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Competitiveness of Plastic Manufacturers: An Analysis under the Porterian Vision in South of Brazil

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Abstract

The sector of disposable plastic transformers in the Southern part of the State of Santa Catarina, Brazil is an important regional cluster. This sector includes the industries of dishes, cups and cutlery, which manufacture almost 60% of the volume of these products consumed in Brazil. This study evaluates the plastic disposable industry and their environment. As a general goal, the study proposed to understand how the environment's competitive forces influence the businesses in this sector. In order to achieve the goals, a referential analysis was used: five Porter's (1980) competitive forces model. In the State of Santa Catarina this sector is composed by fourteen manufacturers of disposable dishes, cups and cutlery. The study reached fourteen companies in the sector. The research strategy used was the case study, using a structured questionnaire forwarded to managers of each industry. The study collected and used secondary data referring to competitors, suppliers and national market for data triangulation purposes. A sector of great economic and social importance, at national and regional level, was perceived; as well as competitive forces shaping this industry were mapped.

Key words: Competitiveness. Porter's Five Forces. Disposable plastic transformer

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INTRODUCTION

In high competitiveness markets, strategic decisions strongly influence a business outcome, becoming even decisive in relation to the survival or not of this firm along time (MINTZBERG & QUINN, 1998; PORTER, 1986).

Competitiveness is the subject of this study and has been much discussed along history (MASON, 1939; PORTER, 1980; 1985; 1986; *KUPFER & HASENCLEVER, 2013*). Several approaches are being applied. Since Marshall quoted by Kupfer (2013) with the concept of "perfect competition", originating the deterministic stream, until Porter (1980) and Mintzberg and Quinn (1998) that Support competitive advantage, in a way that can or should influence the competitive environment in case of employing an appropriate strategy and having the available resources needed.

Brazilian plastic industry divides into transformed plastic industry, plastic laminate, plastic packaging and artifacts. The amount of plastic processed in the plastic transformation market overcame 6.700 tons in 2013, generating a total turnover of BRL 61,33 billion (1,2% of Brazil's national GNP). In the same year, this sector employed over 360 thousand workers (ABIPLAST 2014).

Among the producers in Brazil, the State of Santa Catarina holds relevant shares for plastic transformed in the country. Santa Catarina concentrates its plastic manufacturing complex in the Southern part of the State (SIMPLASC 2015).

The Southern part of the State of Santa Catarina is a major plastic disposable manufacturing complex in Brazil (SIMPLASC 2015). The state employs over 39 thousand workers in their industries.

In 2013, 6,76 million tons of plastic was produced, generating a total turnover of BRL 67 bi, around 1,2% of Brazil's national GNP of the same year (ABIPLAST 2014). Brazil follows the worldwide trend in consumption of plastics. When evaluating the evolution of worldwide consumption, 99 million tons were produced in 1999. In 2012, the production surpassed 288 million tons (PLASTICS EUROPE, 2013).

In this market, the power of negotiation against raw material suppliers is reduced, because there are few plastic resins manufacturers in Brazil. Regarding the alternative of imports, they fluctuate based

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on the international market, which is closely followed by the price policy practiced by domestic manufacturers. It is important to stress that some plastic resins, when originating from the external market, are surcharged by the intervention of Anti-dumping Acts. This causes little margin to domestic manufactures in relation to cost management. The search for higher volumes produced, aiming the benefits of economy of scale and productivity end to be the driver of many companies, which becomes a natural path to cost reduction (FLEURY & FLEURY, 2000, Administrative Council of Economic Defense [CADE], 2014).

Given the representativeness of plastic industry in the regional scenario, the need arises to better understand the forces that operate in this market. Knowing these forces and dealing with them with the objective of increasing the chances of potentiating the strengths and being protected or strengthening the weaknesses is a way of being prepared to a highly competitive market and of minimizing the risk associated of decision-making. The strategies of companies, in a way of another, are influenced by the competitive environment. In some situations even the strategies can shape the environment. In this context, the aim of the present study is to identify the competitive forces exerted upon the firms of the sector of disposable plastic transformers from the Southern part of the State of Santa Catarina, under the standpoint of Porter.

Among the studies showing the plastic industry, the Federation of Industries of the State of Santa Catarina – FIESC, within the Santa Catarina Regional Industrial Development Program (PDIC), also highlights the importance of plastic industry for the State of Santa Catarina. This PDIC-2022 brings a panorama that analyzes sectors considered promising. The plastic industry is recognized as part of the "Strategic Routes" for the development of the State of Santa Catarina. A study published by the Federation of Industries of the State of Santa Catarina [FIESC] (2016) brings a set of information, analysis and trends for chemical and plastic industries.

Taking this study as a background, the effects of competitive forces over manufacturers of disposable dishes, cups and cutlery were shown.

Evolution of Porterian Thinking until the Competition Analysis Model

Porter (1974) developed an interaction model between industry and consumer goods retail. The author perceived that the characteristics of consumer buying behavior vary among consumer goods industries. This fundamentally affects the nature of competition in the sector. In this study, the author addresses the concepts of convenience (self-service) and non-convenience. When referring to Bain (1956), which emphasizes the effect of advertising on performance by the influence exerted and creates barriers to entry, the concern with the behavior of the consumer is rescued later in other works.

Caves, Khalilzadeh-Shirazi and Porter (1975), have sought to prove statistically that economies of scale are a factor that creates strong barriers to entry and has come to the conclusion that it is not always a relevant factor. This occurs when there is a significant reduction in costs, achieved through high volume production. The authors still establish a minimum range for the reduction to be considered significant, from ten to twenty percent reduction in costs.

Porter (1976) performs a quantitative research in 39 industries and compares advertising expenses with their performances. The author concludes that advertising is crucial to industry performance. Results suggest that media has asymmetric implications for market power and influences consumers in choosing a particular brand or product. The concern with differentiation is maintained when Porter (1985) presents the general strategies.

Caves and Porter (1977) started from the concept of Joe Bain about barriers of entry, in which potential entrees are in a waiting queue, waiting for profitability to reach the desired levels, so only after joining the competition. The authors broaden the discussion in search of a general concept on entry barriers. This discussion goes through the understanding of the existence of subgroups within the industries, each of which has specific characteristics. These groups exert different forces on the entry process, being an investment decision made under uncertainty and conjuncture interdependence. Structures subgroups of industries can prevent intra-industry mobility and emphasize that it is impossible to devise a universal general rule, since each industry has different variables that influence it in an unequal way. Barriers to

mobility can be built on both new and existing competitors, making it difficult for them to enter segments or niche markets already dominated by a leading group or company. Caves and Porter also rests on the basis of the structure-conduct-performance model.

Porter (1979a) discusses the relation between the profitability of industries and mobility barriers. Subsequently, entry barriers become one of the five forces of the competitive analysis model. The author formulates the concept of strategic groups, where industries that operate with similar strategies would be grouped together. The strength and organization of these groups determine the size of the barriers to new inbound. With greater concentration of markets, greater profits are generated (PORTER & CAVES, 1980).

The work of Porter (1979b) presented the competition analysis model and proposed a diagram containing the five competitive forces, which detailed how they acted on the industry, where the need for decision-makers to know these forces was clear. After that they should identify the strengths and weaknesses of the organization and the cause of each of them. In such a way it would be possible to take actions that would lead to a defensible position to such forces, or even to influence them in a favorable way.

The competition analysis model was later supplemented when Porter (1990) found a pattern of behavior in competitive industries. This study generated an analysis model called "diamond". This work sought to answer how the competitive advantage is created in certain industries using a historical study of the world industry. The conclusion is competitive advantage is created and sustained through a highly localized process. Differences in national values, culture, economic structures, institutions and histories, among other factors, contribute to competitive success. This scenario can develop competitive advantages by supporting increased national productivity and enabling a nation to specialize in industries and industries segments where their companies are most productive.

Model of Competition Analysis: Porter's Five Forces

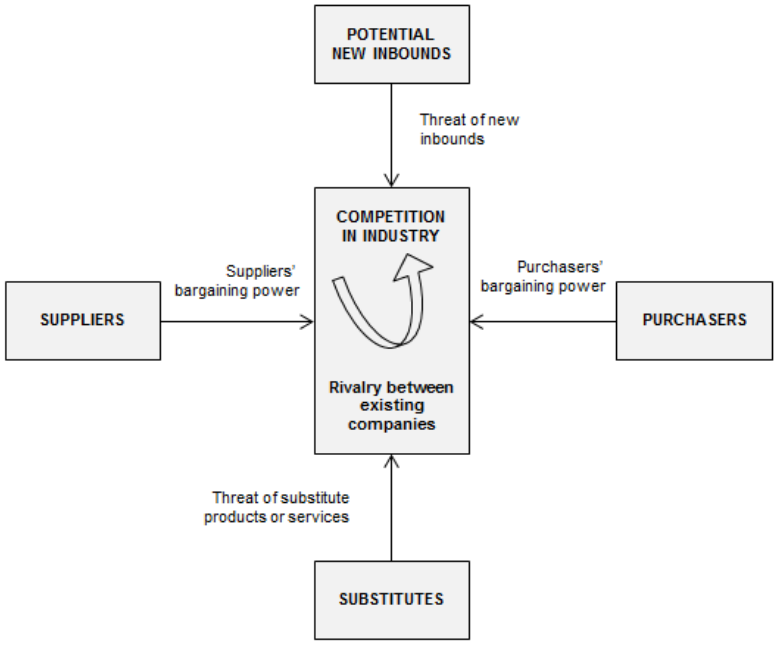
According to Porter (1980), the industrial structure has a strong influence on the forces that govern competition, as well as establish the list of strategies potentially available to the firm. External forces affect in one way or another all firms competing in the same market. The way and intensity with which the effects of these forces are felt by companies depend on their ability to deal with these forces.

The intensity of competition in a particular industry is tied to the origins of the basic economic structure and is not necessarily related to competitors' current behavior. Porter (1980) calls competitive force the basic structure of the overall industry. It is up to each industry to seek a position within the competitive environment that allows better defense or influence of forces for their own benefit:

Competition tends to pressure the profitability of an industry that is expected to be in perfect competition, that is, profitability is reduced enough to cover the remuneration of long-term government bonds, plus market risk. If profitability decreases to a lowest level, the natural tendency is for investors to exit the market in question and seek new, more profitable investments. With the reduction of competition the forces realign, as well as the offer of products, which may again impact results. The tendency is for the situation to return to a balance (HASENCLEVER & TORRES, 2013). It does not necessarily mean that all the forces in the structure are balanced. It is possible that one or more of them exert dominance in a particular industry.

The five forces that make up the industrial structure proposed by Porter (1980) are: threat of substitute products; bargaining power of suppliers; bargaining power of buyers; rivalry between current competitors and entry of potential competitors. Each of these forces will be addressed below:

Figure 1: Forces driving competition in industry



Source: Porter (1980, p.4)

Threat of substitute products

A product that can replace another in the same or similar application is considered as a substitute product. These products limit potential returns of an industry by setting a limit on prices. When prices match those practiced by substitutes, the market tends to switch to buying the alternative product. This is common in situations where different products can be used for the same application (PORTER, 1980). "Substitute products respond almost to the same needs as customers do, but in different ways" (BARNEY & HESTERLY, p. 36. 2011).

With relation to substitute products, Porter (1980) draws our attention to: the relative value of the substitute product; the buyer's propensity to change and high switching costs reduce the pressure exerted by substitutes.

Bargaining Power of suppliers

The expected normal behavior for suppliers is to always seek to charge you the highest possible prices for their products or services. On the other side, buyers seek cost reduction, which tends to pressure suppliers. This naturally leads to a power struggle between the parties. Each side pressures the other in search of better results for self benefit and takes advantage to the side that has less to lose, in case of the end of business negotiations (MINTZBERG, AHLSTRAND & LAMPEL, 2000).

Suppliers can pressure an industry through price increase or reducing product quality. If the industry cannot pass on the new costs to customers, profitability will be reduced. According to Porter (1980) a supplier is considered powerful when: the product is differentiated or there are switching costs; there is concentration of suppliers; there are no substitute products and the volume of purchases is not important to the supplier; the inputs have great influence on cost or differentiation; the supplier is a threat of forward or backward integration; cost is high compared to total purchases in the industry.

The fact that the workforce is also an industry supplier should be considered. The more scarce or organized the labor force, the greater its power to influence the industry.

Bargaining Power of consumers

Buyers seek from an industry the products with the highest quality and lowest prices possible. During negotiations, it is common to use the auction technique, which is played between competitors in order to obtain advantages. The power of the buyers of each industry depends on the relative importance of the buyer to the industry, and the situation of the industry itself facing the market. A buyer is considered powerful when: there is large concentration of buyers; the volume of purchases is relevant to the industry; the costs of change are high; buyers are well informed; the buyers' profit is determined by the purchase; there are substitute products; there is a differentiation between products; there is an integration threat (PORTER, 1980; MINTZBERG, AHLSTRAND & LAMPEL, 2000).

Entry to Potential Competitors

New inbounds or potential competitors are young businesses or companies intending to start their activities in a short term. New competitors are attracted to markets representing the possibility of profitability superior to businesses already established in these markets (PORTER, 1980; MINTZBERG, AHLSTRAND & LAMPEL, 2000). If there are no entry barriers, new competitors will continue to be attracted until the diluted earnings among all participants in this market are equalized, or until the new competitors cannot obtain some competitive advantage against their competitors (BARNEY & HESTERLY, 2011).

Barriers of entry can be understood as "any factor that prevents the free mobility of capital to an industry in the long term and, consequently, permits the existence of permanent supernormal profits in this industry" (KUPFER, 2013 p.81). According to the author, the works of Joe Bain, in the decades of 1940 and 1950 were of great contribution in the format of industrial economy. Bain's studies found a relationship between the profitability of firms and the ease with which established firms place barriers to the entry of new competitors.

To Porter (1986) barriers to entry can be classified into six different types: economy of scale; product differentiation; brand identity; costs of change; capital requirements; access to distribution channels; and cost disadvantages of independent scale.

Intensity of Rivalry between Existing Competitors

In the market, as in the war, the occupation of the territories is very important. Most companies in the market seek market share, the maintenance of current customers and continuous growth. However, when a competitor advances on enemy "territory" it is common to expect any kind of retaliation. "Rivalry between existing competitors takes on the usual form of position dispute - with the use of tactics such as price competition, advertising battles, product introductions, and increased services or customer guarantees" (PORTER, 1986, p. 34).

These disputes can bring good or bad consequences to the industry as a whole. Competition can improve the standard of performance offered in a particular market, making all competitors more competitive. Disputed advertising campaigns can increase the demand and differentiation of certain products, which would bring benefits to all industries. However, rivalry can also reduce the margins of the whole industry, which will consequently reflect the results and profitability of the sector. To Porter (1980; 1986), rivalry is the consequence of a number of factors: slow industry growth; large or well-balanced competitors; high fixed or storage costs; increased capacity in large increments; absence of differentiation or costs of change; brand identity; competitors; major strategic interests; high output barriers.

Firms seek to gain positions, can choose peaceful coexistence and even alliances, or through a fierce competition that can lead to a highly competitive industry with relatively balanced forces (MINTZBERG, AHLSTRAND & LAMPEL, 2000).

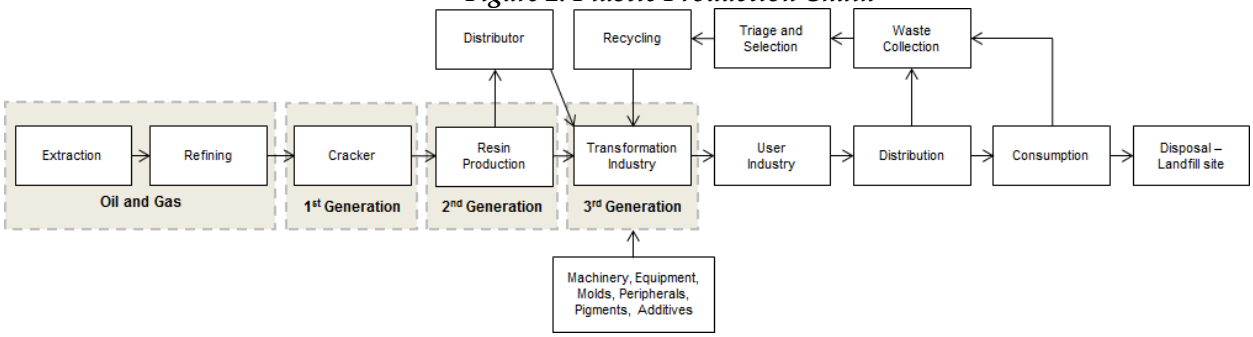
A regional manufacturer of plastic disposables is located in the Southern part of the State of Santa Catarina. The state produces around 60% of cups, dishes and cutlery consumed in Brazil. This volume is concentrated in the southern part of the state of Santa Catarina, where 14 disposable transformer industries are located (PEREIRA & AQUINO, 2006).

Plastic Production Chain

Plastic production chain extends for oil and gas companies; petrochemicals and as the main agent, Braskem, a plastics giant company. Already downstream are the approximately 9,000 resin converters in the country and the suppliers of machinery and equipment (DELIGIO, 2010).

Plastic production chain is quite complex and extensive. In Brazil the verticalization of the whole process is not observed. Different agents perform each stage of the process:

Figure 2: Plastic Production Chain



Source: Adapted from BNDES 2010

Petrobras The extraction and refining stages are practically Petrobras' monopoly (NATIONAL BANK FOR ECONOMIC AND SOCIAL DEVELOPMENT [BNDES], 2013). The lack of competitors in these operations is still controlled by Petrobras.

The first generation consists of cracking the oil using temperature, pressure and, in some cases, a catalyst. This process is responsible for breaking the hydrocarbons that make up the oil. It produces gasoline, kerosene, naphtha, diesel, LPG, among others (Serra, Prestes, Medeiros, Veiga, & Pandolfelli, 2012).

The production of resins, which comprises the second generation, is carried out by a few large companies (ABIPLAST 2014). The great majority of the items produced are commodities. The homogeneity is greater the more towards the upstream goes in the productive chain. Such features build a strong entry barrier for potential competitors in these operations (CUNHA, RAUEN, ARAÚJO, MELLO & CASADEI, 2009).

The third generation is comprised of manufacturing industry. The industries of the sector transform the different resins in all lists of products that will be used in a next stage of the productive chain (ABIPLAST, 2014). As a clear example is the plastic packaging that will later pack the products manufactured in the so-called user industries. In the year of 2013 it was composed of 8.171 companies, which employs over 346 thousand workers (IBGE, 2016). The vast majority of companies are small or medium sized. The scale of production limits the availability of resources. This makes the main technological advances come from suppliers of machines, molds and resins. In relation to machines, equipment and molds, Brazil still has difficulties in the development of the latest technology applied to the sector. Many of these solutions are imported from Europe or from The United States (HEMAIS, BARROS & ROSA, 2005).

Recyclers involve the collection, sorting and recycling processes themselves. They play a fundamental role in the sustainability of the production chain, being responsible in Brazil for the reuse of 21% of all post-consumer plastic (PLASTIVIDA 2013). This number may not seem so relevant, as less than a quarter of the volume produced is reused. However, when compared to the plastics recycling index, as in the European Union's economic bloc, which was 26% in the same period (PLASTICS EUROPE, 2014), one can be seen that in relation to recycling, Brazil is not so far away from European countries. In Brazil, the main consumers of recycled resins are the domestic utilities, construction and automotive sectors. Together these three sectors consume almost 38% of all recycled material (PLASTIVIDA 2013).

Manufacturers that use plastic transformers in the production process are included in the user industry. The sectors that most consume processed plastics are civil construction, food and beverages (in the form of packaging) and the automobile industry (ABIPLAST, 2014).

In the specific case of dishes, cups and cutlery manufacturers, they are part of the third generation, in transformation industry (ABIPLAST, 2014). Manufacturers of disposable cups, dishes and cutlery sell their products directly to distributors or large customers. Thus, when the production chain of these plastic disposables is specifically analyzed, the step of the process industry is suppressed.

METHODOLOGICAL PROCEDURES

In this study, the quantitative approach (ROESCH, 2005) was applied to the research objectives, which is characterized as exploratory and descriptive (GIL, 2009). As a research strategy, the case study was used (YIN, 2001).

In order to reach the total number of companies that composes the sector, one initially searched in the records of the professional union of the category. However, the number of companies affiliated to this union was only eight. As it was already known that this number was higher, it was decided to consult the Union of Workers of Criciúma. From there, a list containing one hundred and fifty-six companies was obtained. These companies were classified according to the main product manufactured. In this way there were fourteen manufacturers of dishes and cups and two other cutlery manufacturers.

Sixteen companies of disposable plastic transformation form the total population of this research: cups, dishes and cutlery. Of the total population, two companies closed the activities in 2015, given that one of them closed due to a fire that destroyed the factory park. In this way, fourteen companies remained. Of these, one of them did not accept to participate in the research.

Regarding the research technique, the questionnaire is the most used instrument in research that uses quantitative approach (ROESCH, 2005). The research instrument consisted of forty-one questions with a pattern of responses based on the *Likert* scale. The response options and the respective weights used were:

Frame 1: Scale used as a response pattern

	Always	Often	Sometimes	Never	I do not know
WEIGHTS ASSIGNED	4	3	2	1	0

Source: Research data

The questionnaire was formatted and applied using *Googledoc*. Prior to sending the e-mail to each company surveyed, a telephone call was made explaining the research objectives and seeking to direct the research to be answered by someone in a position of medium or top management, preferably in the administrative area.

As analytical variables for the formulation of the research instrument, it was based on the model of the five Porter (1980) competitive forces; given that each one has been subdivided into determinants influencing them. The five forces, as well as the analysis variables generated by each determinant used in this work were:

Potential inbounds: economy of scale; differences in patented products; brand identity; cost of change; capital requirements; access to distribution; learning curve; access to inputs; low-cost product design; government policy; expected retaliation.

Substitutes: relative price performance of competitors; costs of change.

Suppliers: change costs; differentiation of inputs; concentration of suppliers; presence of substitute inputs; volume importance to suppliers; impact of inputs on cost or differentiation; threat of integration back and forth; costs in relation to total sector purchases.

Purchasers: concentration of buyers; change costs; buyers information; buyers' profits; substitute products; price sensitivity; participation in the volume of purchases; product differentiation; brand identity; threat of integration back.

Rivalry between firms in industry: industry growth; concentration and balance; fixed costs and value added; chronic over-capacity; identity with the brand; complexity of information; exit barriers.

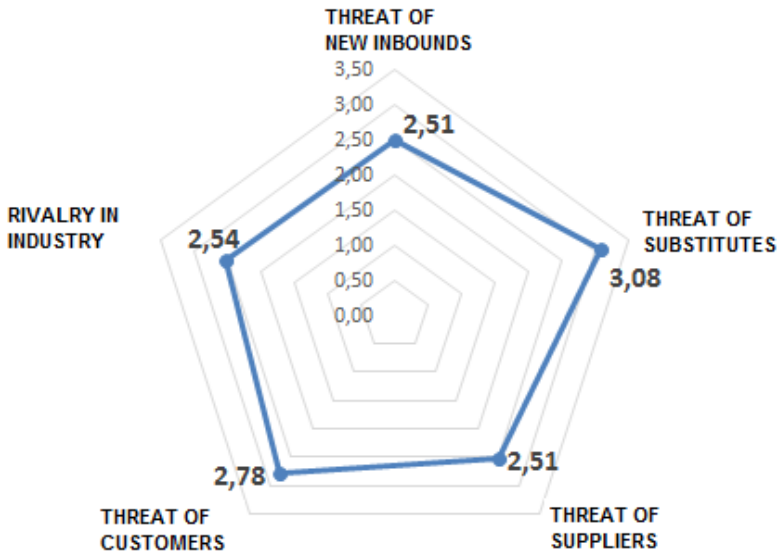
Each of the determinants created an average weight that was the result of the individual evaluations of each company. Subsequently, each one of them was grouped by the force that composed, thus generating the average weight referring to each force of composes the sector.

RESULTS AND DISCUSSIONS

When evaluated together, the competitive forces shape the sector of plastic disposable transformers, the author noticed that four of the five forces are classified as moderate and one is classified as strongly intense.

The chart below shows the main force as a threat of substitute products, closely followed by consumers. The rivalry in industry, threat of new inbounds and threat of suppliers is very close while evaluated in relation to their weight and influence on the sector:

Chart 1: The Five competitive forces of the sector



Source: Research data

The study identified as the main entry barriers to be solved:

New manufacturers need large sums of capital to enter or expand business in the industry. This is also reinforced by the high importance given to the scale of production project development and product brands. The implementation of these actions usually requires large sums of financial resources (DELIGIO, 2010). The development of new products intended to increase the supply mix requires heavy investments. Product design and project are relevant to performance in quality and cost aspects. A strong and consolidated brand is something that can bring an important competitive advantage (PORTER, 1990). In the sector evaluated, the respondents consider that the brand adds value to the product and retain customers. The volume produced has a significant impact on production costs. The economy of scale is associated with the dilution of fixed costs due to the volume produced. Deligio (2010) had already found this scenario. This was also predicted in this study, where the difference in volume produced among those surveyed reached the extremes at almost 100 times. In the disposable market the price is a relevant factor in the consumer's purchase decision (PEREIRA & AQUINO, 2006). Thus, the large volume to be produced and put on the market increases the risks associated with new business, becoming a strong barrier to new inbound.

The force associated with new inbounds was quantified with a value of 2.51, considered as moderate, tending to strong.

Substitute products may compete for the same market space as disposable cups, dishes and cutlery. The application may or may not be straightforward. In the case of plastic disposables, reusable products such

as glass and porcelain cups and dishes, and / or metal cutlery may be considered as substitutes. The strength of this threat is directly related to the ease of replacing products with similar ones. The harder the substitution, the greater the expense involved in the process. Regarding buyer's propensity to change, the aspect related to costs associated with supplier switching is also assessed. This may discourage replacement. In this survey, respondents state that customers can search for new suppliers by changing them without major expense. This facilitates the exchange of the current supplier for another one that offers some advantage, even if it is temporary.

The weight assigned to this competitive force, substitute products, was 3,08, considered as strong.

Suppliers are pushing for the increase in input prices, delivery times, in changes in quality and quantity supplied, and also in terms of deadlines granted for purchases payment. The greater is the supplier's force, the more easily your interests will be met in a negotiation. The main forces observed were: Inputs on cost or differentiation represent a significant share of total sector expenditures (PEREIRA & AQUINO, 2006). This was the only question that the respondents got unanimously. Thus, given the significant share of expenses, any change in this account has immediate effects on the market. This gives suppliers greater strategic importance to operations. The inputs are difficult to replace. The main raw material used, polystyrene, has its own characteristics that still do not allow the exchange for other material, with similar properties and competitive price. What happens is the substitution by a countertype, which would be a resin with very similar properties, which can bring some benefit of prices. However this countertype remains being the polystyrene, only of a different grade. This is true for the vast majority of companies. Some of them already have equipment that allows some flexibility in relation to the raw material used. However, flexibility is limited only to a second type of resin: polypropylene, the only domestic manufacturer of which is Braskem (PEREIRA & AQUINO, 2006). This note is proportional to the difficulty of replacing inputs. Currently, Brazil has only two manufacturers of polystyrene. This obviously severely restricts supply options in the domestic market. The import option is subject to exchange rate risk and regulatory policies imposed by the federal government (CADE, 2014). The less supply options, the greater is the relevance of this competitive force.

The weight assigned to this competitive force, suppliers, was 2,51, considered as moderate and tending to be strong.

Consumers also exert pressure on the industry. They demand better quality, longer payment period, greater product mix, shorter delivery time, lower price, among others. This makes them important links in the production chain, even more at a time when the supply of products exceeds demand. This force was evaluated under ten different determinants. Among the analyzed variables, three of them were considered as having a strong influence, six as moderate and only one of weak relevance. Among the forces having a strong importance are: Buyers profit: the lower the profits, the greater the need to pressure the supplier in search of lower prices. The purchase becomes a strategic activity, which can give rise to a competitive advantage, or only give subsidies to react to the threat of a competitor (PORTER, 1980). Of the thirteen respondents, only one did not assign the maximum score to this variable. Buyers Information: Professional buyers are becoming more knowledgeable about what is being offered in the market. This reduces information asymmetry by making the market more level. Cost of change: These expenses refer to the ease with which suppliers are replaced. The smaller the amounts involved in the process, the greater the ease of their exchange. The easier this change, the greater the pressure exerted by the buyer during negotiations. This variable is also associated with high propensity of buyers to change.

The weight assigned to this competitive force, consumers, was 2,78, considered as moderate and tending to be strong.

Rivalry is associated with the level of contention within the industry. It is directly related to some factors that can increase or minimize it. This force was measured in nine different determinants. Among the analyzed variables, only one stood out as being strong: differentiation. The manufacturers of the sector have little differentiation, which causes obstacles to add value to the products offered. All of the other variables were classified as moderate, highlighting the balance between the companies in the sector, the excess idle capacity available, which allows faster responses in a potential attack by a competitor. Very similar observations had already been found by Pereira and Aquino, (2006). Exit barriers associated to the

difficulty of leaving the industrial sector without the obligation of absorbing great losses was also considered as moderated and strong. The latter is probably due to the high specialization of the equipment used in the production process. Still in this group is the structure of fixed costs considered to be similar among the companies surveyed.

This force was scored 2,58 and contributed to the impression of balance in the sector. In an overall average the forces acting over the industrial sector of disposable plastic manufacturers, can be considered as moderate, which tends to high competition.

FINAL CONSIDERATIONS

Based on the research, the authors realized that among the five forces analyzed only one was classified as of high intensity. The others were classified as moderated. Through the analysis model, one can state that the intensity of the forces acting on this industry is moderated.

This classification is only a label, because all variables possible should be individually considered in decision-making process, because even in forces aknowledged as moderated, Strong influenced variables were found.

The sector is acknowledged as an important regional cluster. However, there is still lack specific information about the sector available for consultation, showing it as a productive sector yet little researched, which could be subject of further studies.

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