low cost. Thus, “[a]chieving these goals is not solely a marketing problem, nor is it solely a design problem or manufacturing problem; it is a product development problem involving all of these functions” (Ulrich and Eppinger, 2000, p.2). This argument is echoed by many researchers who focused on the topic, including Holland, Gaston, & Gomes (2000), who elaborated a clear definition of such teams: “[a] cross-functional team is a group of people who apply different skills, with a high degree of interdependence, to ensure the effective delivery of a common organizational objective” (Holland et al., 2000, p. 233).

These multifunctional efforts are usually organized in project teams, described by the authors as the collection of individuals consisting of a team leader – who could be drawn from any department, a core team – formed by representatives from marketing, engineering and supply chain departments – and an extended team – composed by other members of the departments represented in the core team, other internal departments (e.g. Finance, Sales, Legal) and external players (e.g. suppliers) (Ulrich & Eppinger, 2000). The recognition of this interdependence steers the literature review to studies that focus on the linkages between the main functions working on the GNPD process.

Following the seminal work of Lawrence and Lorsch (1967), many authors have examined the integration between Marketing and R&D with results that suggest that collaboration between these two functions contributes to successful NPD projects (Souder & Chakrabarti, 1978, Souder, 1988, Moenaert, Souder, Meyer, & Deschoolmeester, 1994; Griffin & Hauser, 1996). Other studies have focused on the triangular relationship between Marketing, R&D and Supply Chain (Griffin & Hauser, 1992; Hilletofth & Eriksson, 2011; Kahn & McDonough III, 1997; Liker, Collins, & Hull, 1999; Primus & Stavroulaki, 2017; Tan & Tracey, 2007). Other researchers have selected an even wider focus, considering the relationship of several departments or even general approaches that can be applied to the entire company (Brettel, Heinemann, Engelen, & Neubauer, 2011; Olson, Walker, Ruekerf, & Bonnerd, 2001; Tracey, 2004; Vernuccio, Cozzolino, & Michelini, 2010).

Lastly, it is important to clarify the global facet of NPD, as this is a common characteristic of the innovation process in MNC and an essential component of the competitive advantage of such companies (Nohria & Goshal, 1997; Sivakumar & Nakata, 2003; Büyüközkan & Arsenyan, 2012). The arguments developed in the following sections consider global NPD as the organizational processes that integrate inputs from overseas locations to successfully create products that are marketed in more than a single domestic market (Subramaniam, Rosenthal, & Hatten, 1998). This definition was selected because it provides a broader understanding of the global innovation process, as alternative definitions have a narrower focus on globally dispersed teams (Søndergaard & Ahmed-Kristensen, 2015) and suppliers (Tracey & Neuhaus, 2013).

The definition provided by Subramaniam et al. (1998) also remains current in the context of intensifying globalization (Salomo, Keinschmidt, & De Brentani, 2010). Until very recently, most of the models found both in practice and in Management literature considered GNPD teams as a co-located and dedicated structure, responsible for leading the product development efforts of the entire company (Clark & Wheelwright, 1993). In most cases, this

process was conducted by the headquarters (HQ) and the subsidiaries were involved only after the products were prototyped and tested. More recently, however, the idea of “reverse innovation” gained considerable exposure after the term was popularized by Immelt, Govindarajan and Trimble (2009). Their argument is built on top of Nohria and Goshal's (1997) perspective of MNC with differentiated networks, which is a major contestant of the knowledge appropriation model that focus on the outward flow of innovation from the HQ to the subsidiaries.

In summary, the authors argue that MNCs “can be understood as a differentiated network composed of distributed resources linked through different types of relations: (1) the “local” linkages within each national subsidiary, (2) the linkages between headquarters and the subsidiaries and (3) the linkages between subsidiaries themselves” (Nohria & Goshal, 1997, p.4). Another important aspect of this approach is related to the very existence of the MNC. This is consistent with the arguments from Gupta and Govindarajan (2000, p.473), who claimed that such entities exist because of “their ability to transfer and exploit knowledge more effectively and efficiently in the intra-corporate context than through external market mechanisms”. Similar argument can be found in other papers such as Birkinshaw and Hood (1998), Foss and Pedersen (2002) and Borini, de Miranda Oliveira Jr., Silveira and de Oliveira Concer (2012).

In this context, Salomo, Keinschmidt and De Brentani (2010, p.968) argue that using globally dispersed teams in GNPD “offers essential opportunities for leveraging a diverse but unique combination of talents and knowledge-based resources that enhance the firm’s understanding of global-plus-local markets, its creativity, and its potential for achieving a sustained competitive advantage.”. Consequently, the adoption of this type of structure has been growing at a fast pace in the last couple of decades (Moenaert, Caeldries, Lievens, & Wauters, 2000). Yet, the number of studies that focus on NPD for the global marketplace are still relatively small (Subramaniam et al., 1998, p. 775). A few exceptions are the works of Subramaniam et al., (1998), Moenaert et al. (2000), Kleinschmidt, De Brentani and Salomo (2007), Salomo et al. (2010), Muethel, Siebdrat and Hoegl (2012) and De Brentani and Kleinschmidt (2015).

2.2. Purchasing involvement in global new product development

As indicated in the introductory chapter, the present dissertation focuses on the participation of Purchasing in innovation management activities carried out in MNC.

According to Wynstra et al. (1999), this approach challenges the perspective that limits the department's participation in NPD to managing supplier involvement in the process. This is consistent with the idea that Purchasing must be involved in the design process from the very beginning to ensure the viability and integrity of product design, development and manufacturing (Burt & Soukup, 1985).

In light of the increasing attention paid to this topic of this study, Luzzini et al. (2015) divided the existing intellectual production in four logical clusters: i) Open and collaborative innovation, b) Role of suppliers in innovation, c) Role of Purchasing in innovation, d) Role of supplier and Purchasing involvement in innovation. Although the other research trends are notably relevant, the present study focuses on the participation of Purchasing in innovation management activities carried out in multinational corporations (MNC).

In order to review the second feature underlined in the introductory examples of Adidas and Toyota, that is, the cross-functional integration, it is important to take into consideration the meta-analytical review conducted by Schneider & Wallenburg (2013). In a comprehensive review of more than 200 papers published in the last 50 years, the authors inductively established 12 specific research areas dealing with distinct aspects of purchasing organization. In this context, the constant interaction between members of the cross-functional NPD team is included among the relationship management aspect of Purchasing, which also cover topics such as the department's participation in strategic corporate activities and challenges associated with these interfaces, which occasionally generates conflicts over power and influence (Schneider & Wallenburg, 2013).

This delineation is coalescent with the work of Lakemond et al. (2001), who contended that Purchasing often assumes the position of a relationship manager, both internally and externally (Tracey & Neuhaus, 2013), coordinating activities and transmitting relevant information regarding the supplier market, such as cost, quality, lead times and potential design contributions (Dowlatshahi, 1992) of purchased materials and components. In a more detailed level, the operational definition of Purchasing set forth in this study considers the textbook explanation laid out by Monczka, Handfield, Giunipero, & Patterson (2009). The term is therefore understood as a functional group with specific activities that include screening supplier market, selecting preferred suppliers, negotiation and contracting, placing purchase orders, measuring supplier performance and developing purchasing systems (Monczka et al., 2009).

Due to the vast variety of goods and services Purchasing is responsible for buying, it is common to find MNC that divide the department in two distinct groups: direct material and indirect goods and services. The explanation provided by (Monczka et al., 2009, p.12) facilitates the understanding of this division: “Direct materials are those items provided by suppliers and used directly during production or service delivery (...) Although indirect items are not required for production, they are still vital to the effective running of an organization.” In both cases, the groups are subdivided in purchasing categories, which facilitates the development of specific category strategies (Ateş et al., 2015). Examples of direct materials include, raw materials, components, semi-finished and finished products, while indirect goods and services include categories such as Maintenance, repair, and operating (MRO), production support items, corporate services – which include a broad array of services, such as cafeteria, training, healthcare, advertising, media and consultants – logistics and capital equipment (Monczka et al., 2009).

This study focuses on the structure dedicated to direct material, as the activities carried out by this group are intimately linked with the NPD process. This connection is illustrated on Figure 3, which shows a schematic value chain, including the links with suppliers and customers. In this diagram, Purchasing is characterized as a support activity that provides services to all areas of the company. Besides, this functional area often acts as the central link with suppliers, displayed on the left-hand side of the figure. In other words, the analysis carried out in the empirical phase of the research considered the purchasing of raw materials and components used in the manufacturing process, that are transformed into new products. This part of the purchasing strategy is very important for the commercial success of companies with operations in the cosmetics market, as consumers are positively influenced by innovative packaging and are always looking for new products (Thomaz, Vieira, Grando, Heredia, & Marinho, 2015).

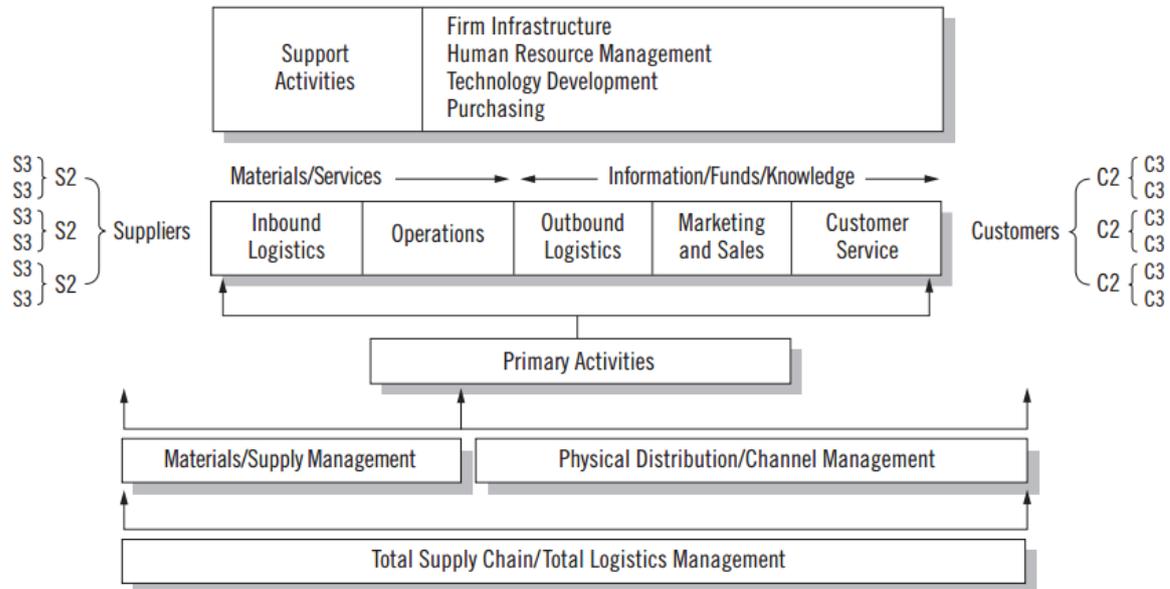


Figure 3 - The extended value chain

Source: Monczka et al., (2009).

Departing from this fundamental definition, it urges to discuss the theoretical production about the department's involvement in product development. At this point, the arguments built by Schneider & Wallenburg (2013) converge with the idea presented in the introduction that NPD is one of the strategic processes in which Purchasing has an important participation, closely linked with Marketing, R&D and other functional areas within the Supply Chain (Hoek & Chapman, 2006; Gundlach, Bolumole, Eltantawy, & Frankel, 2006).

The following papers are included in the relationship management area: Lakemond et al., (2001), Mendez and Pearson (1994), Wynstra et al. (1999), Wynstra and Pierick (2000). In a similar classification developed by Luzzini et al., (2015), additional papers were selected as central references about the role of Purchasing in innovation, such as, Carr and Pearson (2002), McGinnis and Vallopra (2001), Schiele (2010), van Echtelt, Wynstra, van Weele and Duysters (2008), Wagner (2003), Wynstra, van Weele and Weggemann (2001), Wynstra, Weggeman and van Weele (2003). This literature review focuses on a few studies in which the authors introduce conceptual frameworks that, by and large, are crucial for better understanding the contribution of the department to global NPD. Furthermore, from a methodological perspective, the frameworks presented in this section will guide the discussion of the case studies developed in the field study phase.

In this sense, the arguments developed in the second part of this literature review start with the analysis of the main activities undertaken by Purchasing within the NPD process. Once these activities are elucidated, the ideas then turn to the different types of

configuration assumed by the Purchasing department to better perform such activities and support the innovation dynamic. Lastly, in the final part of the literature review, the arguments are combined to examine the “dual role” concept in the next subsection.

In Wynstra et al. (1999), the authors lay out many of the ideas that would later underpin their academic production. In effect, the core of their contribution resides in the expanded scope attributed to Purchasing involvement in product development. In other words, this perspective considers activities that occur either before or in parallel to the actual involvement of suppliers, for example, conduction of supplier market research to identify new players and technologies. As a consequence of this line of reasoning, the researchers arrange the main activities performed by the Purchasing function into a coherent and integrated framework (Wynstra et al., 1999).

As shown in **Erro! Fonte de referência não encontrada.**, the framework is composed of four distinct yet overlapping spheres: Development Management, Supplier Interface Management, Project Management and Product Management. The area of Development Management is comprised of activities related to development and conservation of technological knowledge between the nodal company and its suppliers. The central piece of the framework, designated to Supplier Interface Management, contains activities that are closely connected to the other areas. This sphere involves permanent and long-term relations with suppliers, which can be exemplified by monitoring supplier markets for technological developments, pre-selecting suppliers for product development collaboration, motivating suppliers to innovate and evaluating suppliers' development performance.

In the Project Management area, the authors distinguish between planning activities – that are performed in the beginning of the development process, for example, determining the moment and the extent of supplier involvement – and execution activities, which are related to the coordination of several initiatives both within the organization and externally. Finally, the Product Management area combines activities linked to the specifications of the innovative products (Wynstra et al., 1999). Despite the central role played by Purchasing in these activities, there are situations in which the responsibilities are shared with other functional areas and, sometimes, circumstances when the interactions occur without the support of the Purchasing department (Schiele, 2010; Wynstra et al., 1999).

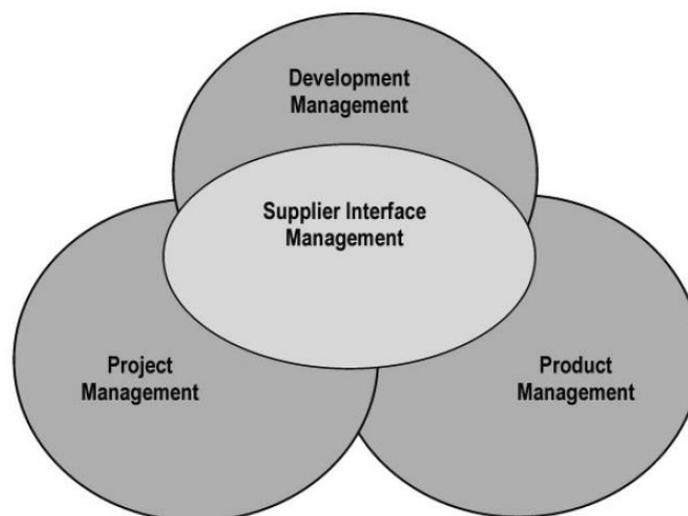


Figure 4 - Relations between the four management areas of purchasing involvement in product development.

Source: Wynstra et al. (1999)

The organization of the Purchasing function represents another interesting angle on the contribution of this area for successful product development for the global marketplace. Based on this perspective, Lakemond et al. (2001) identifies different possibilities of configuration, ranging from ad hoc involvement in product development initiatives to institutionalized and dedicated participation in NPD. The typology portrayed on Figure 5 takes into account the level of integration and degree of coordination.

It is important to stress that, although the configurations described in the framework were validated in the cases studied, the authors suggest that findings are interpreted parsimoniously, as certain structures may change depending on the phase of the project or the localization of strategic suppliers. As a result of this analysis, the authors propose a contingency-based model to assess the appropriateness of the Purchasing structure according to project characteristics, i.e. size and complexity (Lakemond et al., 2001).

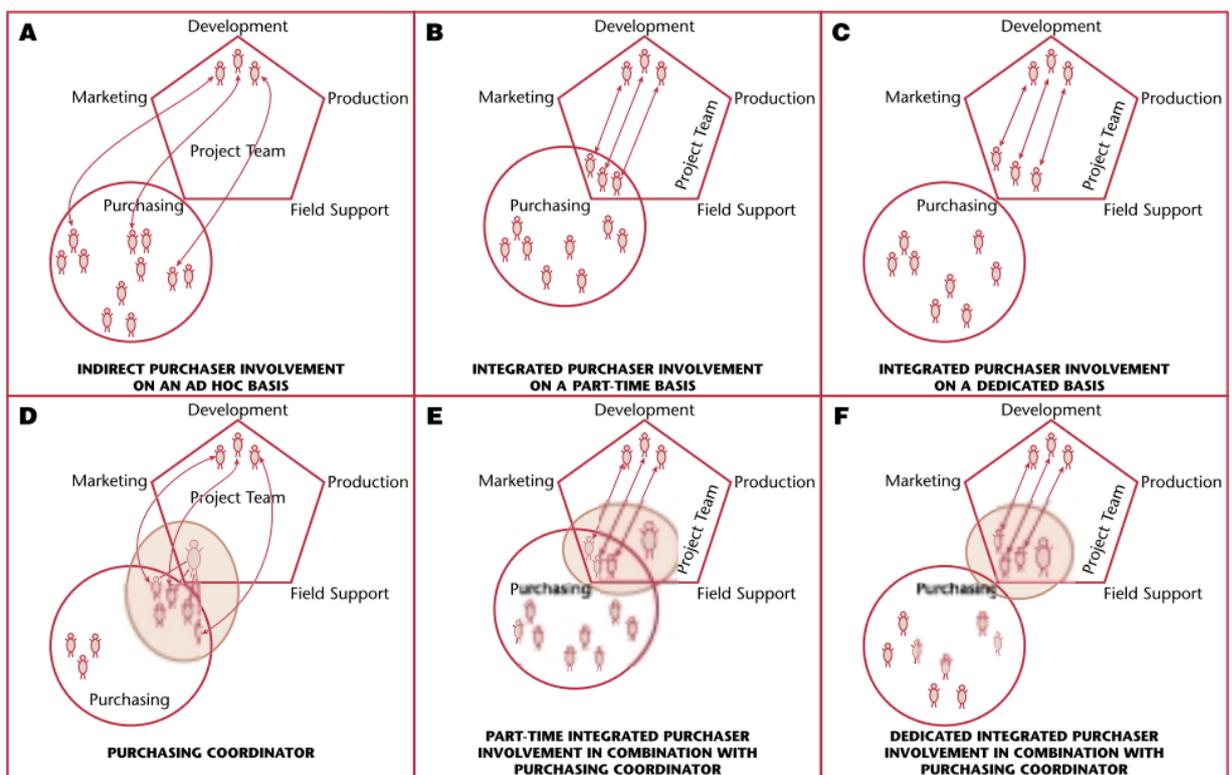


Figure 5 - Configurations of Purchasing involvement in product development projects

Source: Lakemond et al. (2001)

2.3. Dual role of Purchasing in global new product development

Bearing these frameworks in mind, the arguments are directed to the dual role of Purchasing in global product development, which is the core of the research question investigated in this dissertation. As noted previously, the concept was first employed to describe the participation of the department in NPD by Schiele (2010) and it is rooted in the acknowledgement that such activities cannot be performed in isolation from the rest of the responsibilities related to the sourcing strategy of the firm. According to the author, this notion has received little attention in the literature, but has clear implications for practice.

Essentially, the perspective utilized by Schiele (2010) can be defined as the permanent inclusion of the department in product development activities, which in turn requires that Purchasing fulfills particular roles in the NPD cross-functional team and, at the same time, controls for cost issues on a firm-wide basis. In practice, the author contend that this is achieved by separating the department in two distinct areas, defined as “advanced sourcing” and “life-cycle sourcing”. The first actively participates in the product development tasks from the very beginning and has an enduring interface with other functional areas such as Marketing and R&D, while “life-cycle sourcing” assumes the relationship management function after the first production and is mainly concerned with cost-related issues.

It is also important to highlight the underlying notion of paradox and duality embedded in the “dual role” concept. In this context, the papers from Lewis (2000) and Dittrich, Jaspers, van der Valk and Wynstra (2006) provide a strong base for better understanding the reciprocal interplay between Purchasing and other functional areas that participate in the GNPD process. In the first paper, Lewis (2000) builds an interesting framework that clarifies the nature of paradoxical tensions, reinforcing cycles, and how those situations are managed. According to her, these dualities are represented in organizational studies as bipolar constructs, for instance “quality/cost, differentiation/integration, stability/change, and cohesion/division.” (Lewis, 2000, p. 762).

It is also worth mentioning the paper by Steinle, Schiele and Mietzner (2007), in which the “local/global” is presented in the context of contrasting Purchasing levers. These contradiction notions of paradoxes are also employed by Dittrich et al. (2006) to highlight not only the interrelatedness of the ‘two sides of the coin’, but also the importance of understanding and dealing with these dualities. According to the authors, the dualities “can both facilitate and promote change, such as technological development, but on the other hand they can act as a barrier or hindrance to change.” Dittrich et al. (2006, p.792)

In the context of innovation, this idea finds support in the ambidexterity literature:

The real test of leadership, then, is to be able to compete successfully by both increasing the alignment or fit among strategy, structure, culture, and processes, while simultaneously preparing for the inevitable revolutions required by discontinuous environmental change. This requires organizational and management skills to compete in a mature market (where cost, efficiency, and incremental innovation are key) *and* to develop new products and services (where radical innovation, speed, and flexibility are critical). A focus on either one of these skill sets is conceptually easy. Unfortunately, focusing on only one guarantees short-term success but long-term failure. Managers need to be able to do both at the same time, that is, they need to be ambidextrous. (Tushman, Tushman, O'Reilly, & O'Reilly, 1996, p.11).

Leonard-barton (1992) suggests that this paradox can generate negative effects. The author warns about the perils of over relying in core capabilities and argues that this approach to NPD can hinder the firm's innovation performance. Similarly, Andriopoulos & Lewis (2010) used the exploration/exploitation dyad to recognize the negative impact in the innovation dynamic and recommend the adoption of a paradoxical management approach as a way to enable organization ambidexterity.

The underlying logic linking the theory with the research question defined in this study is illustrated on Figure 6, which integrates the frameworks developed by Lakemond et al. (2001) and Wynstra et al. (1999). This encompassing model emphasizes the dynamic between Purchasing and the multifunctional NPD team – highlighted with an arrow – as the essence of the department's dual role in the innovation process (Schiele, 2010). Although the originality and the value of these ideas are recognized in the present study, the “dual role” concept developed by Schiele (2010) sets a limited scope by considering only cost in the duality and fails to encompass other company-wide requirements that are often incorporated in the innovation dynamic – directly or indirectly – through the dual role performed by Purchasing. This gap in the literature was recently underscored by Akin Ateş et al. (2017), who suggested that there is still a need for an approach that can capture multiple dimensions of the Purchasing involvement in NPD.

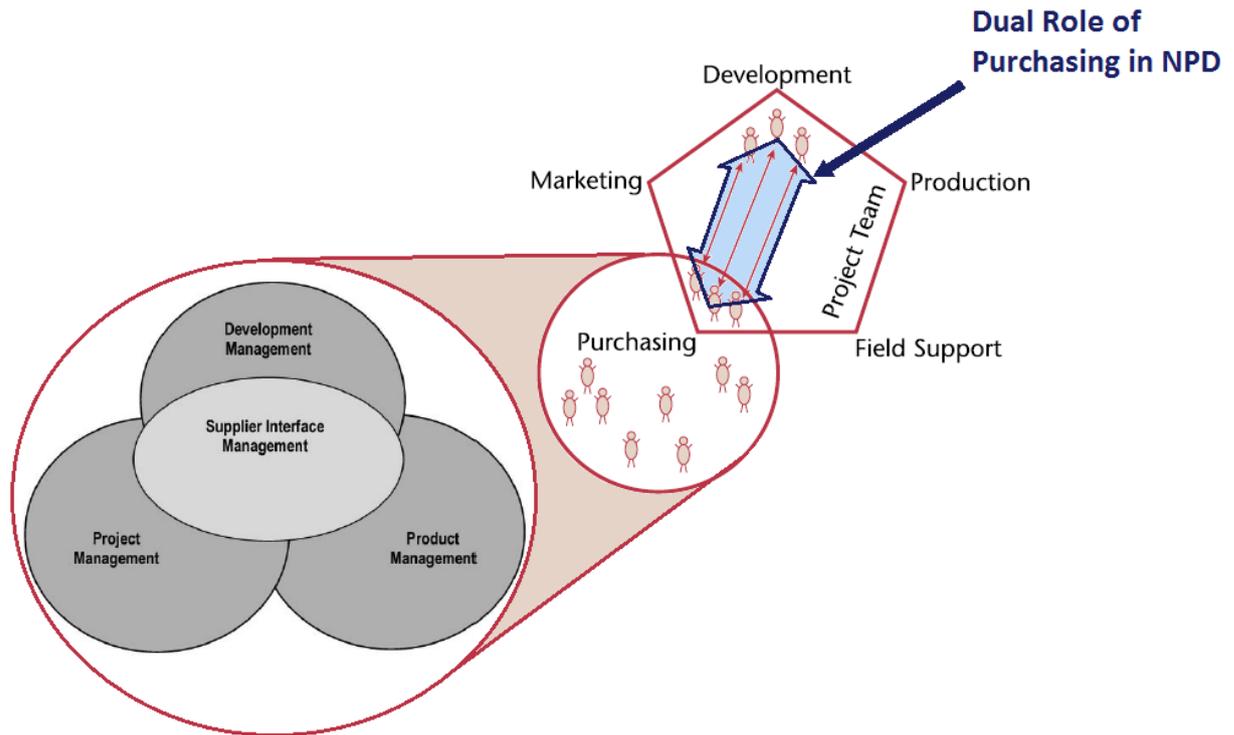


Figure 7 - Main activities and forms of organization that enable Purchasing's dual role in NPD.

Source: The authors, based on (Lakemond et al., 2001; Schiele, 2010; Wynstra et al., 1999)

Thus, to fill this void and, at the same time, contribute to the recent debate about the need for more interdisciplinary studies in PSM (Quintens, Pauwels, & Matthyssens, 2006, Trautmann, Turkulainen, Hartmann, & Bals, 2009), the present research utilizes this updated framework to extend the discussion of the dual role of Purchasing in GNPD to other performance objectives in operations strategy, namely: quality, speed, dependability, flexibility and cost (Slack & Lewis, 2015). To avoid a visual pollution of Figure 8, the double-sided arrow that illustrates the dual role concept was detailed on Figure 7 to show how each of the aforementioned objectives are used in the interplay between traditional Purchasing activities and the GPND.

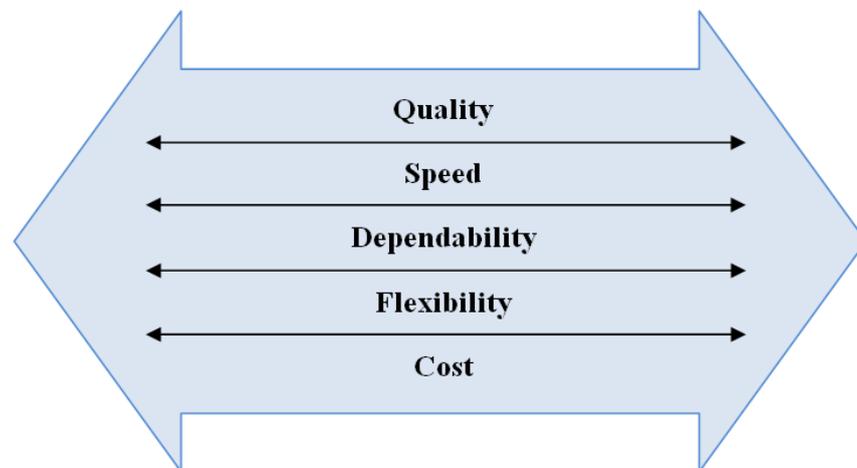


Figure 7 – Extended dual role of Purchasing in NPD with additional performance objectives

Source: The authors, based on (Schiele, 2010; Slack & Lewis, 2015)

Before moving on to the next section, it is important to clarify each one of these generic performance objectives and highlight their apparent contradictions with innovation. Quality refers to the specification of a product and it can be translated as an indication of high-end products or products that are “fit for purpose”. In both definitions, the term is multidimensional. Quality is either concerned with evident and objectives aspects of the product – the so called hard dimensions, such as aesthetics, safety, performance, ergonomics – or are associated with the interaction between product and end customer – called soft dimensions, such as helpfulness, communication and prestige (Slack & Lewis, 2015). In the cosmetics industry, both perceptions are important. Specification quality can be illustrated by premium packaging and raw ingredients that effectively deliver the product claims, contributing to the consolidation of the brand image as a high-end product. Regarding conformance quality, it is also important that products are manufactured reliably and consistently.

A straight forward definition of speed considers the elapsed time between the beginning of a process and its end. When this performance objective is analyzed with a broader focus on the entire value chain, it can be exemplified as the lead time established by a supplier to deliver components. Internally to the organization, the speed can be expressed as the time required to manufacture and delivery goods to the consumer (Slack & Lewis, 2015). In the context of this study, both conceptions are applicable. Given the fast product life cycle, its time to market is of paramount importance in the beauty industry. Also, when the interactions between nodal company and its suppliers are considered, short production and

delivery lead time can generate the speed required to beat the competition. Closely linked to the previous performance objective, dependability refers to the ability of a company to keep its promises to consumers. In the cosmetics industry – and especially in the direct selling channel – this is a very important aspect.

Flexibility can be understood in terms of product, variety, volume and delivery. A company that has high product flexibility can respond to consumer needs quickly by introducing new products or modifying existing ones. This is similar to variety flexibility, which allows the company to manufacture a wide range of products simultaneously or change the mix in a timely manner. Conversely, volume and delivery flexibility allow a company to respond to volume fluctuations, elevating the operations' aggregated output to match increases in demand or bring forward or postpone an agreed delivery date based on unanticipated requests from consumers (Slack & Lewis, 2015). Again, the high volatility of the direct selling segment of the cosmetics industry highlights the importance of the performance objective.

Finally, cost is considered by the authors as the most important performance objective (Slack & Lewis, 2015). This is in line with the arguments developed by Schiele (2010) and Akin Ateş et al. (2017). Slack and Lewis (2015) explicit this emphasis: “[o]ther things being equal, every euro, dollar or yen removed from an operation's cost base is a further euro, dollar or yen added to its profits. Not surprisingly, low cost is a universally attractive objective.” (p.55). This general definition of cost, can be divided as operating expenditures, capital expenditures and working capital. All of them are extremely important in the cosmetics industry and are closely linked to the overall efficiency of the Purchasing department.

In summary, the main propositions that will be evaluated in the empirical phase of the research are: a) the conceptual models developed by previous researchers – that is, Wynstra et al., 1999 and Lakemond et al., 2001 – remain current and can be consolidated in an encompassing model that can be verified in the case of Avon Cosmetics, b) conscious of the fact that cost is the most important performance objective, the dual role concept introduced by Schiele (2010) to describe the participation of Purchasing in NPD can be extended to incorporate other generic objectives, such as quality, speed, dependability and flexibility and c) the undergoing transformation both at the company level and at the Purchasing department level represents a bountiful opportunity to “catch reality in flight, and (...) explore the complex, haphazard, and often contradictory ways that change emerges and

to construct a model that allows for an appreciation of conflicting rationalities, objectives and behaviors” (Pettigrew, 1990, p.268).

In contrast with the scenery of the movie presented in the prefatory paragraph, the case of Avon Cosmetics is much more dynamic. Nevertheless, the duality is present in both. Therefore, an analogy can be established between the actor in the dual role and the Purchasing department. In the latter, the most traditional performance objective – i.e. cost – seems to be in constant conflict with innovation goals, just like Yeshua has his faith challenged by Satan – his exact mirror image. The paradox gets even more complicated when other aspects are incorporated in the play. In the GNPD process, the inclusion of other generic objectives in the dual role of Purchasing creates new tensions and trade-offs that need to be considered by Purchasing professionals. Interestingly, the movie has a similar turn when Yeshua comes upon the family and volunteers to help them, deviating from his original objective of fasting and praying in the desert.

3. Research method

Based on the recommendations from Creswell (2003), the purpose of this chapter is to clarify how the elements of inquiry shaped the research approach and explain how it was translated into practice during the empirical phase of the study. First, it is important to clearly state the underlying knowledge claims - also called paradigms - as they determine the assumptions about how a researcher expects to learn and what they seek to understand during the inquiry.

Given the characteristics of the topic studied in this dissertation, the constructivist perspective was selected to guide the research design process. Based on the works of Karl Mannheim, this school of thought assumes that “individuals seek understanding of the world in which they live and work.” (Creswell, 2003, p.8). These individuals construct subjective meanings about their social settings through interaction with others. As a result, researchers often employ data collection techniques that allow them to absorb the participants’ views about the research object as well as its context.

Another important aspect of this philosophical lens is the role of the researcher. According to Suddaby (2006, p.638), the interpretivist ontology requires that the researchers play an active part in the study, as “the act of research has a creative component that cannot be delegated to an algorithm”. In other words, researchers admit and explicit how their personal and professional experiences shape their interpretations of the object of the study. As a final remark about the constructivist position, it is important to emphasize that researchers largely rely on data collected in the field to generate meaning (Creswell, 2003).

The other major elements presented by Creswell (2003) to describe the research design process are the strategy of inquiry and specific methods of data collection and analysis. Given the combination of knowledge claims, strategy of inquiry and method presented in the preceding paragraphs of this methodological section, the qualitative approach (Creswell, 2012) emerged as the most suitable option for this dissertation. Departing from the paradigm elucidated above, a case study strategy was selected to steer the data collection and data analysis processes of the field study phase. According to Yin (2009) this research design is considered appropriate to gather empirical evidence in situations in which the researcher is confronted with a “how” question about a contemporary subject that cannot be rigorously controlled.

The unit of analysis is the multifunctional NPD structure responsible for the development projects of cosmetic products for both local and global markets. Originally, the

goal was to develop a multiple case multiple that would allow a comparison of different companies with operations in the FMCG. As a direct consequence of this delimitation, the case selection process followed the intentional sampling method defined by Martins and Theóphilo (2009). This means that in order for companies to be selected as a possible case they had to fulfill three basic requirements: i) operate in the FMCG sector; ii) classify as a MNC, with operations worldwide and iii) allocate a considerable amount of resources in the GNPD Process. The target was to gather empirical information from five different cases. The rationale behind this methodological choice was to improve external validity through theoretical generalization, moderate observer bias, confirm, refine or refute preliminary finds collected from the initial study (Vissak, 2010).

As a starting point, a pilot single case study conducted at Avon Cosmetics, a large manufacturer of cosmetics, toiletries and fragrances with worldwide operations. The research setting of the first case was the cosmetics industry in Brazil, which is composed of companies that rely on continuous new product introductions, mixing local and global projects (ABIHPEC, 2014), and depend on knowledge generated by suppliers (Celadon, 2014). This initial effort represented an important step in the research process as it demonstrated that the study object is relevant from a practitioner perspective and also because it validated the case study protocol that would later be used in the extension of the study to a multiple case design.

However, as mentioned before, the global Chief Purchasing Officer (CPO) announced major changes in the department's structure right in the beginning of the conversations about access to the company. This unveiled the opportunity of adjusting the methodology to develop a single case study, allowing the researcher to take a longitudinal view of the transformation process and better understand how such changes impacted the study object. Around the same time, the Chief Executive Office (CEO) announced even more drastic changes at the global level, which would affect almost every area participating in the GNPD process. This reinforced the opportunity of conducting a longitudinal study, as the case met the conditions recommended by (Pettigrew, 1990) to examine phenomena at the vertical and horizontal levels.

After explaining the research design, it is crucial to detail the data collection procedures. The primary data collection tactic consisted of 17 semi-structured interviews – see script in Appendix A – with an estimated duration of approximately 45 minutes. Key informants were initially appointed by senior leaders in each functional area of the organization (i.e. Purchasing, Marketing, New Product Development & Engineering (NPE&D), Planning and Logistics) and then selected based on their knowledge about Make-

up and Fragrances, which are the marketing categories that best combine active Purchasing and supplier involvement in GNPD. With regards to their roles in the organization, the sample included respondents that occupy managing functions, such as Coordinators and Managers, and respondents that have operational functions, such as purchasing agents and analysts from other areas. The key respondents were summarized on

Table 1.

Table 1 - Summary of respondents

#	Department	Function	Scope
1	Purchasing	Manager	Global
2	Purchasing	Coordinator	Regional
3	Purchasing	Senior Purchasing Agent	Regional
4	Purchasing	Purchasing Agent	Regional
5	Purchasing	Senior Purchasing Agent	Regional
6	Purchasing	Coordinator	Local
7	Purchasing	Director	Regional
8	Purchasing	Junior Manager	Regional
9	Purchasing	Senior Purchasing Agent	Regional
10	Purchasing	Senior Manager	Regional
11	Marketing	Manager	Global
12	Marketing	Senior Product Manager	Local
13	NPE&D	Director	Regional
14	NPE&D	Senior Manager	Global
15	Planning	Senior Manager	Regional
16	Planning	Senior Manager	Regional
17	Logistics	Senior Manager	Regional

Source: The authors

Based on the guidelines established on the case study protocol, the interviews aimed to provide insights about the applicability of the frameworks designed by Wynstra et al. (1999) and Lakemond et al. (2001) to the to the cosmetics industry. Additionally, the questionnaire was developed with the intent to capture the extended perspective of the dual role of Purchasing in global NPD, building on the research opportunity identified in the work of Schiele (2010) and highlighted by Akın Ateş et al. (2017). After transcribed, the interviews were sent to participants, as this review process increases the accuracy of the report and reinforces the validity of the constructs employed in the research (Yin, 2009). Additionally, checkpoint meetings were held with the Purchasing Director responsible for direct spend to

inform the status of the research and collect additional information about the changes in the organization.

Also, in order to further improve construct validity, the approach to the case study outlined in this section considers multiple sources of evidence (Yin, 2009). The data gathered through the interviews were complemented by direct and unobtrusive observation in GNPD meetings and conference calls. This information collection tactic is considered an important component of the study, as it allowed for a focused observation of members of the Purchasing department interacting with other functional areas. This part of the data collection phase was documented on field notes format, written in an electronic text format to facilitate the selection of relevant excerpts and organization of the most important observations. Finally, internal documents - such as e-mail correspondence, meeting summaries, product catalogs, organizational charts, company policies – were analyzed, as this exercise corroborates and augments the evidences collected from other sources.

In the data analysis phase, the empirical data was examined based on the constructs and frameworks delineated in the literature review. The interview transcripts, as well as observation notes and documents, were submitted to a pattern matching procedure designed to compare the case with existing theoretical interpretations to assess whether or not they remain solid (Eisenhardt, 1989; Stuart, McCutcheon, Handfield, McLachlin, & Samson, 2002). Thus, as briefly explained previously, the result of the case study discussed in this section rely in analytical generalization as proposed by Yin (2009), helping to nurture the development of PSM research by using qualitative case studies to corroborate and propose possible extensions to the current body of knowledge (Spina et al., 2015). In this context, this dissertation can be classified as theory elaboration (Vaughn, 1992), as the study attempts to build middle-range theory about a case that has a limited generalization potential, but has rich details about a particular setting (Ketokivi & Choi, 2014).

Therefore, the research outlined in this section has three strings of contributions. First, aims to verify the applicability of the conceptual frameworks developed by previous researchers– i.e. Lakemond et al. (2001) and Wynstra et al. (1999) – to the case of Avon cosmetics. This contribution is intrinsically linked with the first specific objective, as the ideas were refined and consolidated to build a new framework that combines the previous ones and incorporates the dual role concept. The second expected contribution, in line with the second specific objective, is to extend the discussions about the dual role of Purchasing in GNPD as it was defined by Schiele (2010). This is achieved by acknowledging trade-offs and interdependencies (Krishnan & Ulrich, 2001) and adding other performance objectives drawn

from operations strategy (Slack & Lewis, 2015), as way to convene a more holistic perspective (Tracey, 2004) to the innovation process of MNC. Finally, the third contribution is related to the longitudinal approach of the present case study, which to the best of the knowledge of the researcher has not yet been applied in the PSM field and in the management area in general (Pettigrew, 1990).

4. Avon Cosmetics Case

In the present section, the interplay between the GNPD activities and the traditional tasks for Purchasing will be investigated in further details through the analysis of the case study conducted in the Brazilian subsidiary of Avon Cosmetics. The company is among the leading manufacturers of cosmetics, toiletries and fragrances in the country, where it operates for more than 60 years. Avon produces and distributes beauty and related products to consumers all over the country, generating over 21% of the global revenue of 5,7 billion dollars in 2016 (Avon, 2016).

In the global milieu, the volume of sales generated by the massive sales force in Brazil is responsible for granting the position of largest market in the world. The Brazilian subsidiary also plays an important role in product development, as it hosts a newly created satellite R&D unit. The new R&D center is responsible not only for testing products developed in the Global Innovation Center, but also develops and tests products that will be launched globally. In 2016, Avon introduced 8 new global products and innumerable incremental innovations such as promotional products and line extensions, commercialized in more than 100 different countries. In the same year, the investments in innovation totaled about 60 million dollars, directed to R&D activities of packaging and products (Avon, 2016).

Converting this international presence into a product mix that is aligned with preferences of local consumers, but also enables the company to exploit economies of global scale is quite challenging. As argued previously, it is crucial that the Purchasing function is structured in a manner that adequately supports the innovation activities of the firm. To this end, Avon's Purchasing department was organized in two different groups, both located in Brazil. The regional team is chiefly responsible for supporting the innovation dynamic in Latin America, providing important information to the multi-functional NPD team and engaging suppliers whenever necessary. The local Purchasing structure has a stronger commercial focus, but also participates in the innovation process, assuming the responsibility of the projects once they advance to mass-production. The supply base is composed of both local and global suppliers, providing a vast array of materials such as essential oils, chemicals, containers and packaging components.

As mentioned previously, the Purchasing structure has been going through a radical transformation. The main change was the transfer of the global Purchasing leadership for Color and Glass bottles to Brazil, which means that the development of the purchasing strategy for the all 3 regions (Europe, Americas and Asia) is consolidated in the country. This

justifies the focus of the case study in the Brazilian Unit of Avon Cosmetics. Besides the internal changes in the Purchasing department, the company is also implementing a major turnaround plan that affects the operations in the entire globe. The most significant one was the recent decision to sell the operations in the United States and transfer the HQ to the UK, announced in December 2015.

5. Results and Discussion

5.1. Management areas of Purchasing involvement in NPD

At Avon, all of the activities included in the Development Management sphere are considered a shared responsibility between buyers and other team member, usually from R&D and Packaging Engineering. This mutual accountability was anticipated by Wynstra et al. (1999), as some of the activities classified in this management area depend on very specific expertise and experience. In general, this part of the framework was supported by the information collected during the interviews, as Purchasing does participate in activities such as determining which technologies to develop in-house or outsource, analyzing the availability of technologies, defining guidelines for supplier involvement and for internal activities related to GNPD. According to one of the interviewees, members of the Purchasing department are strongly encouraged to seek information about new technologies not only in specialized publications and industry events, but also by meeting with strategic suppliers to discuss current and future developments. In accordance with the findings from Wynstra et al. (1999), it appears that Purchasing's participation in determining make-or-buy policies is limited.

Unsurprisingly, Supplier Interface Management was the management area with the strongest support in the case study conducted in the Brazilian unit of Avon. According to the Purchasing Manager interviewed, the company recently introduced a new tool entitled Vendor Capability Matrix, which considers inputs from Purchasing, Packaging Engineering and Demand Planning to support decisions related to the selection of supplier for collaboration in long-term NPD efforts, as well as monitoring their performance in the innovation process. The tool takes into account a vast range of qualitative and quantitative data, such as supplier innovativeness, price competitiveness, manufacturing capabilities, adherence to project deadlines and support provided to the cross-functional NPD structure. With this information at hands, Purchasing presents the trade-offs for each options and selects the suppliers that will later participate in the development process in alignment with other functional areas. This finding is coherent with the analysis conducted by (Wynstra et al., 1999).

The interactions between Purchasing and other functional areas in the innovation dynamic, as described in the previous paragraph, highlight the intrinsic interdependencies between the involved departments (Krishnan and Ulrich, 2001). It also suggests, as it will be contended in the following pages, that the dual role of Purchasing stimulates an extended approach to global NPD. Finally, regarding supplier motivation, the members of Purchasing

department were unisonous about the attractiveness of the substantial volumes commercialized by the company, but also commented that in some cases suppliers were interested in collaborating with Avon because of the positive effects to their image. Both of these motivational methods were also identified in Wynstra et al. (1999), which helps to fortify the validity of their ideas about the Supplier Interface Management area of the framework.

Following the pattern of the previous areas, the sphere that comprises activities related to Project Management was also supported by the case study. In this specific area, the direct observation in global conference calls and in other regional meetings provided fruitful insights about the involvement of Purchasing in the global innovation process. The discussions in the global forum are usually lead by a Purchasing manager, who is responsible for organizing and documenting information about global projects that are shared by a multi-functional team composed by Packaging Engineering, R&D and Demand Planning. The products discussed in these conference calls are often in early stages of the development process. Therefore, these interactions are especially relevant for project planning activities, such as supplier selection for cooperation in specific projects and definition of both timing and level of involvement in these initiatives.

Further analysis of the interviews showed that the conditions defined for supplier involvement in product development differ depending on the type of the innovation and on the scope of the project. For instance, an important breakthrough project or a product that will be launched in several markets might require a closer participation from suppliers very early in the process. Whereas incremental innovation projects or products developed for a single market might not need any input from third parties until later phases in the process. A similar dynamic was identified in the project execution activities, which were more evident in the regional NPD meetings and resulting summaries. These meetings occur on a weekly basis with the purpose of sharing relevant information and tracking the most important milestones until the project moves to commercial production. As stated previously, Purchasing's support to project execution activities are contingent to project characteristics, as large and complex project may demand active coordination of different actors in the downstream value chain, as well as in more intense communication among different functional areas.

The applicability of the conceptual management activities framework was also confirmed for the Product Management sphere. Strong evidences of the categories defined by Wynstra et al. (1999) – i.e. extending and restricting – were found in the declarations of almost all the participants. With particular attention to restrictive activities, it is important to

note that Marketing and Packaging Engineering recognize the benefits of simplification efforts carried out by Purchasing. One example of this activity was the development of a component catalog that harmonized and reduced the total number of spray pumps available for new products. According to one of the Marketing managers interviewed for this research, the harmonization initiative had little to no effect on consumers, allowing the company to condense the specification process, reduce production lead time, improve reaction time to over sales and cut costs with components and inventory. This result is also coalescent with Dowlatshahi (1992), as the author claimed that standardization and simplification were among Purchasing's responsibilities in the product development process, along with developing specifications, proposing interchangeable parts, conducting value analysis and suggesting part substitution and parts exclusion.

As an overarching remark about the framework depicted in Figure 4, it is fair to assess that the analysis of the case supports the authors' proposal for an expanded role attributed to the Purchasing function in GNPD (Wynstra et al., 1999). As observed earlier, this does not diminish the worth attributed to other correlated research trends, such as open innovation and early supplier involvement in NPD. Nevertheless, the study of management activities performed by Purchasing is fundamental for a complete understanding of the topic. In the following subsection, this dynamic will be analyzed from a different angle, aiming to evaluate the applicability of the typology developed by Lakemond et al. (2001).

5.2. Appropriateness of Purchasing configuration in GNPD and its evolution over the past 10 years.

The analysis of Avon's GNPD structure corroborates the typologies defined by Lakemond et al. (2001) and reproduced on Figure 5. Based on the interviews, it was possible to identify four different stages of the Purchasing structure: a) before 2004 until 2007, when there was no regional structure in Latin America, b) between 2007 until 2011 when the regional structure was created, but with limited participation in the GNPD process, c) from 2011 to 2015, when the Purchasing structured was included on a part time basis in the GNPD process and, finally d) from 2015 until the present moment, when it was created a dedicated structure to support the GNPD process, collocated with the global Purchasing leadership in Brazil. The connection between Figure 5 and the structures found in the case company are summarized on Figure 8. A more detailed representation of this evolution is presented in the appendix section.

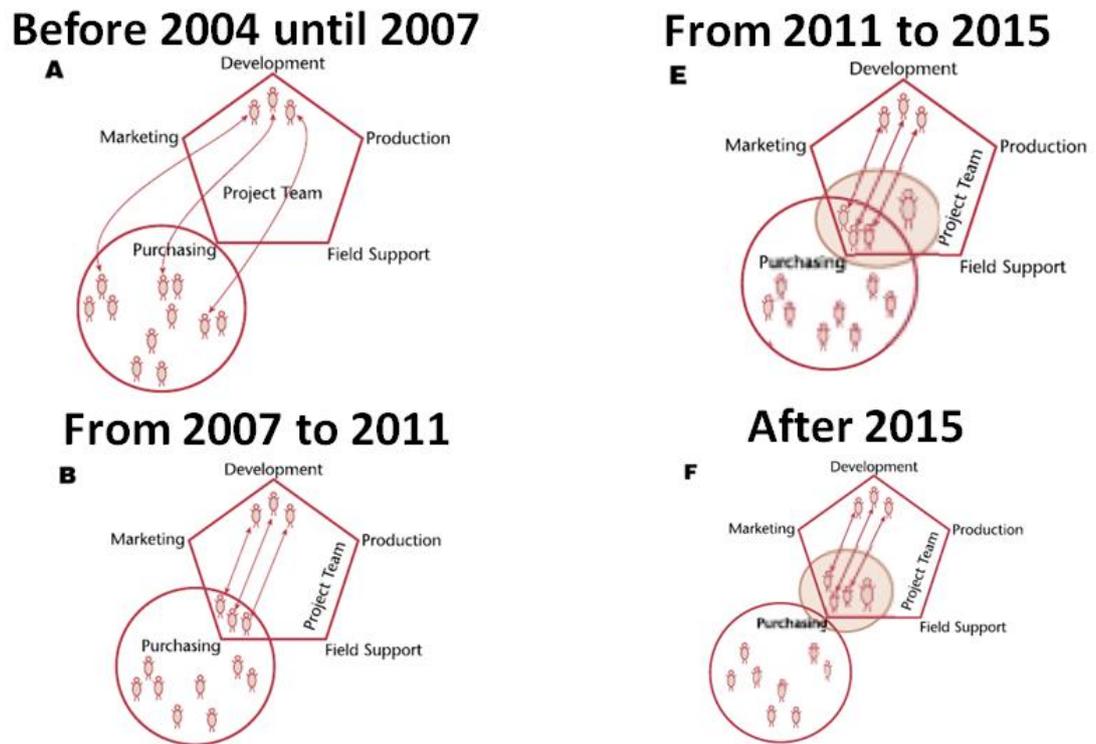


Figure 8 – Evolution of the Purchasing Department

Source: The authors, based on documents provided by Avon Cosmetics.

Due to the importance of the innovation process, the level of Purchasing integration in development activities is high, as buyers are formally involved in this process on a part-time basis. The case study also showed a high degree of coordination, as the coordinator role was verified in all the interviews and during the direct observation. In both marketing categories studied, Purchasing – more specifically, the regional team - was included in the NPD process through the participation of a few specialized buyers and one coordinator that oversees their activities. The coordinator also helps to bridge the gap between commodity-focused buyers and other functional areas such as Marketing and Packaging Engineering, as these groups are oriented to marketing categories. Hence, the previous format of Purchasing at Avon resembles configuration E of the conceptual framework presented by Lakemond et al. (2001).

Although this classification is sufficient to confirm the cogency of the typology, the material collected in the empirical phase can also be used to support other ideas presented by the authors. As mentioned in the literature review, they recommended that Purchasing involvement was configured based on two contextual factors: project size, that leads to more permanent integration, and project complexity, that drives to higher levels of coordination (Lakemond et al., 2001). Based on comments provided by one of the key informants, project

size – here interpreted as the association between the company’s perennial innovation flow and the fact that each buyer is simultaneously involved in several NPD projects, often divided in many marketing categories – was confirmed as the main driver for Purchasing integration in product development. Complexity was also found to be the key reason for stronger coordination, as the reports indicated that projects became more complex in many dimensions (technology novelty, number of components and time to market). This appears to be in line with Sivakumar and Nakata (2003), as the authors point to increasing costs of product development, growing complexity, shortening new product life cycles and rising use of global platforms as key aspects for the organization of global NPD teams.

Another noteworthy connection between the present case study and the work from Lakemond et al. (2001) is the possibility of having different configurations within the same company. In accordance with their findings, the case analyzed in this paper revealed different configurations depending on the geography and on the phase of the project. Geographically, it is possible to distinguish the global coordination, which entails a more focused, but prominent role of the Purchasing coordinator among other team members, and the regional coordination, which requires a broader understanding of the marketing category with less preoccupation with the overall guidance of the discussions. The differences are even more pronounced when the configuration of Purchasing involvement is analyzed in different stages of the development process. The format defined for the regional team in the earlier phases (configuration E) gives place to a different type of organization (similar to configuration A) after the project moves on to mass-production and becomes a responsibility of the local team. This division channels the arguments to the last part of the analysis, in which the dual role of Purchasing will be examined in detail.

Currently, the configuration of the Purchasing strategy is similar to Configuration F, as there is a dedicated team that is focused exclusively in the GNPD process. The main drivers for this transformation was the turnaround transformation initiated at the end of 2015. Furthermore, in the local level of the analysis, the competitive pressures in the local market demanded the structural changes to allow Purchasing agents to focus more on the price negotiations and strategy development to support the ambitious cost reduction initiative defined globally, rather than supporting the innovation dynamic. This change was also aimed to provide a faster response to the GNPD team. On the flip side, according to most of the respondents, due to the fact that the dedicated team needs to support all Purchasing categories, there is a lack of knowledge that sometimes hinders the product development process.

5.3. Towards an extended perspective of the dual role of Purchasing in global NPD.

To some extent, the constructs defined by Schiele (2010) were corroborated by the present case study. All the interviewees confirmed that the participation of Purchasing in GNPD cannot be fully comprehended in an operational vacuum in which other company-wide requirements are relinquished to a secondary plan. Rather, the relationship management aspect of Purchasing supports the idea of a reciprocal interplay between the initiatives carried out in the global NPD process and the strategic priorities defined by other functional areas linked to the Supply Chain organization (Hoek and Chapman, 2006; Hilletofth and Eriksson, 2011).

From a practical standpoint, the explanatory value of the dual role concept was proven by recognizing correspondence between the divisions of Avon's Purchasing department and the segregation into advanced and life-cycle sourcing, as proposed by Schiele (2010). This differentiation was clearly identified through direct observation in the regional NPD meetings, as this environment prioritized the discussion of activities required for a smooth transition to the project execution phase and, consequently, a successful product launch with the support from the local teams. The analysis of internal documents also confirmed the division of the team, as demonstrated in Figure 9, which shows on the left the regional leadership team responsible for advanced sourcing in the Americas, on the right, the local leadership team responsible for life-cycle sourcing.

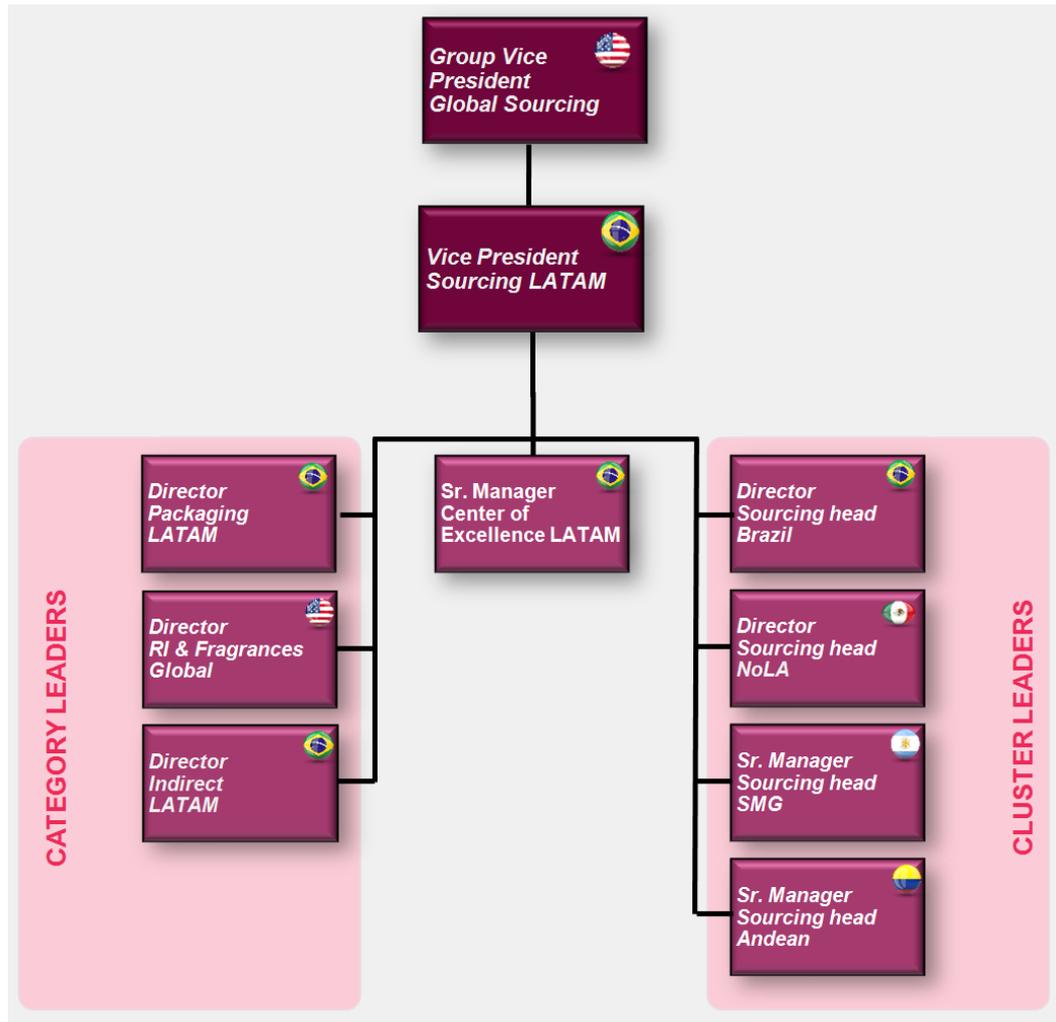


Figure 9 – Regional and Local leadership teams

Source: The authors, based on documents provided by Avon Cosmetics.

Another important result from the case study is the confirmation of cost related issues as a central concern of the Purchasing function. This is possibly the reason why Schiele (2010) placed such a great emphasis on this matter, characterizing the dual role of Purchasing in terms of cost and innovation-oriented roles in NPD. In this context, the reports collected during the interviews with the Purchasing Manager and the Packaging Engineering Senior Manager provide an interesting example of the importance of cost reduction. Both informants highlighted the recent creation of a specific unit within their departments that is exclusively concerned with initiatives that allow the company to simplify its product portfolio and seize cost saving opportunities. The initiatives undertaken by this team usually focus on increasing productivity of the manufacturing process and proposing adjustments in product specifications. In line with one of the recommendations found in the literature (Schiele, 2010), this group was responsible for promoting regular meetings, called “Supplier Day”, in which

suppliers of different components were called to the manufacturing facility in Brazil to present and discuss cost reduction opportunities. This finding is also aligned with Dowlatshahi (1992) and Krishnan and Ulrich (2001), as they underline, respectively, the benefits of collaboration between functional areas in concurrent design and the importance of development supply chains that can foster operational profitability without lowering customer satisfaction.

As the introductory example of Adidas demonstrates, it is important to admonish that other aspects of the dual role of Purchasing also play a significant role in successful product launches. As stated in the previous sections, this research not only aims to strengthen the theoretical foundations of the frameworks developed in prior research, but also attempts to deepen the analysis of the dual role of Purchasing in global NPD. In light of this objective, the interviews conducted with informants from different functional areas helps to enlarge the concept. Based on the analysis of the interactions between Purchasing and other functional areas, it is contended that the department contributes to the incorporation of requirements from Demand Planning, Logistics and Manufacturing. Thus, this finding is consistent with the propositions defended by Tracey (2004), who argued that top performing firms distinguished themselves from others in involving the aforementioned functional areas from the early phases of the NPD process.

Demand Planning was certainly the area with the most significant influence in the extended dual role of Purchasing. Despite the fact that the department has a permanent seat in all of the cross-functional NPD meetings observed, its goals are clearly communicated to the Purchasing area. As a result, buyers have clear guidelines – formalized in a corporate policy posted on the intranet - to negotiate with suppliers in the very beginning of the development process, ensuring that important factors such as adequate lead time, most favorable minimum order quantity and sufficient production capacity, for instance, are taken into account. Due to the characteristics of the cosmetics industry in Brazil, the Demand Planning Senior Manager interviewed for this research informed that innovation projects have a considerable impact in the capacity planning over the long haul. For this reason, the department also keeps a direct link with Marketing and Purchasing to evaluate the overall capacity for each supplier on a periodic basis, which can result in recommendations to duplicate tooling or even postpone product launches in the Latin America markets to prevent anticipated downstream problems (Brown and Eisenhardt, 1995). The reports gathered from key informants in Demand Planning also highlighted the importance of simplification and harmonization efforts, as this

reduces the complexity of the planning routines, facilitates inventory transfer between subsidiaries located in other countries and ultimately reducing obsolescence.

Additional insights about the holistic approach of Purchasing involvement were extracted from the interviews conducted with informants from Logistics. Also in line with the results obtained by Tracey (2004), the case analysis demonstrated that this functional area is closely connected with Purchasing. Through this integration, Logistics indirectly contributes to the product development process by providing relevant information to the development of the Purchasing strategy for NPD. Examples mentioned in the interviews are possible tax reduction benefits due to international trade agreements, transit time and total cost of ownership for imported material. Yet, it was observed that Logistics also maintains a direct participation in NPD. This connection was established via the implementation of Out of the Box (OTB), an initiative that aims to review the packaging design process as a way to improve warehouse configuration and freight maximization in Latin America. Interestingly, the project manager accentuated the importance of cross-functional collaboration as the main driver of the OTB's success.

Lastly, it is important to recognize the linkage between Manufacturing and other functional areas that participate in NPD. Together with Purchasing, this functional area is chiefly responsible for make-or-buy decisions during the product development process. This became evident in the discussions held on regional NPD meetings, when the projects were analyzed based on the possibilities of producing in-house or outsourcing to approved subcontractors located in each Latin America market. Furthermore, the experience obtained from the local manufacturing engineers concerning issues and improvement opportunities in the production process are channeled back towards the global NPD dynamic in the form of productivity projects. A illustrative example of this practice was the restage of one of the bestselling fragrances of Avon, which enabled the company to reduce costs and improve product quality by changing the specifications of the primary packaging components – closure, pump and glass bottle – in a collaborative effort that included members of several functional as well as suppliers located in distinct countries.

On a longitudinal perspective, however, it is not yet clear if the changes that occurred over the period in frame are indeed positive to the dual role of Purchasing in GNPD. In specific, the interviews with associates from the Marketing and NPE&D departments provided contradictory evidence about the results generated by the new configuration. Again, the lack of specific knowledge about the main components appeared as the main negative

point. On the positive side, some of the interviews corroborated the improvement in speed of the developments. This is probably linked to the creation of the new R&D center in Brazil. With regards to the dependability, most of the respondents affirmed that the dedicated team is able to monitor the main checkpoint of the development funnel and improve the confidence level of product launches. Regarding flexibility and quality, the responses also indicated an improvement in the execution of the dual role in GNPD, as the joint efforts of dedicated team with the team responsible for category management facilitate the supplier management initiatives.

6. Conclusion

This analysis of the extended perspective of the dual role of Purchasing in global NPD is far from exhaustive. In the contrary, the evidence reported in this research paper represents an initial step towards a broader understanding of the contribution of this functional area to innovation management activities carried out in large MNC. Notwithstanding, by achieving the specific objectives set for this article, it is possible to conclude that the constructs and frameworks put forward by previous scholars, synthesized on Figure 6, were supported by the case study conducted at Avon cosmetics. The management activities outlined by Wynstra et al. (1999) and the contingency-based model postulated by Lakemond et al. (2001) were sustained by the findings presented in the previous section, strengthening the explanatory potential of these frameworks as instructed by Stuart et al. (2002) and encouraging the development of internal middle range theories within PSM (Spina et al., 2015).

Still in the theoretical realm, this study promotes advances in the discussions about Purchasing involvement in GNPD in two distinct directions. The first resides in the extended scope of the analysis, focusing the global innovation process and visiting a different industrial setting. The second contribution relates to the inclusion of other company-wide concerns, with special attention to the generic operations strategy objectives, as part of the “dual role” concept introduced by Schiele (2010). From a managerial standpoint, this research has clear implications for practitioners, as managers in Purchasing and other functional areas may use the ideas discussed throughout the article to improve their GNPD activities. Remarkably, many companies still neglect the potential benefits of including functional areas such as Purchasing, Demand Planning, Logistics and Manufacturing in the innovation process (Tracey, 2004).

Finally, it is important to acknowledge the limitations of this study and suggest possibilities for future studies. One weakness of this analysis is that it does not fully address – or at least not in sufficient depth - the outcomes of the reciprocal interplay between Purchasing and other functional areas to the long-term competitiveness of manufacturing firms. Such limitations may serve as a good starting point for further research. With regards to the benefits brought about by the amplified dual role of Purchasing, future studies will need to be undertaken to evidence causal relationships between the activities performed by this functional area and indicators of successful new product introductions.

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8. Appendices

8.1. Appendix A: Case Study Protocol

Universidade de São Paulo (USP)
Programa de Pós-Graduação em Administração de Empresas

TOWARD A HOLISTIC PERSPECTIVE OF THE DUAL ROLE OF PURCHASING IN GLOBAL NEW PRODUCT DEVELOPMENT

Dear interviewee,

The present interview script was conceived to support data collection phase of an academic research being conducted as part of the Master in Science (MSc) program in Business Administration at FEA-USP. The main objective of this study is to provide a better understanding of the contributions of Purchasing to the Global New Product Development process (GNPD).

As a result, the following questionnaire is intended to guide the interview, helping you to share your experience about the global innovation process in a semi-structured manner. It is important to mention that, the information provided during the interview is confidential and will not be disclosed to that is not part of the research team.

Your cooperation is essential to the success of the study.

Thank you very much.

Kind regards,

Murilo Mendes Thomaz
MSc Student

Paulo Tromboni de Souza Nascimento
Dissertation Supervisor

Interview Questionnaire:

Questionnaire #: ____ / ____

Date: ____ / ____ / ____

Start time: ____ : ____

End time: ____ : ____

Researcher name:

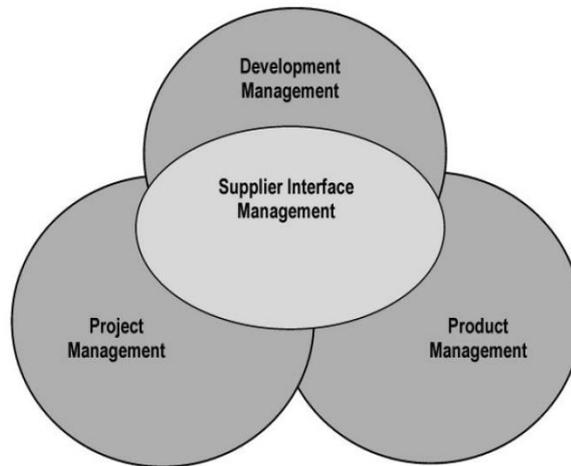
Consent form signature: Yes () No ()

I. Interviewee Information

1. Name:
2. Function:
3. Area:
4. Academic Background:
5. How many years have you been working in the company?
6. How many years have you been working in this area?
7. Do you have direct reports?
 - 7.1. How many report to you?

8. What are your main activities?

II. Management areas of Purchasing involvement in NPD



Source: Wynstra et al. (1999)

Table 4
Integrated framework of activities

Areas	Activity
Development management	Determining which technologies to keep/develop in-house and which ones to outsource to suppliers Formulating policies for the involvement of suppliers Formulating policies for purchasing related activities of internal departments Communicating policies and procedures internally and externally
Supplier interface management	Monitoring supplier markets for technological developments Pre-selecting suppliers for product development collaboration Motivating suppliers to build up/maintain specific knowledge or develop certain products Exploiting the technological capabilities of suppliers Evaluating suppliers' development performance
Project management	<i>Planning:</i> Determining specific develop-or-buy solutions Selecting suppliers for involvement in the development project Determining the extent ('workload') of supplier involvement Determining the moment of supplier involvement <i>Execution:</i> Coordinating development activities between suppliers and manufacturer Coordinating development activities between different first tier suppliers Coordinating development activities between first tier suppliers and second tier suppliers Ordering and chasing prototypes
Product management	<i>Extending activities:</i> Providing information on new products and technologies being developed or already available in supplier markets Suggesting alternative suppliers, products and technologies that can result in a higher quality of the final product <i>Restrictive activities:</i> Evaluating product designs in terms of part availability, manufacturability, lead-time, quality, and costs Promoting standardisation and simplification of designs and parts

Source: Wynstra et al. (1999)

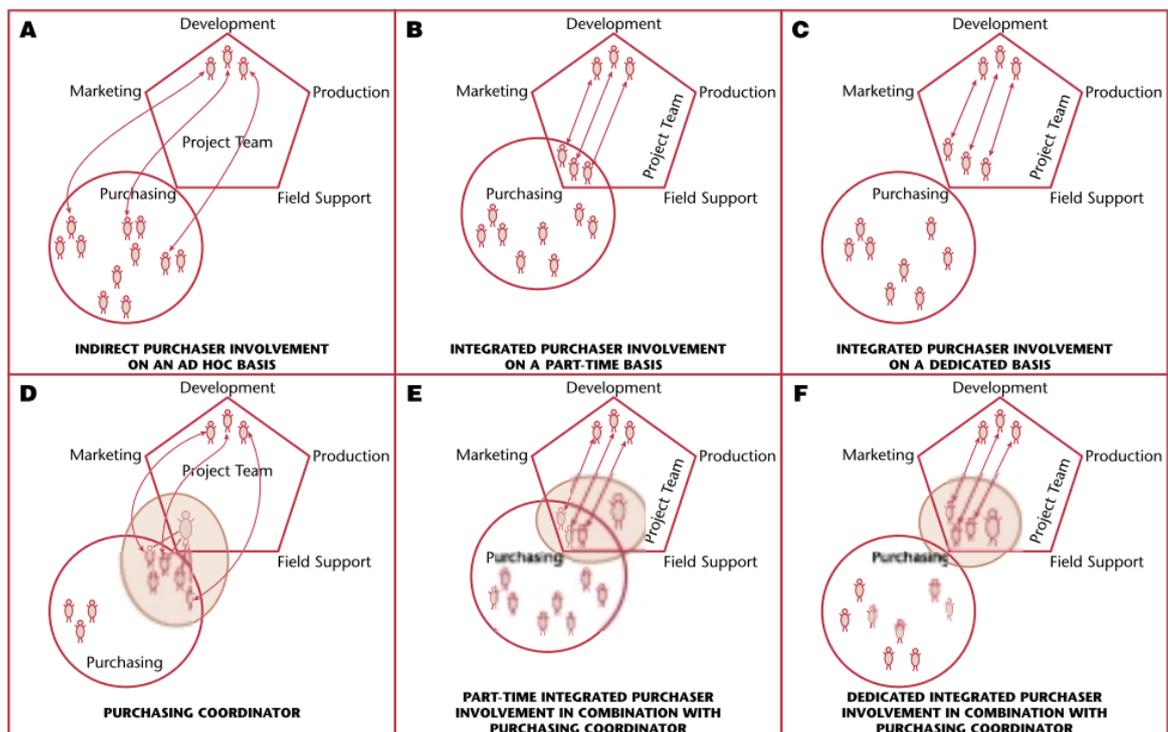
9. Supplier interface management:

- 9.1. Is Purchasing responsible for monitoring supplier market for technologies that could be used in the company's products? If so, how is this carried out? Participation in fairs? Internal events? Print or online media, such as industry magazines?
- 9.2. Is there a continued performance review process such as a balanced scorecard that evaluate suppliers in general terms? Do other areas participate in this scoring process?

- 9.3. Is supplier's performance specifically in NPD evaluated?
 - 9.4. Is there a strategic guideline for specific commodities? If so, is it translated into visual tools?
 - 9.5. Does your company innovation considered as a component for supplier selection?
 - 9.6. Are there any specific agreements with suppliers that deals with the innovation process in the long term?
 - 9.7. How are suppliers motivated to participate in the innovation process? Are there cases in which there is no clear incentive and the buyer has more power than supplier? Are there suppliers that are more powerful than the buying organization?
- 10. Development management:**
- 10.1. Does purchasing participate in make-or-buy decisions?
 - 10.2. Does technology play an important role in this decision process?
 - 10.3. Does purchasing use any tools such as capabilities portfolios, component platforms or technology roadmaps?
 - 10.4. Does your company consider the global footprint of suppliers factored in the decision process, together with technological capabilities in the development process?
 - 10.5. Do other areas, such as R&D and Packaging engineering, participate in this management area as well?
 - 10.6. How does the company exchange technical information in the NPD Process? Are there regular meetings?
 - 10.7. Do suppliers have the opportunity to suggest modifications in the specifications?
 - 10.8. Does the company use off-the-shelf components? What is the main justification for that? Cost?
 - 10.9. Does Purchasing participate in the definition of policies for supplier involvement in NPD? How about internal policies?
 - 10.10. Are there any meetings to discuss technology and innovation?
- 11. Project management:**
- 11.1. In what stage (ideation, development, execution) of the development process does Purchasing get involved in NPD?
 - 11.2. Are there any marked in different products? Breakthrough or incremental?
 - 11.3. Are there any differences between global and local developments?
 - 11.4. Does purchasing play an important role in project planning?
 - 11.5. With regards to project complexity and workload, does Purchasing contribute to the definition of the total number of projects that will be developed simultaneously by the company?
 - 11.6. How are suppliers selected for specific projects? In which phase are they involved?
 - 11.7. Does purchasing monitor the total workload of suppliers?
 - 11.8. Considering that having suppliers with a lot of projects under development at the same time can bring negative results, does Purchasing consider this for decision?
 - 11.9. Has the company had any negative experiences?
 - 11.10. In the execution phase, how does Purchasing contribute to the coordination of the project?
 - 11.11. How is the information shared among the members of the cross-functional teams?
 - 11.12. Is there coordination between suppliers (horizontal)?
 - 11.13. Does purchasing contribute to vertical coordination of the project?
 - 11.14. Do other areas of the company support or lead these processes?
 - 11.15. Does purchasing participate in prototyping and production start-up?
 - 11.16. What marks the end of the development process?
- 12. Product management**

- 12.1. Considering the options of extending and restricting, are these approaches identified in the company? Does purchasing support them? If needed, it is possible to be more specific: restricting means narrowing down the number of specifications
- 12.2. Extending means increasing the number of alternatives.
- 12.3. Does purchasing present alternative suppliers or technologies in the beginning of the process?
- 12.4. Does purchasing evaluate options in terms of availability, manufacturability, lead-time, quality, and costs?
- 12.5. Does purchasing foster standardization and simplification?
- 12.6. Does this lead to less suppliers in the supplier base?
- 12.7. Does purchasing use parts platform to support the development process and restricting the number of alternatives?

III. Appropriateness of Purchasing configuration in NPD



Source: Lakemond et al. (2001)

13. Integration

- 13.1. What is the basic organizational unit for NPD? Teams or cells?
- 13.2. What is the main factor that drives the constitution of the teams? Is it supplier technology? Component/product function? Marketing categories?
- 13.3. With regards to Purchasing participation? How can it be described? Is it ad hoc, that is, are buyers involved only when required? Is there a formal participation in NPD? If so, is it part time or dedicated (full time)? If part time, what are the other activities (operational activities, other NPD projects)?
- 13.4. Does the participation of Purchasing agents change as the projects move forward from ideation to execution?
- 13.5. Are buyers involved in more than one project? If so, how are they divided?
- 13.6. What are the main drivers for purchasing involvement in NPD? Why is one type of organization chosen over the others?
- 13.7. Are buyers narrowly specialized in a specific range of products or technologies? Does this match the way engineers are organized?

- 13.8. Does the degree of supplier involvement interfere in the degree of participation/formalization?
- 13.9. Are there any marked in different products? Breakthrough or incremental?
- 13.10. Are there any differences between global and local developments?

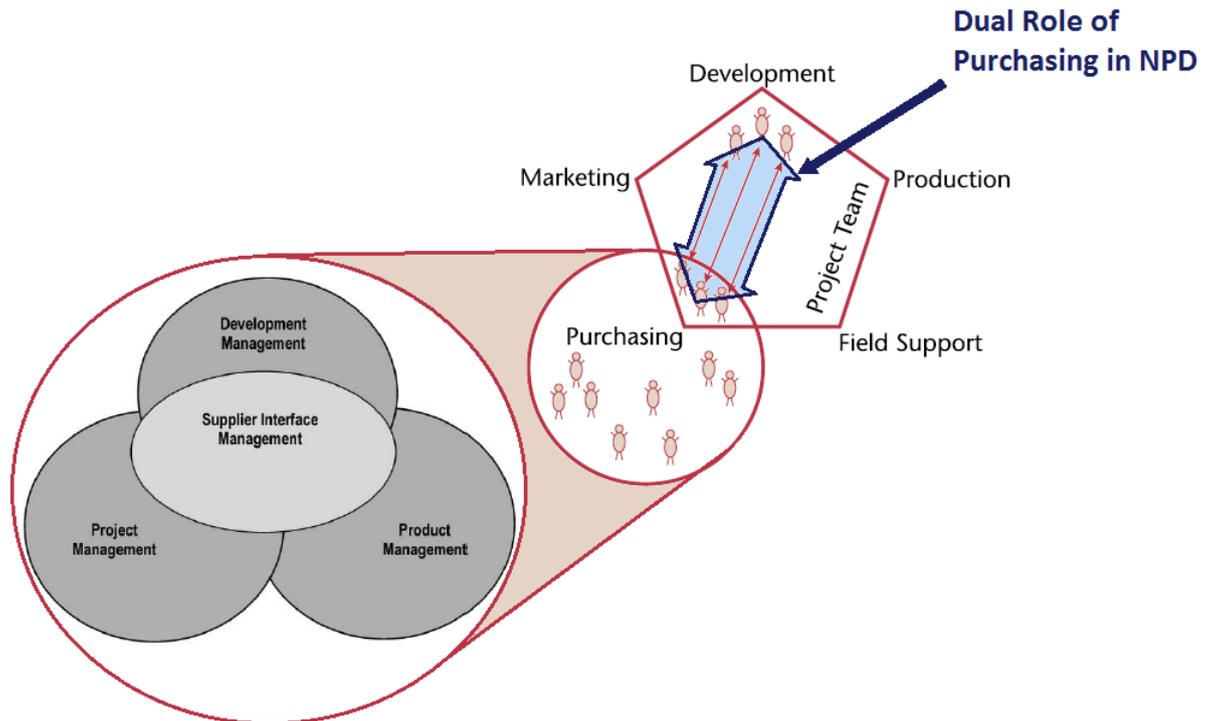
14. Coordination

- 14.1. Does purchasing assume a liaison role in NPD? Or is the NPD process lead by other functional area?
- 14.2. If there is a coordinator in Purchasing, are there buyers supporting? Are the specialists integrated or external to the NPD team? Does this change as the projects move forward from ideation to execution?
- 14.3. If existing, what drives the orientation of the coordinator? Is it supplier technology? Component/product function? Marketing categories? What are the main activities of the coordinator?
- 14.4. What is the main driver for the selected kind of coordination?
- 14.5. Can Purchasing be described as a horizontal complex team? That is, are there different units with specific tasks within the department?
- 14.6. Does the degree of supplier involvement interfere in the degree of coordination?

15. Involvement of other functional areas

- 15.1. Do other areas interact with suppliers without the participation of purchasing?
- 15.2. Are there examples of issues generated by this direct interaction without Sourcing as an intermediary?
- 15.3. Are there any marked differences between types of innovation? Breakthrough or incremental?
- 15.4. Are there any differences between global and local developments?
- 15.5. Are the functions of other areas congruent to Purchasing?

IV. Dual role of Purchasing in global NPD:



Source: The authors, based on (Lakemond et al., 2001; Schiele, 2010; Wynstra et al., 1999)

16. What are the main information requested by NPD team?
- 16.1. Lead times? Yes () No ()
 - 16.2. Specification? Yes () No ()
 - 16.3. Supplier selection? Yes () No ()
 - 16.4. Cost? Yes () No ()
 - 16.5. Capacity? Yes () No ()
 - 16.6. Technology? Yes () No ()
 - 16.7. Other: _____
17. Are there conflicting agendas between the NPD activities supported by Purchasing and the department's primary goal to seek cost reduction opportunities?
18. Are there points of convergence between the main purchasing levers and the priorities defined in the NPD process?
19. What other information is included in the NPD process, despite of the request of NPD? In this part, management areas defined by (Schiele, 2007) will be used.
- 19.1. **Planning:** Is sourcing involved in product planning? Is it integrated early in the planning process? How is this incorporated in the NPD process? Localization? Optimum MOQ? Shorter lead times? Are there any risk management plans in place to avoid disruptions?
 - 19.2. **Logistics:** Is Logistics integrated in the NPD process? What kind of information is exchanged in this process? Trade agreements, landed costs, volume optimization for shipping? Are Logistics process revised regularly to review opportunities in association with Purchasing?
 - 19.3. **Compliance:** Is Purchasing responsible for ensuring that suppliers integrated in the NPD process are approved? What kind of evaluations are conducted (TPDD, Data Privacy, Social Responsibility, Conflict minerals)? What is purchasing role in those audits?
 - 19.4. **Manufacturing:** Does Sourcing support manufacturing in the definition of the production strategy (make or buy)? Are there any performance metrics (reduce idleness in certain facilities, improve productivity)?

- 19.5. **Quality:** Does Purchasing support quality in cases of materials are rejected? Is there a policy to get reimbursements in such cases?
- 19.6. **Finance:** Is finance integrated in the NPD process? Other than product costing, are there any strategic concerns from Finance that are incorporated in the NPD process? For instance, cash flow improvement through the selection of suppliers with longer payment terms?

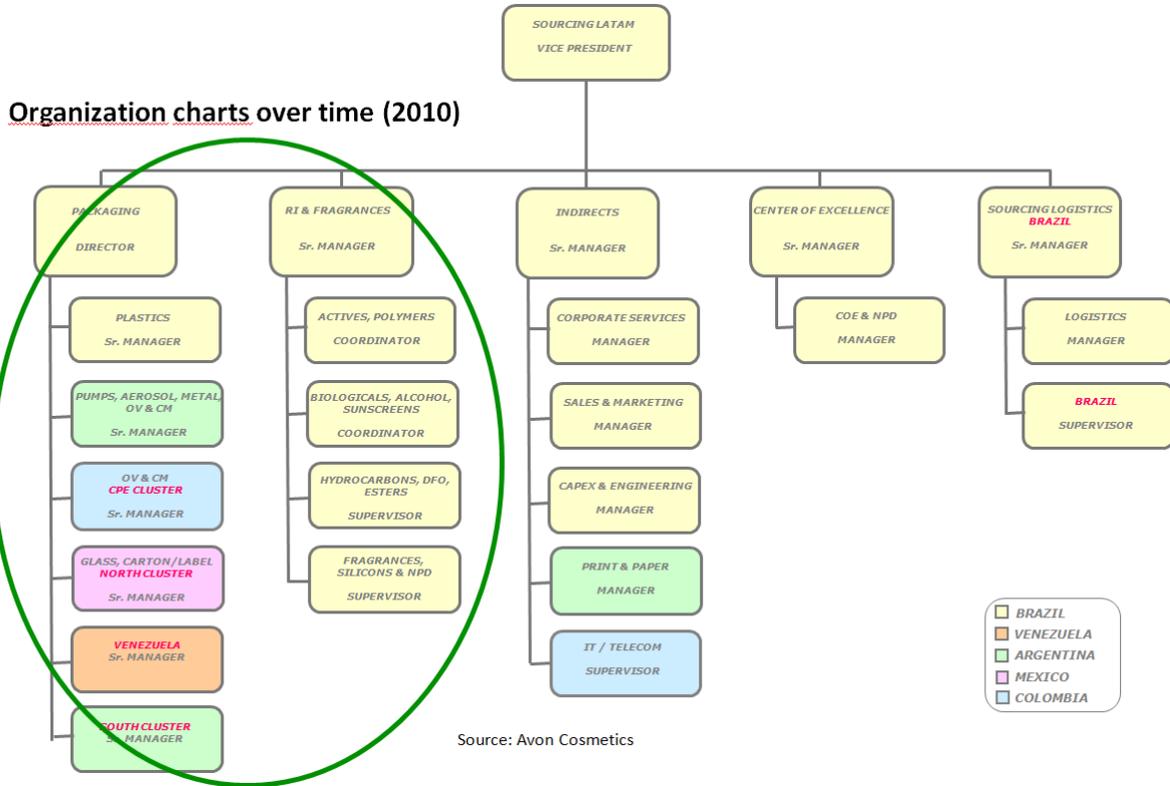
V. The evolution of the Dual Role of Purchasing in global NPD:

20. How did the Purchasing structure evolve over time?
- Below is a preliminary timeline based on previous interviews:
 - Before 2007: No regional structure supporting global NPD
 - No dual role
 - Between 2007 and 2011: LATAM structure with part time dedication to NPD
 - Very limited dual role
 - Between 2011 and 2016: LATAM structure with coordinators part time dedicated to NPD
 - Limited dual role
 - After 2017: LATAM structure - with global leads - with full dedicated structure to NPD
 - Integrated dual role
21. What are the main benefits of the current structure? What are the main challenges?

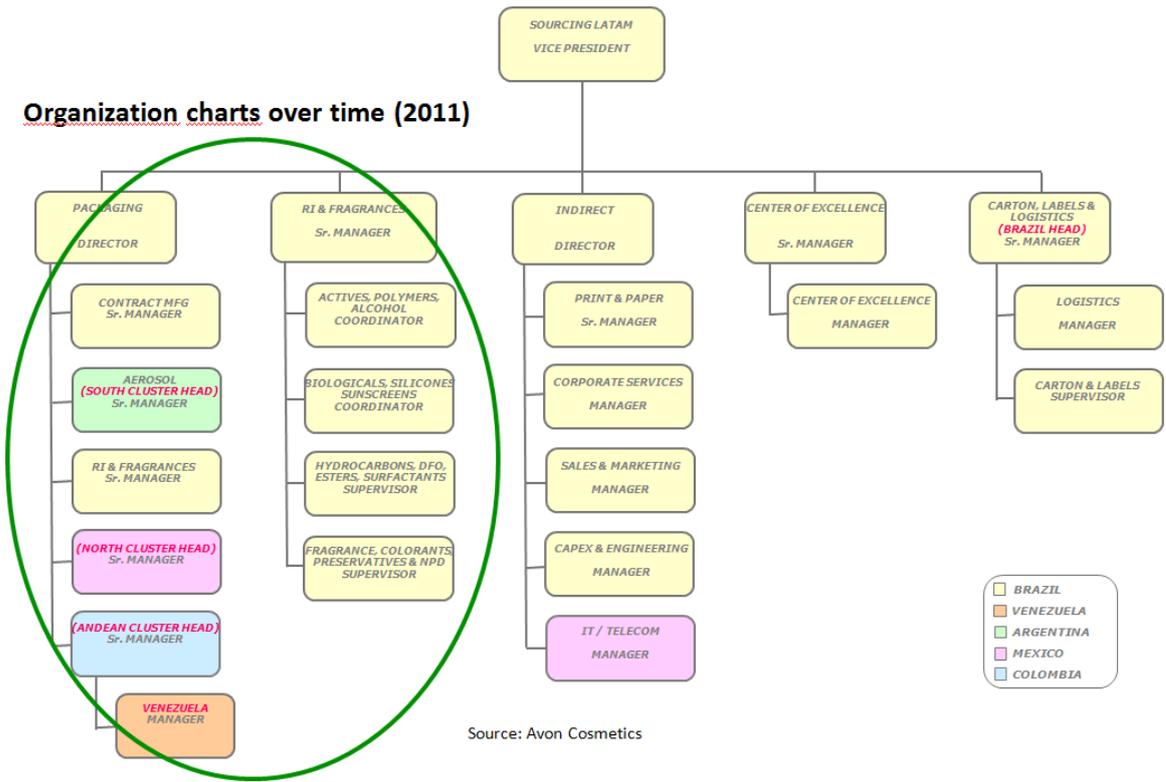
VI. Other information:

27. Is there anything that was not asked that you feel it's important to mention to the success of the research? Yes () No ()
- 27.1. If so, please use the lines below:

8.2 Evolution of the Purchasing structure through organizational charts

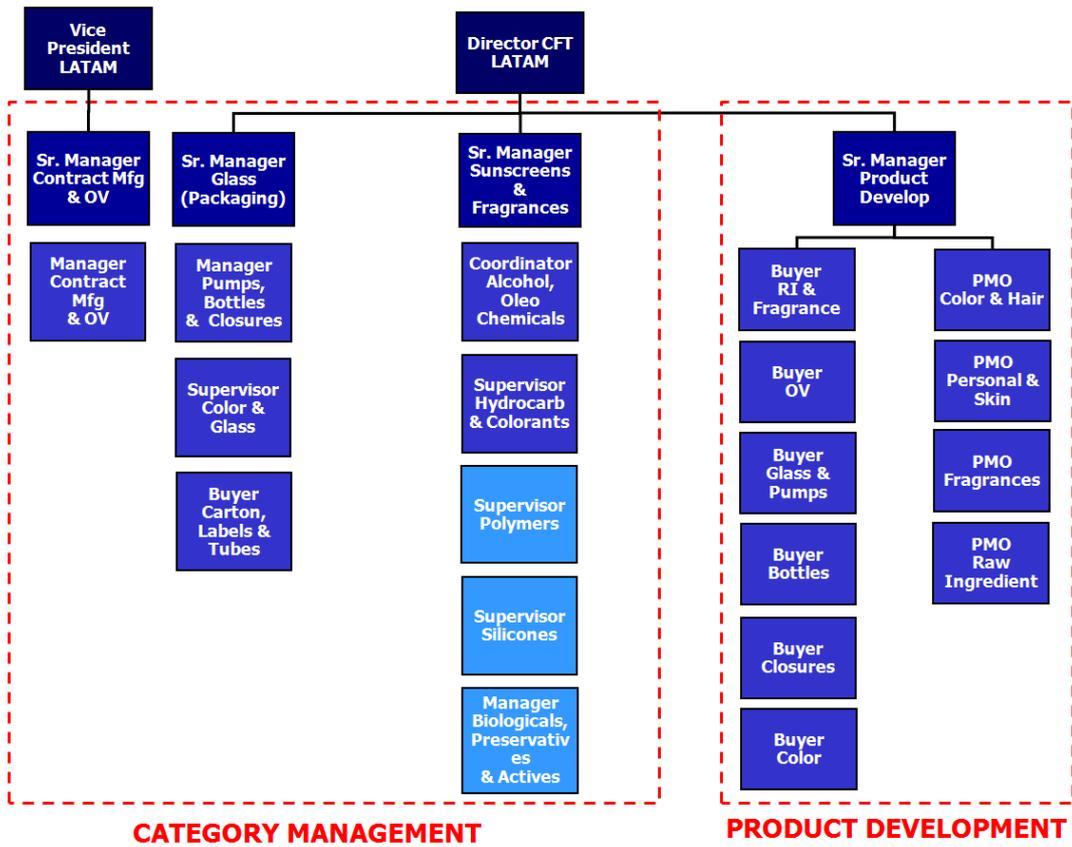


Organization charts over time (2011)



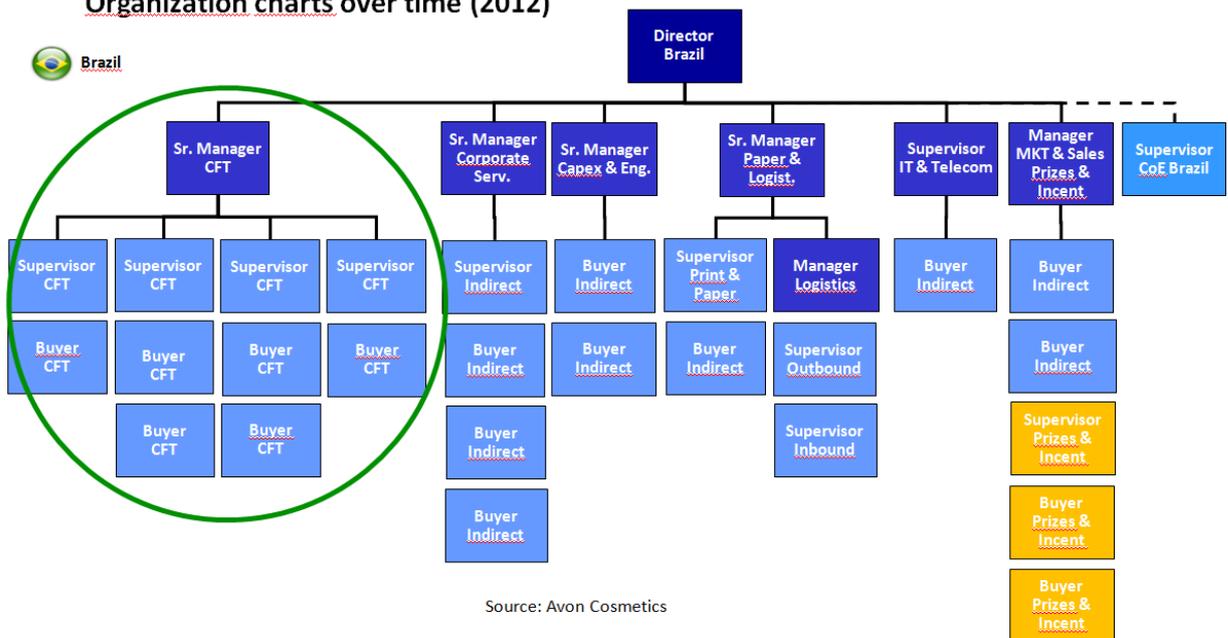
- BRAZIL
- VENEZUELA
- ARGENTINA
- MEXICO
- COLOMBIA

Organization charts over time (2012)



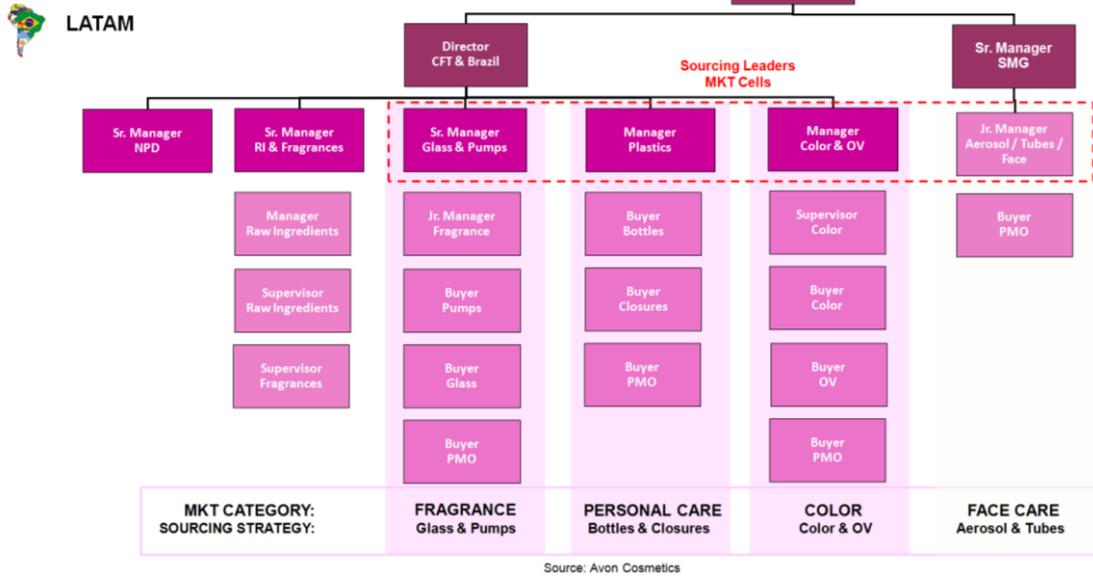
Source: Avon Cosmetics

Organization charts over time (2012)

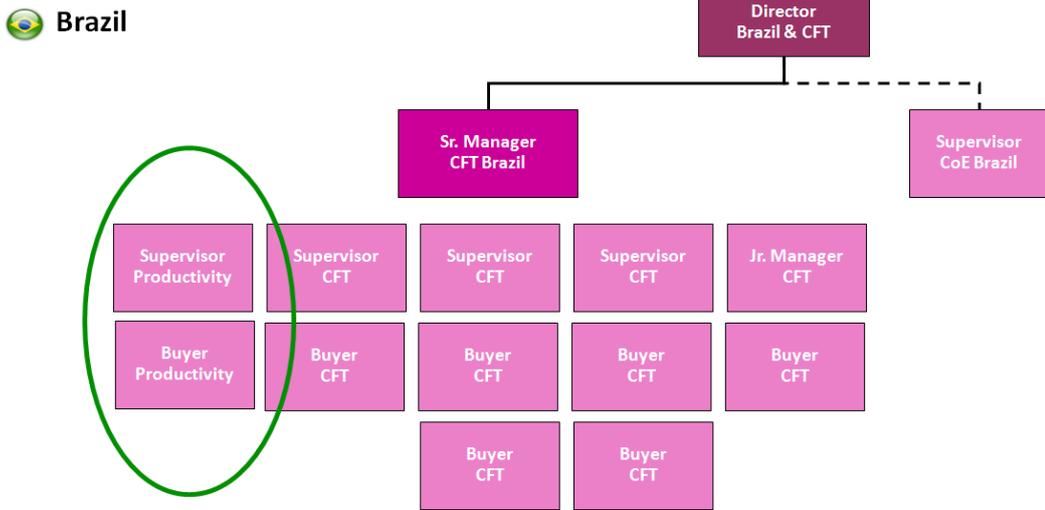


Source: Avon Cosmetics

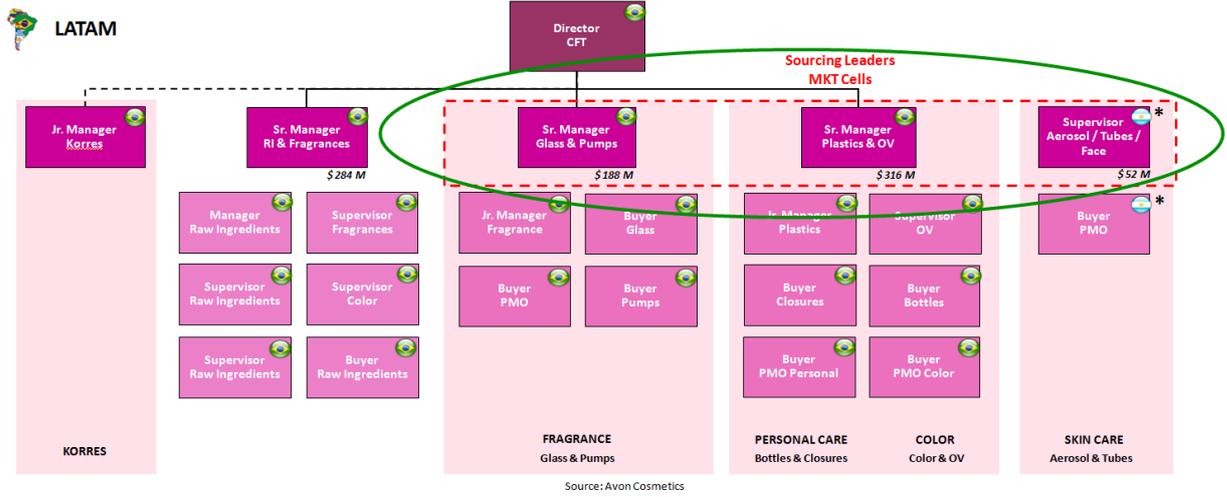
Organization charts over time (2013)



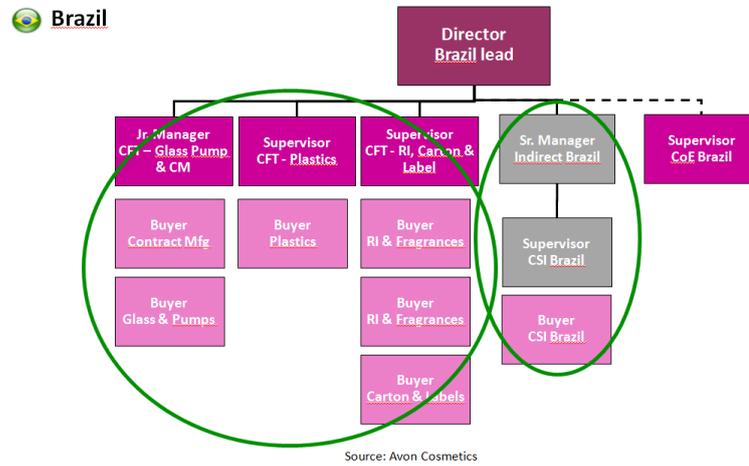
Organization charts over time (2013)



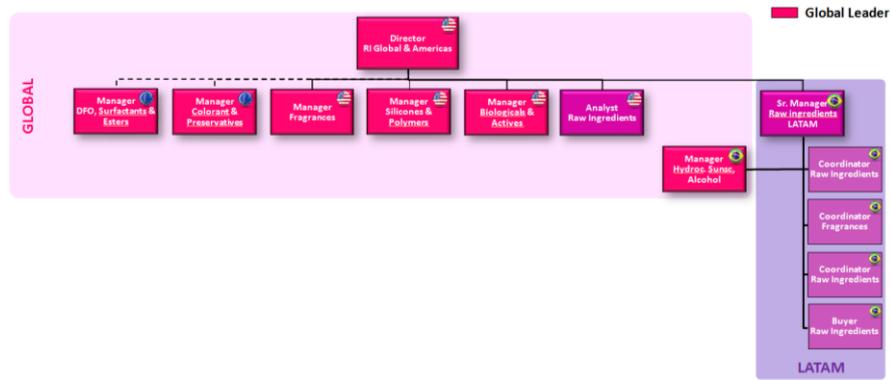
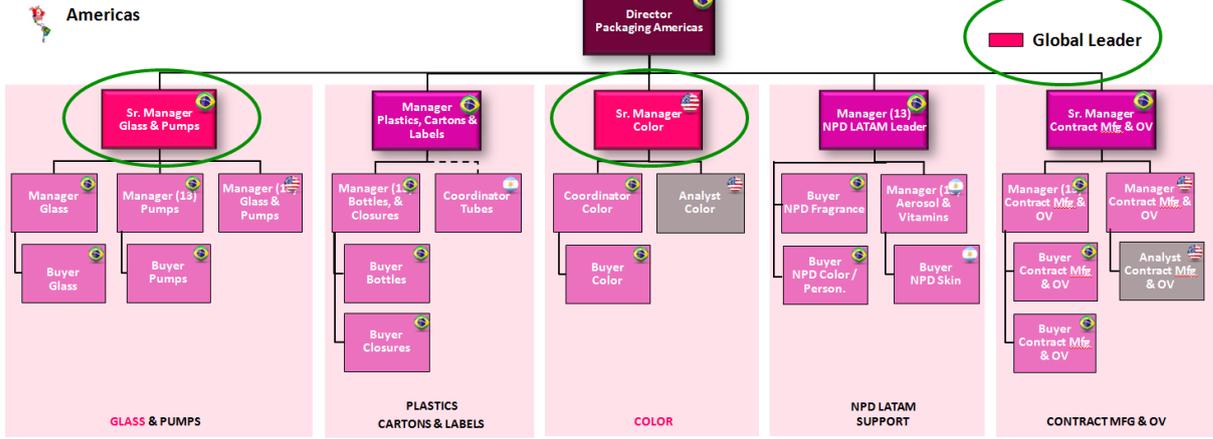
Organization charts over time (2014)



Organization charts over time (2014)

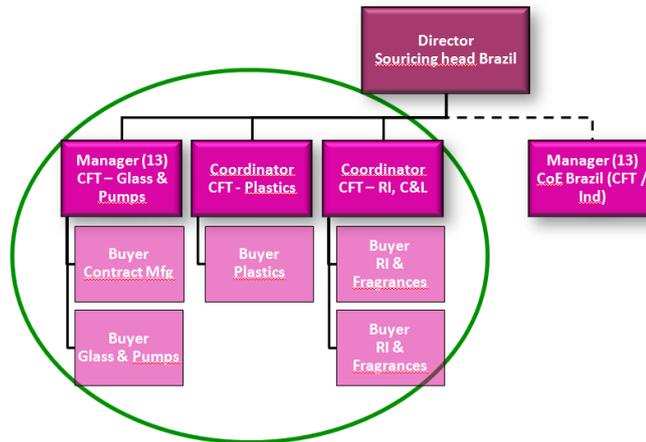


Organization charts over time (2015)



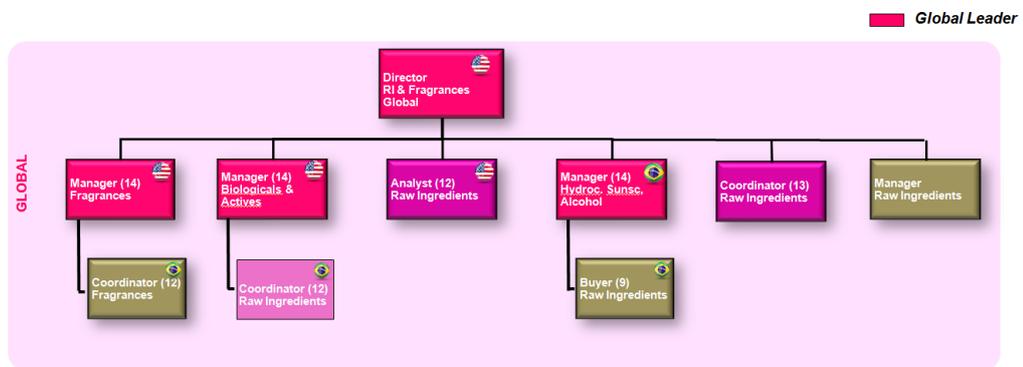
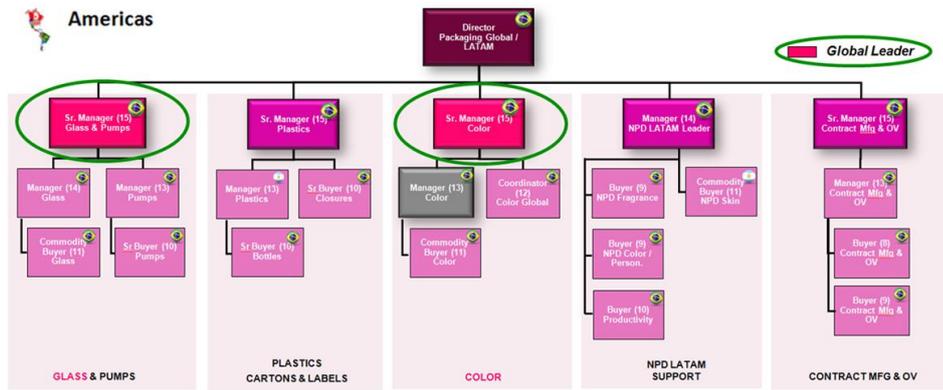
Organization charts over time (2015)

Brazil

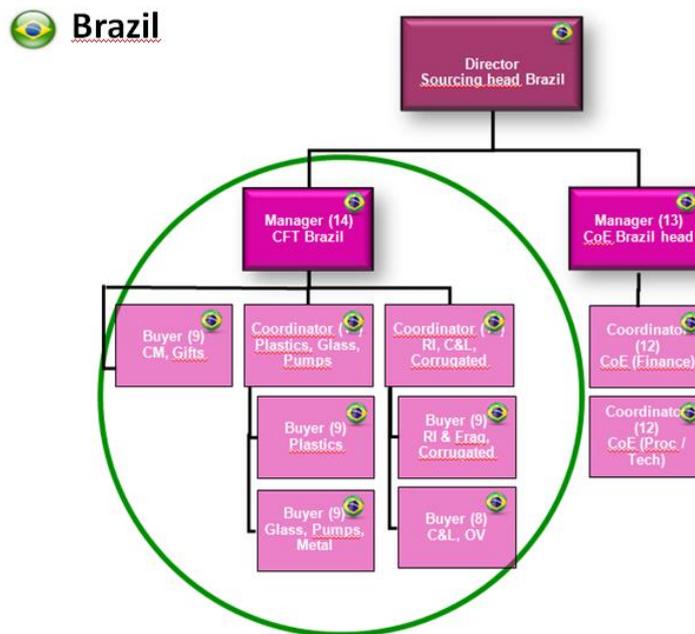


Source: Avon Cosmetics

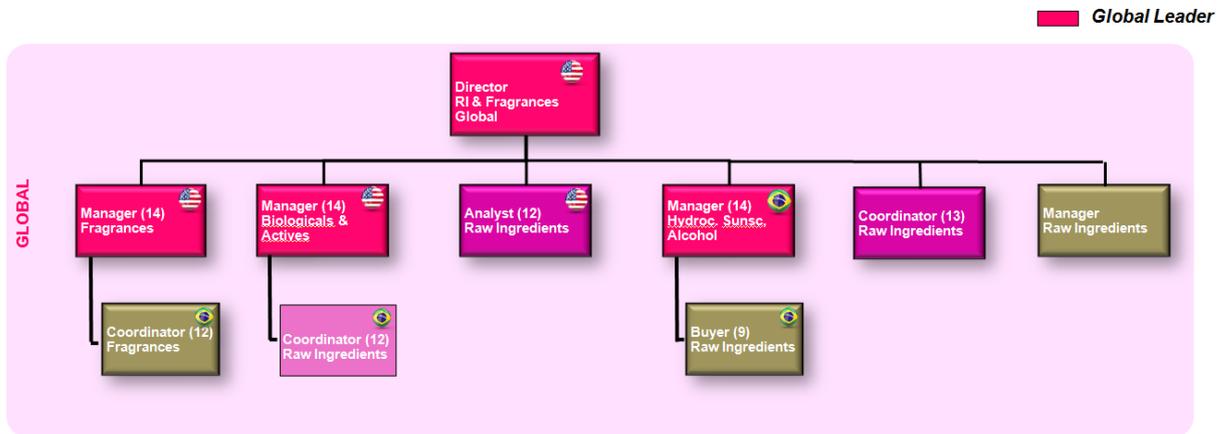
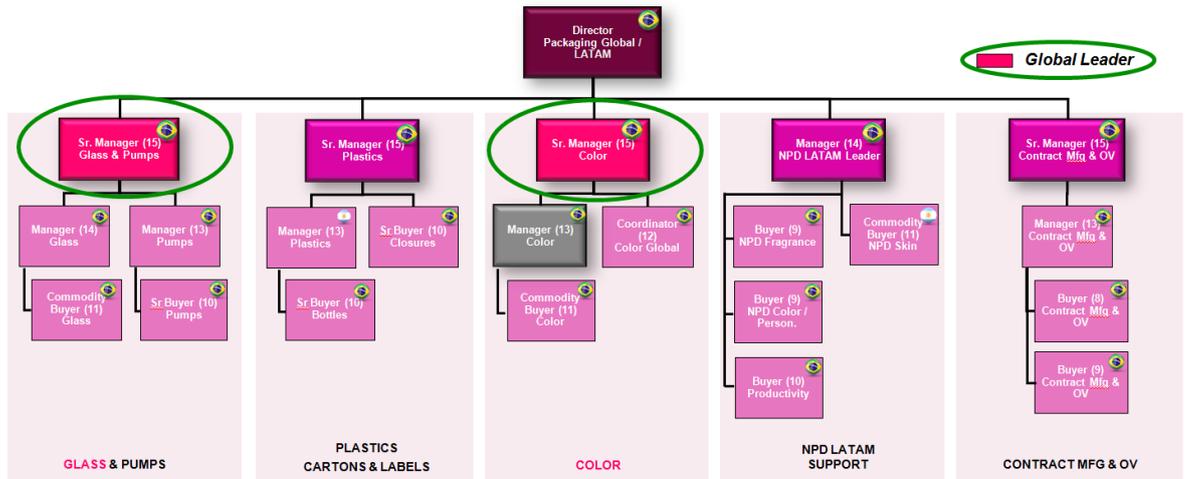
Organization charts over time (2016)



Organization charts over time (2016)



Organization charts over time (2017)



Organization charts over time (2017)

Brazil

