



## THE STRUCTURE-CONDUCT-PERFORMANCE PARADIGM:

### A STUDY IN THE JEWELRY INDUSTRY COMPANIES IN GUAPORÉ - RS

José Roberto da Silva Soveral<sup>1</sup> Ana Claudia Machado Padilha<sup>2</sup> Thais Muraro Simionato<sup>3</sup>

#### Abstract

**Objective of the study:** This study aimed to understand how the structure of the industry and the conduct of the business organization influence the performance of companies that composes the jewelry industry in Guaporé-RS.

**Methodology:** The authors carried out an exploratory research, with a qualitative and quantitative approach, characterized as a study of multiple cases. A structured script was used as a data collection instrument, elaborated from analysis categories that emerged from the literature review.

**Originality:** This is an unprecedented study of the application of the ECD theoretical model to the jewelry industry in Guaporé-RS.

**Main results:** As a main result, the authors highlight that, in the perception of the study participants, the structure of the jewelry industry in Guaporé has an influence on the conduct of its members and this, in turn, has influenced the performance of companies and the industry as a whole. It was possible to understand how the processes of choice and implementation of the adopted strategy are carried out, in addition to identifying the influences on the definition of how to compete and the results obtained from these choices.

**Theoretical / methodological contributions:** As the ECD model has not been applied in this sector, his theoretical proposal broadens the understanding of the complexity of the behavior of industry actors, the understanding of the strategies that companies use and, especially, the performance they achieve from their performance in scenarios of extreme competition.

**Social / management contributions:** It results from the data obtained from the studied industry, since it will be able to expand the knowledge of the participants and enable the projection of future scenarios, strengthening the industry as a whole.

**Keywords:** competitiveness, strategy, structure-conduct-performance, jewelry industry.

#### O PARADIGMA ESTRUTURA-CONDUTA-DESEMPENHO: UM ESTUDO NAS EMPRESAS DA INDÚSTRIA DE JOIAS DE GUAPORÉ – RS

#### Resumo

**Objetivo do estudo:** Este estudo objetivou compreender como a estrutura da indústria e a conduta da organização empresarial influenciam o desempenho das empresas que integram a indústria de joias de Guaporé-RS.

**Método:** Realizou-se uma pesquisa de caráter exploratório, com abordagem qualitativa e quantitativa, caracterizando-se como um estudo de casos múltiplos. Utilizou-se como instrumento de coleta de dados um roteiro estruturado, elaborado a partir de categorias de análise que emergiram da revisão de literatura.

**Originalidade:** Trata-se de um estudo inédito da aplicação do modelo teórico ECD à indústria de joias de Guaporé-RS.

**Principais resultados:** Como principal resultado, destaca-se que na percepção dos participantes do estudo, a estrutura da indústria de joias de Guaporé tem influência sobre a conduta de seus integrantes e esta, por sua vez, tem influenciado o desempenho das empresas e da indústria como um todo. Foi possível compreender como os processos de escolha e implementação da estratégia adotada são realizados,

além de identificar as influências na definição da maneira como competir e os resultados obtidos a partir dessas escolhas.

**Contribuições teóricas/metodológicas:** A proposta teórica do modelo ECD, por não ter sido aplicada neste setor, amplia o entendimento da complexidade do comportamento dos atores da indústria, o entendimento das estratégias que as empresas utilizam e, especialmente, o desempenho que elas alcançam a partir de sua atuação em cenários de extrema competição.

**Contribuições sociais/de gestão:** Decorre dos dados obtidos junto à indústria estudada, uma vez que poderá ampliar o conhecimento dos participantes e possibilitar a projeção de cenários futuros, fortalecendo a indústria como um todo.

**Palavras-chave:** competitividade, estratégia, estrutura-conduta-desempenho, indústria de joias

#### EL PARADIGMA ESTRUCTURA-CONDUCTA-DESEMPEÑO: UN ESTUDIO EN EMPRESAS DE LA INDUSTRIA DE JOYERÍA EN GUAPORÉ – RS

#### Resumen

**Objetivo del estudio:** Este estudio tuvo como objetivo comprender cómo la estructura de la industria y la conducta de la organización empresarial influyen en el desempeño de las empresas que componen la industria de la joyería en Guaporé-RS.

**Método:** Se realizó una investigación exploratoria, con enfoque cualitativo y cuantitativo, caracterizada como un estudio de casos múltiples. Se utilizó como instrumento de recolección de datos un guión estructurado, elaborado a partir de categorías de análisis que surgieron de la revisión de la literatura.

**Originalidad:** Este es un estudio inédito de la aplicación del modelo teórico ECD a la industria de la joyería en Guaporé-RS.

**Principales resultados:** Como principal resultado, se destaca que en la percepción de los participantes del estudio, la estructura de la industria joyera en Guaporé influye en la conducta de sus integrantes y esta, a su vez, ha influido en el desempeño de las empresas y la industria en su conjunto. Fue posible comprender cómo se llevaron a cabo los procesos de selección e implementación de la estrategia adoptada, además de identificar las influencias en la definición de la forma de competir y los resultados obtenidos a partir de estas selecciones.

**Aportes teóricos/metodológicos:** La propuesta teórica del modelo ECD, al no haber sido aplicado en este sector, amplía la comprensión de la complejidad del comportamiento de los actores de la industria, la comprensión de las estrategias que utilizan las empresas y, en especial, el desempeño logran a partir de su desempeño en escenarios de competición extrema.

**Aportes sociales/de gestión:** Se deriva de los datos obtenidos de la industria estudiada, ya que podrá ampliar el conocimiento de los participantes y posibilitar la proyección de escenarios futuros, fortaleciendo a la industria en su conjunto.

**Palabras claves:** competitividad, estrategia, estructura-conducta-desempenho, industria joyera.

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<sup>1</sup> Corporate Risk Manager / Master's in Administration (UPF) – Passo Fundo, RS - Brazil

<sup>2</sup> Doctor / University of Passo Fundo - Passo Fundo, RS – Brazil - [anapadilha@upf.br](mailto:anapadilha@upf.br)

<sup>3</sup> Master's in Administration (UPF) / Federal University of Rio Grande do Sul (UFRGS) / Porto Alegre, RS - Brazil



## Introduction

With the intensification of competition on the international markets, the term competition has been incorporated on the political discourses of developed and emerging countries (Sirikrai & Tang, 2006) and, considerably, on the companies' strategic decisions that seek improvement on these standards that affect directly on the competition of a company as a whole. Conceptually, the term "industry" is applied to express a concentration of companies of the same line of business, in which the addition of participation of each company delimits the size of the referred market (Bain, 1956, 1959; Porter, 1991; Pindyck & Rubinfeld, 1994).

In searching for competitive advantage and for a better positioning, the organizations can utilize different strategies, which can be competitive, cooperative, and coepetitives. The competitive strategies are employed to defend oneself of threats and to influence the industry equilibrium to one's favor (Nielsen, 1988; Porter, 2004; Hitt et al., 2008; Mintzberg, Ahlstrand & Lampel, 2010); the cooperative strategies allow reaching common objectives that, isolated, would be difficult or impossible to be reached by promoting the exchange of knowledge and experience between partner companies (Axelrod, 1984; Nielsen, 1988; Hamel, Doz & Prahalad, 1989; Das & Teng, 2000; Jap & Anderson, 2007); and, in some cases, when cooperation is adopted with the intent to compete, the coepetitive strategies emerge, which offer an alternative to compete in an industry by adding associative efforts with other companies that have the same difficulty, in other words, the keynote is to cooperate to compete (Nalebuff & Brandenburger, 1996; Dagnino & Padula, 2002; Wegner, Alievi & Begnis, 2015).

The relevance of theoretical models that explain the complexities and the relations between its members has gained space in academia. Among the possibilities, the model Structure-Conduct-Performance (SCP) emerges, with roots in Industrial Economy, from the assumption that the organizations' conduct is conditioned by structural standards, allowing identifying how structural factors are responsible for the strategic choices of organizations that, in turn, influence the performance of the industry's members (Mason, 1939; Bain, 1956, 1959; Scherer & Ross, 1990).

Evidences found in the literature point to the applicability of the SCP model in different contexts, such as the food and beverages in Indonesia (Setiawan, Emvalomatis & Oude Lansink, 2013), in China's electricity market (Kening et al., 2020), in the Latin America's baking sector (Hordones & Sanvincente, 2020), the impact of the market structure and market share in the performance of Islamic banks (Asl, Rashidi & Ghorbani, 2021), the setting of the economic organization of honey producers associated to the Santa Maria's Farmers Association (Associação de Agricultores de Santa Maria - APISMAR (RS) (Marion Filho & Coelho Junior, 2015), identification and analysis of how the variables of business conduct affect the results and reinforce the agricultural expansion in Uruguay (Saldías, 2011), among others. Such evidences are based on the argument of flexibility of the SCP model's approach, which offer an amalgamation of elements that can be adapted and replicated on other contexts

of analysis, and, especially, to greatly contribute to the empirical analysis of different industries characterized as complex and difficult to comprehend.

In this context, the city of Guaporé is inserted, localized in the Rio Grande do Sul (RS) state, that rises in the national scenario as the second largest center for the production of layered jewelry and jewelry, ranking led by the city of Limeira in the São Paulo state (Alber-ton, 2011; Zambon & Anuncia-ção, 2014), with products commercialized in the domestic and foreign markets. More than 200 enterprises classified as small, medium and large-sized and that operate in different stages of the productive process compose the industry (Prefeitura Municipal de Guaporé, 2015).

One can perceive that the Guaporé's jewelry industry, probably, presents a complexity in its structure, and, noting that many buyers and sellers interact in this same environment, it can be supposed that they are conditioned by this structure, in which they are part of, and adopting behaviors that impact on their performances (Alber-ton, 2011; Padilha; Gallon; Mattos, 2012; Zambon; Anuncia-ção, 2014).

Before this scenario, departing from a historical perspective, it is observed that, with the evolution of productive processes, largely due to technological development, the jewelry industry has grown and popularized, at the same time that jewelries and imitation jewelries began to be part of a person's visual, not being a power symbol anymore, becoming an object used as a form of visual addition and becoming a fashion article (Rocha; Benutti; Menezes, 2015).

Considering the diversity of companies, the specific products and the supplied markets, this research has the particular interest of understanding how the industry structure and the business organization behavior influence the company's performance that integrate the jewelry industry of Guaporé.

We argue that the jewelry industry of Guaporé is composed by a diversity of competitive enterprises that produce similar or substitute products for identical markets, being this a factor, which influence the behaviors, and, consequently, starting to have a considerable participation on daily life of the population and on the growth and economic development of regions, employment and income generation.

Not only that and, referencing the found studies about the jewelry industry of Guaporé, we argue that the SCP model's theoretical proposal has an interesting contribution, especially because it was not applied to this sector, extending the comprehension the industry's actors behavior complexity, the comprehension of the strategies that the companies use and, mainly, the level of performance they reach by its functioning in scenarios of extreme competition.

### **The Structure-Conduct-Performance Model**

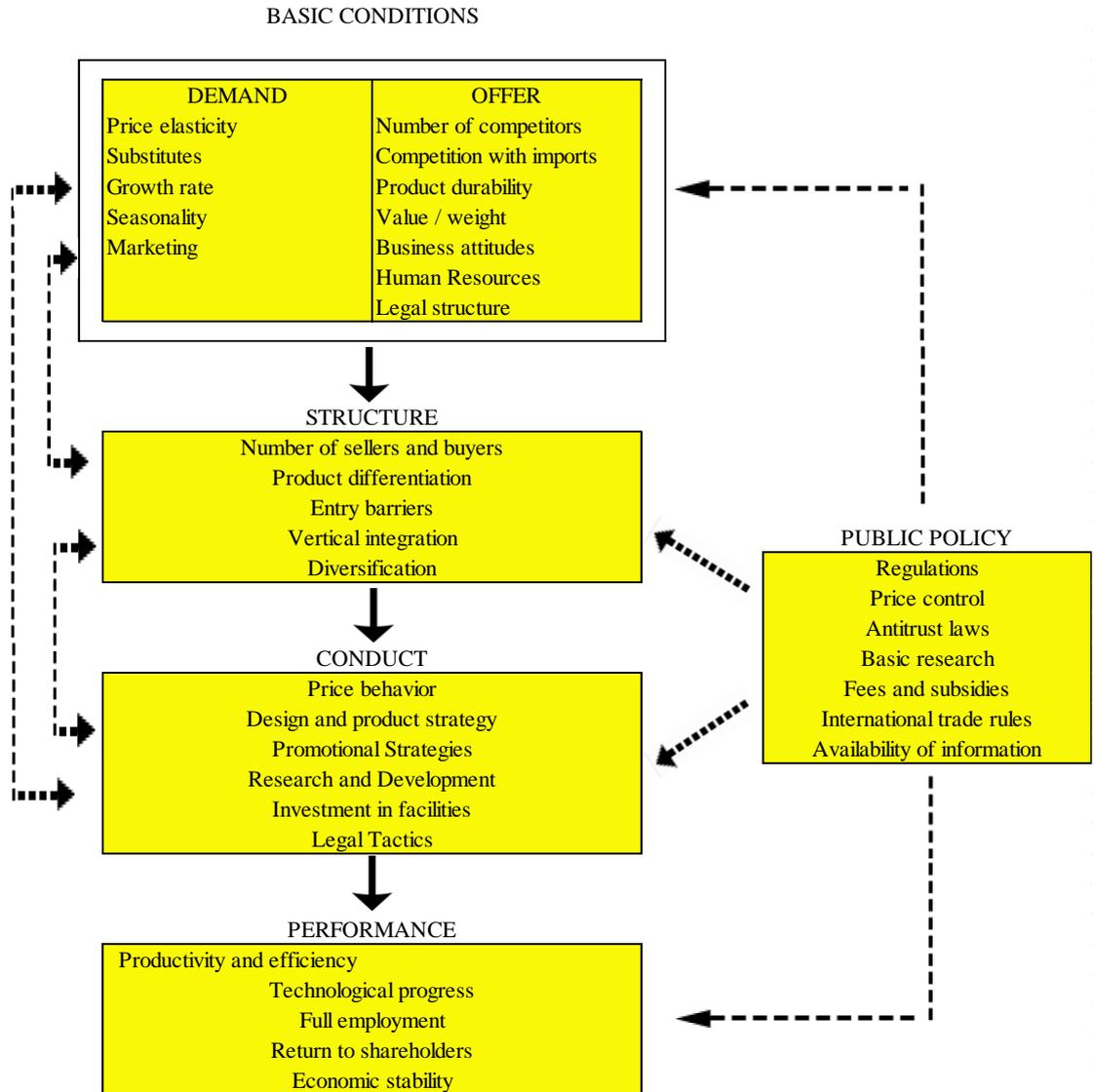
During the 1930's, economists sought to understand the relation between the industry in which an enterprise is inserted, its behavior and performance, resulting in the proposed Structure-Conduct-Performance (SCP) model (Barney & Hesterly, 2011). This model departs from the basic notion that each industry has its specific conditioning characteristics for the decisions of each firm, in relation to

the process of competition that, on its turn, influences its performance. With this in mind, the companies seek strategies in response to the market conditions that alter their chain of values, in order to affect positively on their profit (Ralston et al., 2015).

In the organizational management literature, the SCP model has been used to conceive strategies to the enterprises, comparing their conducts to their business environment. Its principle is the connection between the performances of an enterprise to their action, which in turn depends on the industry' structure (Figueirêdo Junior, Meuwissen & Oude Lansink, 2014). Advances on the SCP variations helped to explain the casual and secondary effects of the model (Figure 1), presenting interrelations between the structure (S), conduct (C) and behavior (B) dimensions while reporting to the basic functioning conditions of an economy.

Figure 1

S-C-P Model



Source: Adapted by Mattos (2007) from Scherer & Ross (1990).

Concerning the SCP model (Figure 1) proposed by Scherer and Ross (1990) and adapted by Mattos (2007), some reflections are worth referring for its understanding and implications, which are:

- a) The basic conditions are explained by demand (price elasticity, substitutive products, growth rate, seasonality and marketing) and by offer (number of competitors, business attitudes, human resources, and others), that influence the structure of an industry (Porter, 1991, 2004).

- b) The structure, on its turn, is integrated by five competitive forces that define the organization of an industry, influencing the participants' behavior (Porter, 1991, 2004), being these characteristics stable in a short amount of time and that suffer modifications in the long run due to the dynamics of the industry relations (Mason, 1939; Bain, 1956; Scherer & Ross, 1990). The analysis of the conditions of market competitiveness consist of the measures of concentration (market shares of each supplier), product differentiation (homogeneity of the products negotiated) and the barriers to entrance and exit (Lennartz, Haffner & Oxley, 2012).
- c) The conduct relates to the actions the firms adopt to compete in an industry (Scherer & Ross, 1990). It refers to the strategies for survivors and, occasionally, to increase participation in the industry in which they act to obtain competitive advantage (Porter, 1991, 2004). In some moments, it can lead the firms to collaborate among each other, using cooperative or competitive strategies (Axelrod, 1984; Nielsen, 1988; Achrol, 1997; Dagnino & Padula, 2002).
- d) The performance, on its turn, suffers the influence of the conduct which can be of social, environmental or economic nature (Abreu, 2001), it can be measured by the employability, productivity and efficiency levels, technological progress and, still, through revenues, costs and local additional value (Figueirêdo Junior et al., 2014; Figueirêdo Junior et al., 2016), likely to be altered by interventions on the market structure and firms conduct, functioning as an important element on the definition of public policies (Lucinda & Azevedo, 2011).
- e) Concerning public policies, they exert pressure on the structure and conduct by regulations, price control, research and subsidies, among others, using mainly laws and norms that condition the industry and, consequently, influence the behavior of organizations who need to adapt to the exigencies of the State (Scherer & Ross, 1990).
- f) In relation to performance, it is important to observe that it is influenced by adopted strategies that define the company's conduct that, in turn, is influenced by the industry structure.
- g) In this dynamic, the structure connects to behavior, to conduct and to performance of the inserted firms in an industry (Setiawan et al., 2013). The equilibrium leads to the maximization of profit, given that the pricing of a firm impact on the others' definition of price, as well as, one cost influences the cost of others, and in this way, the performance of all members (Setiawan et al., 2013).

It is emphasized that the companies have autonomy to draw its conduct by a range of strategies, which are determined by the market structure the company is part of (Lucinda & Azevedo, 2011), in other words, the industry structure influences the competition among the firms and the strategy choice (Porter, 2004).

It is important to identify the industry's basic structural characteristics that are determinant of the set of competitive forces and, in this manner, of the industry's profitability (Porter, 2004). Therefore,

the industry structure will have strong influence on the determining the competitive rules of the game, considering, still, the external forces that pressure all the firms in an industry.

On the analysis of industry competition, Porter (2004) delimits five forces, which are: threat of new entrants (existing entry barriers and the reaction set that the new competitor will find), rivalry intensity between the companies (competition degree of an industry), threat of substitute products (they reduce returns in an industry), negotiation power of the buyers (few buyers and many suppliers) and suppliers bargain power (few suppliers and many buyers).

Another dimension that integrates the SCP model is related to the organizations' conduct (Scherer & Ross, 1990), explained by organizational strategies. In the case of competitive strategies, they fulfill the role of orienting the organization in scenarios where the competitors compete more aggressively (Table 1).

**Table 1**

*Competitive Strategies*

| Strategy               | Types                                       | Description   |
|------------------------|---|---|
| <b>BUSINESS LEVEL</b>  | Cost Leadership                             | Production of goods and services with a lower cost than the competitors. Standardized products and services that aim to achieve a broad market segment.               |
|                        | Differentiation                             | Production of goods and services that are differentiated in the perception of customers. Emphasis on differentiated characteristics to the detriment of the low cost. |
|                        | Focused Cost Leadership                     | Similar to the cost leadership strategy. The difference is the competitive scope: one approaches the whole market and the other just a narrow segment.                |
|                        | Focused Differentiation                     | Similar to the differentiation strategy. The difference is the competitive scope: one approaches the whole market and the other just a narrow segment.                |
|                        | Integrated Cost Leadership/ differentiation | Production of goods and services is relatively differentiated with lower cost.  |
| <b>CORPORATE LEVEL</b> | Related Diversification                     | When the new implemented business by the enterprise is connected to the main business.  |
|                        | Non Related Diversification                 | When the new business has no relation with the main business.   |

**Source:** Padilha, Gallon & Mattos (2012, p. 41).

Beyond utilizing strategies motivated by competition, the cooperative strategies (Table 2) are interesting options in some circumstances, usually adopted in scenarios that make competition difficult (Axelrod, 1984; Nielsen, 1988; Das & Teng, 2000).

**Table 2**

*Cooperative Strategies*

| STRATEGY                         | TYPES                              | DESCRIPTION   |
|----------------------------------|------------------------------------|---|
| COOPERATION ON BUSINESS LEVEL    | Complementary strategic alliances  | The enterprises share some of its resources and capabilities in complementary ways, in order to develop competitive advantages                    |
|                                  | Competitive reaction strategy      | They use strategic alliances to attack and react the rival competitors  |
|                                  | Uncertainty reduction strategy     | Used in new markets or of rapid cycles and the creation of new products of technologies to protect the enterprise against risks and uncertainties |
|                                  | Competition reduction strategy     | In an arrangement, two or more enterprises cooperate to raise prices above the fully competitive level  |
| COOPERATION ON CORPORATIVE LEVEL | Strategic diversification alliance | The companies share resources and capabilities to achieve markets and/or different products   |
|                                  | Synergistic alliances              | Enterprises share resources and capabilities to diversify both the companies members of the alliance into a new business in synergistically way   |
| INTERNATIONAL COOPERATION        |                                    | Enterprises, headquartered in different countries associate some of its resources and capabilities, in order to generate competitive advantage    |
| COOPERATION NETWORK              |                                    | Many enterprises agree in forming multiple partnerships in order to achieve shared goals  |

Source: Padilha et al. (2012, p.44).

Broadening the discussion, coopeitition is inserted, an alternative to compete when it is possible to establish an advantageous relationship between competitors, where cooperation and competition exist. It is a complex relation due to the fundamentally contradictory logics of interactions between competition and cooperation (Nalebuff & Brandenburger, 1996; Bengtsson & Kock, 2000; Dagnino & Padula, 2002; Chin, Chan & Lam, 2008).

In addition, at last, the performance, it can be achieved by productivity and efficiency, through technological process, by full employment, by the return to shareholders and of economic stability (Scherer & Ross, 1990), not reconsidering the role of conduct to the analysis framework.

**Methodological Procedures**

To achieve the delimited goal, a qualitative and quantitative research was made, of multiple cases (Yin, 2005), carried out in companies that form the jewelry industry in the city of Guaporé-RS.

For a better comprehension, the steps taken to the research development are detailed as following:

- a) Step 1 – definition, planning and research preparation: with the formulation of the main goal that guided the research development, it was aimed, though a literary review, theoretical elements that would support the interview script. The selection of the companies for the research finalized this step;

- b) Step 2 – data collection and analysis: after the characterization of the jewelry industry of Guaporé, the second step began, in which a pre-test was performed to validate the research instrument that, soon after endorsed, was applied to the chosen companies for the study. The pre-test was applied in a company, and it was identified that some questions did not lead to the objective of the study as expected. For instance, it was sought to identify the use of economic and financial indicators, however, as the access to the accounting statements was difficult, this questioning was excluded. In this sense, the data collection instrument was adapted and the test was applied in another company. After the identification of the questions that still did not meet the objective, further adjustments were carried out, finally reaching the final version of the instrument that was applied to the other companies selected for the study;
- c) Step 3 – conjunct analysis and conclusion: by analyzing the study's cases, it was aimed to identify the adopted strategies by the participant companies of the jewelry industry of Guaporé, chosen for the research. After, its economic performance was evaluated by the analysis of the economic and financial indicators. Finally, it was aimed to comprehend the relation between the adopted strategies and the economic performance of the companies.

The organization of the research procedure in stages allowed the whole process to be developed in a harmonious way and invariably aimed at the proposed objective.

It is noted that 220 companies were identified which are dedicated to the different stages of the jewelry productive process (Secretaria Municipal de Indústria e Comércio do Município de Guaporé, 2015). It was opted for studying the larger companies, based on the classification criteria of the Secretary of Industry and Commerce of Guaporé (SMIC, 2015), which totaled 46. After defining the research stratum, the selection criteria were defined, namely: (a) to be companies representative of the jewelry industry of Guaporé, (b) to be a large company, (c) time working in the industry, (d) access and availability of the managers to participate on data collection, (e) previous knowledge of the proposed theme, (f) companies' localization and, (g) interest of the respondents in participating in the research.

Finalizing this step, a total of eight companies were reached that were willing to participate in the interviews, noting that the most important is not the sample, but the researcher's intention to consider how many cases are necessary to achieve the research objective (Yin, 2005). Regarding the data collection instrument, a questionnaire made up of 29 open questions and 68 closed questions was used, prepared from the literature review with the delimitation of the categories of analysis and variables. The interviews were made during February and March 2017, by appointment of time and place. In order to preserve the anonymity of respondents and companies, identification codes were used (E1, E2, E3, E4, E5, E6, E7 e E8).

Concerning the analysis, in the qualitative questions the technique of content analysis was used (Bardin, 2010), which offered elements that qualified the experiences of the subject and the understanding of their perceptions about the object studied and its phenomenon (SCP model). For the

analysis of quantitative questions with the use of the Likert scale of five points (1= very little; 2= little; 3= medium; 4= very; 5= very much), the weighted average and standard deviation were calculated to identify the most relevant answers.

### **Presentation and discussion of results**

The industry of Gems, Jewels and Similar comprises 23 thousand companies, generating 81 thousand jobs distributed in activities that include the extraction of ores, precious metals and gems; cutting of gems, manufacture of goldsmith, jewelry and imitation jewelry artifacts; and, the companies that dedicated to the sale of jewelry and watches (MINISTÉRIO DE MINAS E ENERGIA, 2015). China stands out as the main buyer of the products, besides the United States, Latin American countries, Russia, Germany and France.

The city of Guaporé is located in the mountain range of Rio Grande do Sul, with a distance of approximately 200 km from Porto Alegre, the state capital. The installation of the first jewelry factory took place in 1908, two years after the arrival of the Pasquali Family to the municipality, which explored their entrepreneurial spirit and knowledge in the provision of jewelry services, inaugurating the Pasli company, starting the manufacture of jewelry in the city.

From this pioneering initiative, the local jewelry industry developed, consolidating itself on the national scene as the second largest jewelry center, the most representative in Brazil is located in the city of Limeira, state of São Paulo. Guaporé stands out for its shopping tourism due to the concentration of companies dedicated to jewelry production, as well as, the fabrication of *lingeries*, which also drives the commerce and service sectors, contributing to economic growth and development of the municipality and the region.

#### *Characterization of the Researched Companies*

By data collection in the larger companies that include stages of design, modeling, casting and cutting of jewels, the effort is centered on a brief presentation of the researched companies (Table 3).

**Table 3**

*Companies' Characterization*

| Company | Working time (in years) | Nº of employees | Market       |                   | Production verticalization |
|---------|-------------------------|-----------------|--------------|-------------------|----------------------------|
|         |                         |                 | National (%) | International (%) |                            |
| E1      | 18                      | 24              | 35           | 65                | No                         |
| E2      | 21                      | 38              | 100          | 0                 | Yes                        |
| E3      | 22                      | 70              | 90           | 10                | Yes                        |
| E4      | 26                      | 75              | 5            | 95                | Yes                        |
| E5      | 10                      | 10              | 90           | 10                | No                         |
| E6      | 15                      | 45              | 100          | -                 | No                         |
| E7      | 31                      | 60              | 100          | -                 | Yes                        |
| E8      | 29                      | 105             | 30           | 70                | Yes                        |

**Source:** Research Data (2017).

Among the relevant aspects to be considered (Table 3), working time exceeds 15 years, denoting an accumulation of experience, survival in periods of economic crisis, and, especially, the consolidation of the product's brands. The insertion of modern machines and equipment and the preference for dedicating itself to the last stages of jewelry production such as casting and cutting, contributes to maintaining a relatively small staff. Regarding the destination of production, the strategy privileges the domestic and foreign markets, with exception of the E6 and E7 that do not export their products, calling attention to companies E4 and E8 with the highest export volume that can be linked to the working time.

Because they are companies with significant working time, an important element of analysis is related to the decisions of financial investments in strategic areas (Table 4). Just one company did not answer this block of questions because it has not made significant investments in the last five years.

**Table 4**

*Priority Areas for investment in the last five years*

| Areas                            | Degree of Priority for Investments |                  |                    |
|----------------------------------|------------------------------------|------------------|--------------------|
|                                  | Nº of respondents                  | Weighted Average | Standard Deviation |
| Acquisition of new equipments    | 7                                  | 3,29             | 1,25               |
| Technological update             | 7                                  | 3,00             | 0,82               |
| Marketing and advertising        | 7                                  | 3,00             | 1,53               |
| Human Resources Capacitation     | 7                                  | 2,86             | 0,90               |
| Expansion of production capacity | 7                                  | 2,71             | 1,11               |
| Depreciation                     | 7                                  | 2,29             | 1,25               |
| Research and Development         | 7                                  | 1,86             | 1,46               |
| Acquisition of production units  | 7                                  | 1,57             | 0,98               |
| Certifications (ISO)             | 7                                  | 1,29             | 0,49               |
| Acquisition/fusion of companies  | 7                                  | 1,29             | 0,49               |

**Source:** Research Data (2017).

In a general analysis, it is noted that the acquisition of new equipment, technological updates (to evidence work accidents and reduce waste) and marketing and advertising (to promote the labor and

differentiate from the competitors' products) are areas of priority for investments. On the other hand, it was considered a few priority aspects such as the acquisition of productive unities, certifications (ISO) and the acquisition/fusion of companies.

Therefore, the collected data reveal a cautious posture for investments by part of the decision makers that is motivated by uncertainties of the political economy of the country, and the balanced maintenance of cash flow and, when carried out, they privilege the resolution of demands that come from the maintenance or expansion of the competitiveness of the business in the market.

### **The structure of jewelry industry**

Among the elements that influence the structure of an industry, the basic conditions of supply and demand (Porter, 1991, 2004) have potential. The data pointed that the companies seek to privilege the functioning in just one market, with a bigger tendency for internal commercialization. This option to act in just one market contributes to the decisions and planning and reduces the complexities and variables involved in the process, once that the operation on the international level demands monitoring exchange rate tendencies, consumers' preferences, more competitive production costs, access to production technologies, among others. The strategy to dedicate a considerable part of the production to the internal market is understood by many of the respondents as a safer way of operating, in spite of the influence of the government's economic decision and the growing competitiveness with Asian products.

It caught our attention the perception of the respondents about the future tendencies of the jewelry industry. According to them, there are indicators of stagnation or contraction, inexistent a perspective of growth in the short term due to a diversity of factors.

The competition with Asian products in the national market occurs, in large measure, on the price practiced and on the production costs. Indifferently of other types of original products of these countries that are commercialized internally, the interviewers pointed to the low taxation, workforce cost and the technological development of these countries. The interviewer of the company E2 mentioned: *"the Asians countries have better technology and equipment, but taxation is the bigger problem [...] they pay less taxes in their countries, while in Brazil, the taxation is very high"*.

There is pressure exerted by substitute products produced in these countries, but they point out that the quality of jewelry and layered jewelry has improved significantly lately, which also starts to become a problem. Some companies started to import part of the catalog, because its acquisition cost is already lower and the cost to produce it here in Brazil.

Regarding the main competitors, there is a division between the companies that have preferences for competing internally and the ones that work more in the foreign market. The companies that compete more inside the country consider as competitors the other companies of Guaporé and the ones located in Limeira, in the state of São Paulo, known as the largest hub of jewelry industries in Brazil. For

exporting companies, the main competitors are from Asian countries especially, with a special mention to China. In relation to products, all lines have competition at a similar level.

Concerning the same discussion, it was sought to identify the main clients and, again, it was noted a difference in their location. For companies that work in the domestic market, sales take place throughout the country, with emphasis on the state of São Paulo, where the majority of buyers are located. The exporting companies have customers all over the world, with a greater volume of sales to the United States of America, Mercosur and China, despite the competitive force of the Chinese. In common, it can be seen that the sales are mostly for distributors. Local sales are aimed solely for shopping tourism in the city of Guaporé and to give more visibility to the brand.

Finally, the main suppliers are located in the state of São Paulo or have connections in Guaporé. Some companies have imported semi jewelry from China, when cost is more convenient for the company's objectives. For those that have a verticalized production, there is acquisition of all materials; for those who prefer to keep only the jewelry the purchase is made of the finished product, or cast, in addition to gold, obviously for the bathing process.

Next, questions were asked about the verticalization of production, and most of the respondents do not see an advantage in working with vertical production, because they consider that the cost is bigger and requires large investments in structure. However, they are unanimous in maintaining the last stage of the production process, the jewelry. Thus, the number of outsourcing of most of the processes grows, as mentioned by the manager of the company E1: *“to have all the stages, it would be necessary to triple the current structure. I understand that the companies that work on all stages tend to feel the effects of the crisis more acutely”*.

To those that prefer to work with vertical production, the motivation lies on the search for better quality and control, according to the respondents responsible for the company, that it is advantageous *“due to a better control of quality, the outsourced workers, despite the lower cost, does not allow for an adequate control of quality”*.

### **Analysis of competition in the industry**

Among the five forces that pressure competition in an industry, one of them is related to the power bargain of the supplier. It should be noted that, the less the number of suppliers, the bigger will be the pressure exerted on the prices and the impact on the performance of an industry (Porter, 2004). Factors such as the importance of the clients in the composition of their sales, satisfactory substitute products and low cost of change, can reduce this influence (Porter, 2004; Mintzberg et al., 2006; Hitt et al., 2008; Mangretta, 2012). In the industry studied, the entrance of substitute products exported by Asian countries contribute to the reduction of the bargaining power of suppliers, having little space for negotiation.

Prices are not considered a force of suppliers because, according to the respondents they are adjusted, making it impossible to amplify the advantage of the supplier in this regard. Payment conditions are not configured as the force of suppliers, since buyers prefer cash payment or reduced terms of payment. Despite the small number of suppliers, it was identified that they do not present a significant bargaining power, since it is an industry, which presents a certain degree of stability. In spite of the apparent lower cost of change, the companies demonstrate security in negotiating with traditional suppliers, seeing them as partners that contribute for competitiveness.

Another force that pressures the competition is the bargain power of clients. This force is intensified when competitors offer products with little differentiation, or when substitutive products offer similar quality at a lower price (Porter, 2004; Mintzberg et al., 2006; Hitt et al., 2008, Mangretta, 2012). The respondents understand that the industry presents little differentiation, which allows customers to compare prices of different sellers. This situation is aggravated with the growing importation of Chinese products at lower costs.

The negotiation for better prices and, consequently, better deadlines, is the bigger pressure exerted by clients. Longer deadlines force the companies to hold more cash, influencing their financial planning. The manager of the company E1 mentioned: *“the bargain power of clients occurs more on the pressure for better prices and conditions of payment, however, without reduction of the standard quality we are already used to”*.

It was identified that there are no great switching costs for the client, which facilitates the change of supplier, evidencing the necessity for their loyalty. The respondents understand that more traditional clients do not easily change suppliers, creating a bond that maintains long-lasting negotiation relationships and sales guarantees.

The threat for new entrants in an industry is also a force that influences the competitiveness of established companies. Depending on the sector, some barriers can make it difficult or to block the entrance of new members, such as, economies of scale, product differentiation, access to distribution channels, switching costs, high initial investment and governmental policy (Porter, 2004; Mintzberg et al., 2006; Hitt et al., 2008; Barney & Hesterly, 2011).

The data revealed that the most important barriers are related to governmental policy, especially due to the identification of a variety of environmental norms and laws that make it difficult for new companies to install and operate, creating a cost that turns the industry less attractive. The respondent of the company E1 mentioned: *“it refers to an industry where the business environment created a great difficulty for new entrants. There are many competitors and many laws and exigencies from the regulatory organs that turn the process complex. Consequently, entrants do not consider the decision to invest”*. In addition, it was observed the existence of norms that make the entry process too bureaucratic, demanding and expensive.

Another barrier cited by four respondents is the high initial investment, as the industry is at an advanced technological stage and equipment is expensive. In some circumstances, this barrier is

mitigated by outsourcing part of the productive process, opting for maintaining only the last stage, the goldsmithery, as observed in large part of the established companies in this industry.

Brand loyalty is a barrier with decreasing force. There is a growing tendency of customers to bargain payment and price conditions, attributes that define the purchase. Therefore, if the new entrant has the possibility of working with lower prices and proportionate longer terms of payment, it is possible that he will be more likely to establish himself in the long term.

The existing competitiveness, incited mainly by large companies that are already established and have consolidated brands, is considered as a barrier that prevents the entry, at least, of large companies. In addition, there are high variable costs.

Possible barriers that hinder competitiveness in the international market were also investigated. It was noted that exporting companies found bigger difficulties due to the price of products from Asian countries. The companies that compete only domestically also perceive that this pressure for lower prices influences long-term decisions.

Another force that pressures the structure of the industry under analysis is the threat of substitute products (Porter, 2004). In this analysis, the pressing occurs in the option for other products with lower prices, influencing the decision of customers, pressuring the researched companies to reduce price that, in turn, affects the profitability of the industry as a whole.

As a substitute product, it was mentioned by the respondents that the imitation jewelry does not have added value as jewelry. As a defense strategy, some companies use synthetic stones in order to reduce costs and improve competitiveness against rivals. An important issue observed refers to the fact that the quality presented by the substitute products is gradually improving, without prices changing in the same proportion, offer in a great cost/benefit ratio to buyers. However, the respondents pointed that the substitute product imitation jewelry does not offer guarantee and has lower quality. The company E2 declared: *“imitation jewelry are substitutive products that take away some clients, however, as they do not offer the same guarantees and structures, normally the client returns a year later”*.

The last of the five competitive forces analyzed is the rivalry between the companies of the industry. Intensity is what drives the strategy formulation, as suggested by the SCP model, in which the structure influences the conduct, which, in this case, influences the strategic choices. In this regard, four respondents positioned the competition at the same level as their company, while the other four perceive it at a higher level. This occurs due to the similarity of quality and diversity of products, which maintains the competitiveness at the same level. Regarding the level of perceived rivalry, data indicated a position between medium and high, justified by the balance between the industry of Guaporé, Limeira and part of foreign companies, with more aggressiveness towards the Asian industry. For the respondent of the company E6: *“In addition to being installed in a jewelry center in the state, we have another larger one in São Paulo and, not only that, many companies import large volumes”*. In response to the rivalry between competitors, the formation of partnerships and its importance in a scenario permeated by competition was investigated.

The establishment of partnerships takes place mainly for increasing the bargaining power with suppliers, improving the quality of product, gaining expertise, technologies and research development. The respondents mentioned that despite the existence of a Local Production Arrangement (LPA or *Arranjo Produtivo Local*, APL, in Portuguese), the companies do not seek partnerships with competitors, preferring to compete in isolation, favoring good relationships with suppliers and clients (exchange of information to improve competitiveness) to the detriment of competitors. Below there is a summary of the aspects which make up the structure of Guaporé jewelry industry (Table 5).

**Table 5**

*Briefing of the aspects that configure the jewelry industry's structure of Guaporé*

|   | Dimensions/Observed aspects                 | Factors   | Average level of importance |
|---|---|---|-----------------------------|
| Structure                                       | Competitiveness with Ssian products         | Factor price  | 4,29                        |
|   |   | Factor cost   | 4,29                        |
|   |   | Factor quality  | 3,29                        |
|   | Barriers to the entrance of new competitors | Public policy   | 4,25                        |
|   |   | Competition   | 3,88                        |
|   |   | Initial investment cost   | 3,63                        |
|   |   | Variable costs on the productive process                        | 3,50                        |
|   |   | Business environment  | 3,50                        |
|   | Barriers international market               | Asian competitiveness   | 4,71                        |
|   |   | Diversity of offered product                                    | 3,57                        |
|   |   | Restrictions of the import market                               | 3,57                        |
|   |   | Product without aggregate value                                 | 3,29                        |
|   |   | Quality of product  | 3,14                        |
|   | Substitute products                         | Better prices   | 3,88                        |
|   |   | Better logistics of distribution                                | 3,13                        |
|   |   | Same or better quality  | 2,75                        |
|   |   | Low cost of change  | 2,75                        |
|   | Rivalry between competitors                 | Growth of bargain power with suppliers                          | 2,88                        |
|   |   | Improvement of the quality of product                           | 2,88                        |
|   |   | Acquisition of knowledge, technologies and research development | 2,75                        |
|   |   | Access to internal and external markets                         | 2,63                        |
|   |   | Increase bargaining power with clients                          | 2,63                        |
|   |   | Amplify distribution on internal market                         | 2,38                        |
|   |   | Increase competitiveness at national level                      | 2,25                        |
| Create barriers for new entrant to the industry |   | 2,13  |                             |
| Bargain power suppliers                         | Better quality of products                  | 4,00  |                             |
|   | Better prices                               | 3,38  |                             |
|   | Better conditions of payment                | 3,88  |                             |
| Bargain power clients                           | Better conditions of payment                | 4,13  |                             |
|   | Better prices                               | 4,00  |                             |
|   | Better quality of products                  | 3,13  |                             |
|   | Better image of the company                 | 3,00  |                             |
|   | Better distribution                         | 2,75  |                             |
|   | Better publicity                            | 2,25  |                             |

Source: Research Data (2017).

The next analysis centers on the conduct of companies that are part of the jewelry industry of Guaporé.

### The jewelry industry conduct

The conduct relates to the actions that companies can adopt based on the structure established to compete in a given industry (Scherer & Ross, 1990). The first category analyzed is the general administration of companies, seeking to identify as researchers how the respondents perceive their competitive advantages over competitors (Table 6).

**Table 6**

*Competitive Advantages in relation the competitors*

| Observed aspects  | Advantages        |                  |                    |
|---|-------------------|------------------|--------------------|
|   | Nº of respondents | Weighted average | Standard Deviation |
| Image   | 8                 | 4,50             | 0,53               |
| Experience in the industry                                    | 8                 | 4,38             | 0,52               |
| Quality of inputs (raw materials)                             | 8                 | 4,00             | 0,53               |
| Climate favorable to the uninterrupted production             | 8                 | 4,00             | 0,53               |
| Quality of labor force  | 8                 | 3,75             | 0,89               |
| Logistic and product distribution (infrastructure)            | 8                 | 3,75             | 0,71               |
| Production cost   | 8                 | 3,75             | 0,71               |
| Infrastructure for export                                     | 8                 | 3,63             | 1,30               |
| Export bureaucracy  | 8                 | 3,63             | 1,51               |
| Differentiated quality of the product                         | 8                 | 3,63             | 0,92               |
| Internal market   | 8                 | 3,50             | 1,31               |
| Number of competitors in the foreign market                   | 8                 | 3,38             | 1,19               |
| Cost of labor   | 8                 | 3,38             | 0,52               |
| High interest rates and high tax burden                       | 8                 | 3,25             | 1,39               |
| Production incentive policy                                   | 8                 | 3,13             | 1,13               |
| International market prices                                   | 8                 | 3,00             | 1,41               |
| Number of competitors in the domestic market                  | 8                 | 3,00             | 1,77               |
| Export incentive policy                                       | 8                 | 2,25             | 1,04               |
| Competition with Asian countries                              | 8                 | 2,13             | 1,46               |
| Cooperative environment between the companies of the industry | 8                 | 1,88             | 0,83               |

**Source:** Research Data (2017).

With regard to competitive advantages, the company's image is considered the most important. Secondly, the experience in the jewelry industry, the result of many years of development of the production process and improvement of the strategy, has enabled the continuity of the business. The quality of inputs is presented as an advantage, confirming the assumption that a good relationship with suppliers affects the guarantee of delivery of quality materials that results in a differentiated final product, one of the conditions to compete against the impossibility of competing with similar prices to those of Asian competition and substitute products. The uninterrupted production is another factor

mentioned by those surveyed, as easy access to production inputs, labor, climate variations and other factors that could influence large-scale production are aspects that make the company more competitive.

An aspect also researched was the influence of stakeholders in defining the strategy. In this analysis, it was found that decision-making related to defining the business strategy is the responsibility of the owners, being influenced by external forces related to government and economic policies.

Regarding the change in production capacity in the last five years, one out of eight respondents chose to maintain the same production capacity. Among the changes, the expansion of production capacity, diversification and outsourcing were identified. Because of these strategies, respondents reported that investment in equipment allowed the constant updating of products and processes aligned with continuous innovation, in addition to expanding the production infrastructure, which required hiring more employees. The company that reduced production capacity was motivated by the growing participation of China and the recession in the United States, a country where it has other businesses.

Following the analysis of the conduct of companies in the jewelry industry in Guaporé, the next step includes the definition and implementation of strategies. The data revealed that it is the owner who defines the company's strategy, and in four of the eight surveyed, an administrative team assists him. The respondent from the company E2 revealed: *“The owner is the one who gives the final word. However, he counts on the help and opinion of the employees of the administrative area”*. From the responses, it is clear that the strategy is not formalized, which is in line with the absence of formal strategic planning, except for one that maintains a specific area in charge of strategic management that develops and implements the formal strategic plan.

In addition to the strategy, the strategic positioning was also identified. Most respondents understand that they have a good strategic position, justified by perceptions related to customer loyalty, brand strength, portfolio diversification and innovations that follow fashion trends.

As for the type of strategy adopted, all those surveyed mentioned the competitive ones to the detriment of the cooperative and co-competitive ones. The data showed that, despite the existence of a Local Productive Arrangement (APL), there are no objective results and companies end up competing in isolation. Perhaps, this posture of acting individually in an industry with significant standards of competitiveness configures itself as an obstacle in the expansion of individual and collective competitive advantages.

In the cost leadership strategy, companies that have verticalized production, the design stage is considered as a determinant for the composition of the final cost of the product when defining which materials are used in production, the level of complexity of the production process, and the time required manpower. The biggest influencer is the competition with Chinese products, in addition to substitute products, which, in turn, also compete in the low price category, reaching a good share of the Guaporé jewelry consumer market.

To meet market expectations, companies also make use of the differentiation strategy. The growing influence of the media and the offer of imported products that put pressure on jewelry

companies in Guaporé, have forced, to a large extent, the search for quick answers to remain in the market.

As for the diversification strategy, it is understood as a requirement of the jewelry industry, as trends change quickly, making the search for different products that provide greater added value to the customer, a constant in the day-to-day business. Design is seen as one of the main stages of the production process, demanding agility to keep up with industry trends and innovate in front of competitors.

Regarding the implementation of the strategy, the responses were diverse, making it possible to identify converging aspects. The respondent from the company E2 mentioned: *“the implementation takes place from the establishment of the strategy, in conversations with the employees, so that they understand the company's objectives”*. The respondent from the company E3 showed: *“the parts that are elaborated in the design have their cost calculated and, if they do not have a cost according to the company's strategy, they are discarded or returned to the design for adaptation. However, differentiation is never left out. A balance between cost and differentiation is sought”*.

This process becomes more precise in companies that adopt verticalized production by controlling and monitoring the development of each piece and collection *in loco*. For those who choose to maintain only the last stage of the production process, it is imperative to develop affinity with suppliers to influence, control and define models.

Another important aspect to be addressed is R&D, which may have significance in defining the adopted strategy. In this sense, all respondents stated that the development of new processes and, mainly, of new products exists, however, in an informal way. The search for new products takes place by viewing the trends and needs presented by customers, as well as contacting suppliers, who point out which are the new products that the industry is developing. From this, companies seek to adapt production as quickly as possible, in order to be able to follow trends and not lose space, remaining competitive. There is also attention to the mass media, such as television, which often end up launching fashions that are quickly absorbed by customers in the jewelry industry.

Innovation in processes and equipment is greatly influenced by the suppliers, who end up investing in companies to keep up to date. It is also necessary to consider the pressure exerted by government agencies, through regulations, especially of an environmental nature, since it is an industry that uses many chemical products in the production process.

When asked about what type of research is carried out at the company, the respondents cited product differentiation, reuse of waste, reduction of operating costs, and reuse of water and minimization of the environmental impacts of the production process as priority areas. It should be noted that there is no specific area of the company for research and development, according to respondents, whether of products or processes.

The production process is often defined from the choice of strategy that the company will follow. Therefore, the way the company operates must be aligned with the same purposes and objectives. On

the other hand, some limitations may influence the definition of the strategy, for example, the difficulty of accessing certain materials or the lack of qualified labor, among others, which may compromise the quality of the final product and the results intended by managers.

In this sense, to start the approach, it was questioned about the difficulty of access to raw materials and inputs by the companies participating in the jewelry industry of Guaporé (Table 7).

**Table 7**

*Difficulties in the acquisition and access to raw materials*

| Observed aspects                            | Degree of Difficulty |                   |                    |
|---|----------------------|-------------------|--------------------|
|   | Nº of respondents    | Weighted averaged | Standard deviation |
| Tax barriers                                | 8                    | 4,50              | 0,53               |
| High interest rates/Exchange rate variation | 8                    | 4,25              | 1,39               |
| Import bureaucracy                          | 8                    | 3,50              | 1,31               |
| Road infrastructure                         | 8                    | 3,25              | 1,58               |
| Freight cost                                | 8                    | 2,63              | 1,06               |
| Storage cost                                | 8                    | 1,63              | 0,52               |
| Sanitary barriers                           | 8                    | 1,38              | 1,06               |

**Source:** Research Data (2017).

A recurrent complaint from the participants in several responses throughout this research, the tax burden to which companies in the jewelry industry are exposed, seems to create difficulties that harm competitiveness, even before the start of the production process, when one is still looking for materials needed for production. Taxation is seen as a very onerous cost, which has a significant impact on the composition of the cost of the finished product and, consequently, on the formation of the selling price.

Within this context, as cost leadership is one of the main strategies used by companies, taxation undermines the search for competitive advantage, creating a barrier that is difficult to modify in the short term. In international competition, this barrier is aggravated by requiring greater efforts from companies in the jewelry industry in Guaporé.

When it comes to competing with foreign companies, especially from Asian countries, high interest rates and exchange rate variations were perceived by the respondents as a problem that makes it difficult to acquire materials for production, because some raw materials are imported, and, therefore, their prices may fluctuate according to the variation in the value of the foreign currencies, the dollar and the euro, which are used in the negotiation. The bureaucracy faced when importing is another barrier that can affect the acquisition of materials, causing delays in receiving and increasing logistics costs.

Although there is no formalized quality policy in the companies participating in this study, all of them claimed to maintain some quality control in production. This is a necessity to at least maintain the same level as other competitors. There is some pressure from government bodies, for example, with regard to controlling the use and treatment of water used in production, among other norms, which, if not complied with, may result in financial sanctions (Table 8).

**Table 8**

*Level of concern to the quality control*

| Observed aspects      | Level of Quality Control |         |                    |
|-----------------------|--------------------------|---------|--------------------|
|                       | Nº of respondents        | Average | Standard deviation |
| Final product         | 8                        | 4,75    | 0,46               |
| Raw materials         | 8                        | 4,50    | 0,53               |
| Inputs                | 8                        | 4,25    | 0,71               |
| Noise                 | 8                        | 4,25    | 1,04               |
| Water                 | 8                        | 4,00    | 1,07               |
| Atmospheric emissions | 8                        | 4,00    | 1,31               |
| Liquid effluents      | 8                        | 3,50    | 1,60               |
| Solid wastes          | 8                        | 3,25    | 1,91               |

**Source:** Research Data (2017).

The data indicate a significant concern with quality, which implies strict control of the final product. This corroborates the understanding that the product delivered to the customer must maintain acceptable levels of quality, resulting in improved image, visibility and added value that is explained by differentiation. The environment is a constant concern for all those surveyed, especially the use of natural resources and the disposal of waste, whether due to legal requirements or institutional image.

Just as it was questioned about the difficulties in accessing raw materials, the distribution of the finished product was also the subject of interest in this study, and what seems to be the most worrying are also the tax barriers. Again, it can be concluded that the requirement is a greater obstacle when competing in the foreign market, due to the difference in the tax burden to which domestic and foreign companies are exposed. The exchange variation is beneficial when the national currency is devalued in relation to the foreign currency used in the negotiation. However, the reverse is also valid. Therefore, what worries the most is the lack of a more concrete policy on the part of the government, as mentioned in responses to other questions, since the company cannot be very sure of the gains it will be able to obtain. The bureaucracy found in the export process, in addition to raising logistical costs, makes the delivery period longer, which implies a reduction in competitiveness in relation to foreign companies.

*Marketing* is an area of considerable importance for the companies, and, referring to strategies it must be considered essential. By starting the discussion of how *marketing* is approached in the companies member of the jewelry industry of Guaporé, in the conception of the participants of this study, it was questioned the degree of exigency by the clients, in the search for understanding how it influences on the definition of the strategy (Table 9).

**Table 9**

*Client exigency degree*

| Observed aspects                  | Requirement level |                  |                    |
|-----------------------------------|-------------------|------------------|--------------------|
|                                   | N° of respondents | Weighted average | Standard deviation |
| Price                             | 8                 | 4,50             | 0,53               |
| Compliance with delivery deadline | 8                 | 4,50             | 0,53               |
| Product quality                   | 8                 | 4,50             | 0,76               |

**Source:** Research Data (2017).

A balance is evidenced between the available options to the respondents, besides showing a high level of exigency, in which price, delivery date and quality of the product has same value and demand from the company's members of the jewelry industry of Guaporé, a considerable effort to attend customers. It can be supposed that by existing in the referred industry a large number of companies and the center of Limeira in the state of São Paulo, and with the entry of more foreign competitors, with especial mention the the Chinese companies, the customer has many purchase options, which leads him to maintain a high level of demand.

Likewise, an attempt was made to question the impact of complaints from customers in the jewelry industry, given that, in the perception of the respondents, these seem to have a greater impact on the prices charged, together with the delivery time. Quality was little remembered in this questioning. In this way, it is understood that there may be a perception that the level of quality is already in line with the customers' perspectives and sufficient to maintain competitiveness. By questioning the competitiveness in the international market, the respondents that commercialize in this market stated that the tendency is to continue the search for better prices and the competitors to work with products with more added value. Still in this discussion, it is noted that the respondents understand that the substitute products are improving their quality and the Chinese companies, which always work with lower prices, now invest more in the product quality, modifying, in this manner, the way they compete. Thus, the companies are seeking to adequate themselves to this scenario.

However, by questioning how the member companies of the jewelry industry of Guaporé are competing internationally, all seven respondents who answered opined that there is individual action in commercialization, confirming the practice of adopting only competitive strategies.

The following section approaches the performance of the jewelry industry of Guaporé, from the perception of the companies' part of this study.

### **The jewelry industry performance**

Performance in an industry can be measured both individually and for the industry as a whole. Some factors can be considered as a measure of performance, and different models may use different measures. The present study sought, in the model suggested by Scherer and Ross (1990) and adapted by

Mattos (2007), the parameters that can be considered as a measure of performance for the jewelry industry of Guaporé.

In this sense, starting the analysis of the obtained answers, regarding productivity and efficiency, it was observed that, in general, performance is monitored through economic and financial performance indicators. There is a particular attention by part of the respondents companies in relation to the economic result and the financial situation of the company. Otherwise, there are no specific measures to monitor the productivity of a company according to the respondents. The majority affirmed that this monitoring takes place mainly through the observation of total production, and when it presents a reduction, measures are taken that aim, at least, to recover the previous production. The respondent of the company E8 pointed *“the productivity is measured individually, by sector, through the use of spreadsheets”*.

Another important observation concerns the use of productive capacity, which is currently idle due to fluctuations in demand. The main reason is the economic crisis and the competition with Asian companies.

Regarding the investment in innovation, it was aimed to identify how the development of new products and processes occur. According to the respondents, innovation is much more required by the industry itself, both in relation to products as in processes. It was noted that the pressure for product innovation comes from customers, who, in this industry, seek novelties and follow fashion tendencies. For this reason, the company needs to respond quickly and the design process plays an important role in the activity, needing to react quickly, because, as indicated the respondent of the company E8, *“fashion changes very fast, the customer looks for something new and then it changes again, so, if it does not produce soon, it loses the opportunity”*.

In this context, companies are also aware of novelties, also, through media such as the internet, on specialized *sites* and *blogs* that maintain constant updates and can indicate an opportunity to launch a new product, quickly, affecting the company's performance. In addition, processes are updated, mainly, by suppliers that keep the companies informed about new equipments needed to produce new products. It is understood that this quest to keep up to date, in the opinion of the participants in this study, is important in the sense that it keeps the company competitive and impacts performance throughout the jewelry industry in Guaporé.

With regard to the use of labor, it is observed that the companies do not have a specific control of idleness of the workforce, but follow the monthly production levels and, based on these controls, make production decisions. It was reported that most employees of the companies participating in the study have extensive experience and production has not fluctuated due to labor, but due to industry requirements.

In this sense, the commitment of the employee's seams of great importance to attend the production that the company intends to keep, according to the objective of each moment. The respondent of the company E7 affirmed that *“in periods that idleness would exist, the order is to produce products*

*of greater output, for immediate delivery and sale in the company' store*". It is understood that the production has been defined more by influence of the industry than by the intention of the company itself.

Continuing to comprehend the performance of the jewelry industry in Guaporé, it was questioned about the waste of materials used in production, in which it was noted that the loss of materials is minimal, rarely occurring and in small quantities. This factor happens due to great control and monitoring that exist along the productive process, with the use of spreadsheets and graphics that aim to measure and correct as quickly as possible any mistake in the production. The main reason cited by all the respondents of this research is the high cost of materials, which makes any waste beyond acceptable implies high losses for the company.

Additionally, it was observed that the stocks of materials maintained by the companies are not large, precisely to reduce the investment necessary in this asset, requiring less financial resources of the companies and even improving the safety with which they work.

By questioning the profit obtained, if the same would be in accordance with the owner's objectives, generally, it was noted that all seek to maximize results. However, the majority of the respondents perceive the economic environment as unfavorable making the goals to not be fully achieved. Therefore, there is a necessity to adequate the objectives to the reality in which the industry is inserted and to work to always improve the performance. Two of the respondents manifested negatively, not seeing an improvement in a short-term scenario.

As a form of control in results, the accounting reports were cited as a source of information, which provides more clarity about the profit obtained in relation to the effort made. The respondent of the company E8 affirmed that he *"takes special care with the current assets, as these are accounts that can be transformed in money more quickly"*, with special attention to inventories, as he understands that they should not remain too high. Everyone understands that the investment made is already amortized and the structure is consolidated. Therefore, the profits provided by the companies are in accordance with the investments. In addition, it was noted that, in the opinion of the participants of the study, the moment of the country's economy has significantly jeopardized the results in a significant manner.

The economic stability of the industry itself, especially, and the economy, in general, was addressed, the respondents' opinion is that there is very large oscillation at the moment, meaning that there are not many certainties. This, it seems, is a period in which the search for survival in the industry is more important. The respondents understand that the governments have created difficulties for the companies, increasing the cost of production, mainly by increasing taxes, jeopardizing the competitiveness of the industry in relation to Asian companies. It is a moment of caution; therefore, it is necessary to pay attention to the decisions taken to not put at risk the continuity of the company, mainly by those that face more international competition.

It is observed that the answers obtained in the two facts are in accordance with the theory addressed in this study: the first, the influence of an external factor, that is, the public policies that have

influenced the conduct, decision-making, and the result, increasing the cost and harming the results of the industry. In a second moment, it is noted that the conduct, or the adopted strategies, has been influencing, significantly, in the results of the companies.

In the following section the obtained results in the study are resumed, allowing a broader vision and confirming that the SCO model proposed by Scherer and Ross (1990), is efficient to explain the industry functioning.

### **Empirical data systematization according the SCP Model in the jewelry industry of Guaporé**

It seems evident that the SCP model has the capacity to explain the functioning of the jewelry industry of Guaporé and the relations existent between the participants. It refers to a complex environment in which there is competitiveness considered high, demanding from the company's attention to choosing the strategies to compete.

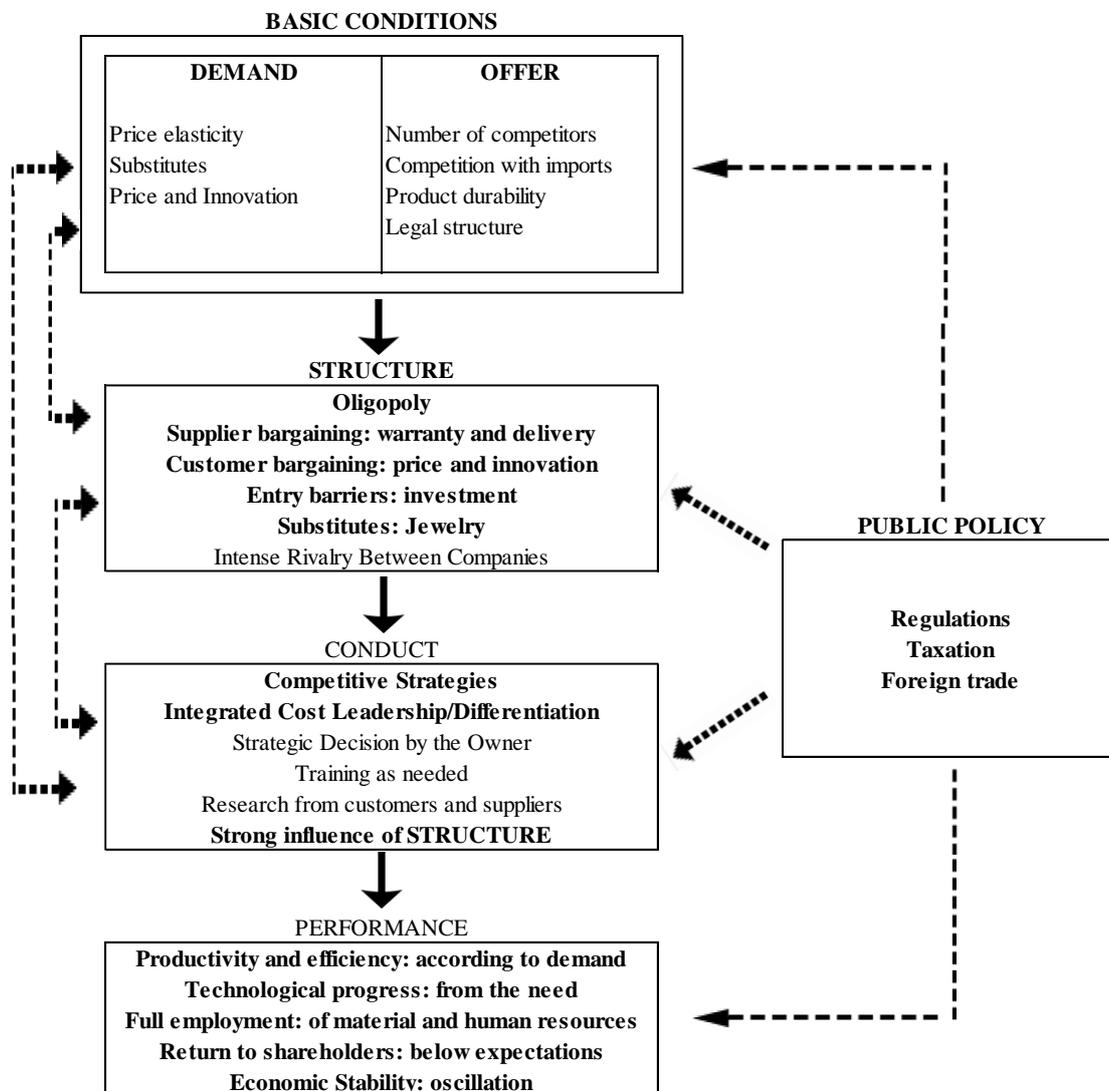
Regarding the structure, it can be defined as an industry with a considerable number of companies, besides the existence of a competition with the competitors of the center of Limeira and Asia, Chinese predominantly, certain bargain power by the clients and suppliers, substitute products that influence the decisions of buying and the threat of new entrants facilitated by outsourcing part of the productive process, characterizing an environment of intense rivalry between the participants.

In the case of conduct, this pressure by part of the clients for price and innovation can be viewed as influencing the choice by part of the companies for the integrated strategy of costs and diversification in business level. The same can be said about the rivalry in the industry which affects on the process of decision making.

The performance obtained by the companies and the industry as a whole has been influenced, therefore, by the structure characterized by a competitive environment and by the conduct preferably to competition by some of the members (Figure 2).

Figure 2

SCP Model ECD in the jewelry industry of Guaporé



Source: Elaborated by the authors based on Scherer and Ross (1990).

Understanding the complexity inherent to the jewelry industry of Guaporé, and, especially to the researched companies that are dedicated to the manufacturing, the data expressed on the Figure 2 contribute for a better understanding of the functioning dynamic of this industry, as well as its members behavior.

### Final considerations

The jewelry industry of Guaporé, observing the results founded on this study, can be considered of broad competition, which the member companies found many competitors in the sector, dealing with

competitors from jewelry industry of Limeira, in the state of São Paulo, considered the largest national center, as well as the rising participation of Asian companies.

On that account, it would be unwise to suppose that a company inserted in this industry could survive without using any strategy, even informally, without proper strategic planning. This leads to the understanding that smaller companies are not able to compete at the same level as bigger companies, existing the industry's entrance and exit. Therefore, the choice of studying large companies allowed a better understanding of how these processes of choice and implementation of the adopted strategy are carried out. Moreover, it was possible to identify the influences on the definition of how to compete and the results obtained by the performance of those choices.

By choosing the field of competition, a series of theoretical constructs were available to the application of this research. The definition for the SCP model, however, was adequate, because what is foreseen in the theory was confirmed by the empirical results obtained. In fact, the structure of the jewelry industry of Guaporé has influenced the member's choices, as was possible to perceive by the option for an integrated cost and differentiation strategy by the respondents, as a reaction to the environment they are part of. On the other hand, the performance suffers from the influence of the companies' conduct, as it was verified. Furthermore, public policies, as an external factor, influence on both the conduct as well as the performance. Consequently, it is possible to conclude that the SCP model was an assertive choice that provided the answers that the study proposed to seek, from the definition of the main goal, it was achieved by the discussion of the empirical results presented here. Additionally, it is noted that the conclusions are limited to the perception of the research participants that, as a consequence, they cannot be generalized, in spite of pointing to what seems as the reality of the industry, the object of analysis to this study.

Therefore, it is concluded that the jewelry industry of Guaporé is composed of a considerable number of companies that compete among each other and face competition with the other jewelry industries, implying a competitive environment, in which each decision must be weighed and the consequences affect the results and objectives. To survive in such a scenario is possible by choosing and implementing the possible strategies, which turn the business viable and increase the gains.

It is observed a high demand for product innovation, because it also refers to fashion and it changes rapidly and suffers significant media influence. In what concerns supply, there is a wide variety of products since there are many different models and they are constantly innovated. The price must be in accordance with that practiced in the industry under penalty of reducing the company's competitiveness, harming the results.

In this sense, it was noted that the client bargains the price a lot and the diversity of the product, explaining the conditions of supply, and there is some pressure for payment deadlines, but less intense. By observing the bargaining power of suppliers, despite the quantity of enterprises with which one can negotiate, there does not seem to be a pressure for better prices. Possibly by the fact that most companies work with cash payment, without the need for extended deadlines of payment. In addition, it is also

noted a certain stability in the relations with the suppliers, due to the relationship created in the long time performance.

The barriers to the entry of new competitors showed a bigger force when dealing with public policies, because of the high number of normalizations, mainly, environmental. However, what caught the attention is the initial investment in equipment, since it implies values considered high and with a long payback period. Nevertheless, the outsourcing of part of the productive process can alleviate this barrier, facilitating the entry of new companies. It was observed that the companies' members of the industry have a tendency to also utilize outsourcing to reduce production, in a way that promotes the use of partners and modifying the structure, making it easy for the entrance of new competitors. Therefore, at the same time they seek to be more competitive, they make the industry more competitive as a whole, which can jeopardize individual results.

In relation to substitute products, the imitation jewelries deserve mention, since, in some moments they affect the sales of the jewelry manufacturers, which is not considered a very relevant problem. The jewelry consumers do it for the quality and guarantee the product offers. Hence, the substitutes cannot copy. Moreover, as prices seem adjusted, it would not be a factor of purchase decision for customers either.

Generally, by observing Porter's five competitive forces (1991, 2004), the existing rivalry between the companies that make up the jewelry industry in Guaporé can be considered high, in a scenario where competition has become more fiercer, especially by the rising participation of Asian companies, which favor lower production cost and lower tax burden. This competitiveness seems to force the companies to make more assertive decisions than proactive ones, since there is not much time to think about how to modify the scenario, being more urgent to adapt to the pressures imposed by the industry.

The external pressure exerted by the government, largely by taxation, has a significant influence on the jewelry industry of Guaporé, as this study observed. One of the main complaints is the tax burden difference the local companies are exposed to in relation to the taxation, which affects Asian companies. This factor turns the production cost higher and has a considerable negative impact on the competitiveness of the research participants.

By observing the management of companies, it was verified that power was centralized in the hands of the owners, although there was participation of the administrative team. The lack of formalized strategic planning may jeopardize, in a way, the strategic positioning of the industry's members, because it leads to the belief that decisions have a short deadline. The choice for an integrated cost and differentiation strategy, the adopted conduct, seems to be a consensus between larger companies from the jewelry industry of Guaporé and an imposition of the structure, confirming empirically the theory suggested by the SCP model of Scherer and Ross (1990).

By observing the performance of the member companies of the jewelry industry of Guaporé, greater attention was paid to productivity and efficiency, perhaps because there is a perception that maintaining an adequate production level has an impact on the company's results.

The profit achieved by the companies is below the ideal expectation, because it is a period of crisis. In an ideal scenario, the profits and profitability would present better numbers, as the respondents informed. However, the executives understand that, facing the current context, profitability has been according to the moment and the goals have been adjusted to not generate an expectation that would be unlikely to be met.

Moreover, referring to the economic scenario in which the companies are inserted, the perception is of instability that does not allow the enterprises the desired performance. The main influencing factor is the government, mainly, by the high tax burden, with impact on the production cost.

The definition for the SCP model was adequate for the analysis of the studied industry, because what is foreseen in the theory was confirmed based on the empirical results obtained. In this way, the structure of the jewelry industry in Guaporé has influenced the choices of the members, as it is possible to perceive by the option of an integrated strategy of costs and differentiation by all the respondents, as a reaction to the environment in which they are inserted. In turn, performance is influenced by the conduct of companies, as can be seen. Furthermore, public policies, as an external factor, affect both conduct and performance.

As for the limitations of the research, regarding the methodological aspects it must be cited the obtained sample for carrying out the research that, by not being probabilistic, does not offer the same conditions of generalization and reliability that a probabilistic sample would offer. Nevertheless, since it is an industry in which integrated companies present similar characteristics, the obtained results can demonstrate a certain tendency. Another limiting factor was the difficult access to account statements that would be objects of study when assessing the economic performance of companies, but ended up being discarded, as they would not be available by companies, for privacy reasons.

It was possible to perceive that new studies are indicated as a way of amplifying the understanding of the jewelry industry of Guaporé, or even the SCP model. When referring to the SCP model, a pertinent suggestion is to carry out a study that aims to measure the concentration of the jewelry industry of Guaporé, with the objective of identifying how strong is the competitiveness between the integrated companies of the industry, based on an index that would make it possible to measure the concentration.

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