



## Investigation of Theories of Manufacturing Strategies: Analysis of Managers' Vision

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### ABSTRACT

As a methodology for the development of this article, a research was carried out with a qualitative and quantitative approach with an exploratory purpose through the sample by adhesion, through individual in-depth interviews, with a semi-structured approach, through the application of a Basic Questions Script. In this sense, they were applied to managers of large companies in Serra Gaúcha, verifying if the theories of manufacturing strategy, used both in the past and today are still effective, as well as analyzing the validity of these existing methodologies and pointing out which would be the new strategic tools for their organizations.

**Key words:** Strategy, Production and manufacturing strategy, Revalidation of existing strategies.

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## 1. INTRODUCTION

Organizations are inserted in a scenario in which customers are more demanding, with profit margins increasingly narrow, requiring companies to be more agile and flexible than their own opponents, looking for competitive advantages (FLINT; LARSSON; GAMMELGAARD, 2005). Thus, the formulation of strategies for companies and their executives is important for the perpetuation of business, in order to constantly add value to their products/services.

In this sense, it is important to emphasize that organizations need to clearly and cohesively define their strategies so that conflicts do not occur between them, so that their chain is more efficient and effective. Hamel (2001) comments that due to rapid changes, whatever the business concept, however brilliant it will soon lose its efficiency.

Porter (2004) explains that companies must continually improve their operational activities, but the improvement in business performance depends on a distinct strategic position. The choice of placement determines how the individual activities will relate to one another in order to integrate them.

Collaborating with this concept Fahey and Randall (1999) and Mintzberg (1995) share the view stating that strategy can be seen as a mediator between the organization and the environment. It is a means that the organization has to anticipate and/or create environmental changes.

Through the presented scenario, the present work investigated the vision of managers of large companies, in the metal mechanic segment of Serra Gaúcha, verifying the theories of manufacturing strategies used both in the past and today if they are still effective, the validity of existing methodologies and what would be the new tools for formulating strategies for their companies. The research question that guided the work was: What is the view of managers on the validation of theories of manufacturing strategies used by large companies in the metal mechanic sector of Serra Gaúcha?

In line with this, Vergara (2009) comments that the objectives of a research are often specified in: general objective, or main objective, and specific objectives. In this sense, for this study, the general objective and the specific objectives were limited.

The general objective of the work is to verify the managers' view on the validation of the theories of manufacturing strategies used by large companies in the metal mechanic sector of the Serra gaúcha.

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In order to achieve the general objective, the following specific objectives are presented for the realization of the study:

- a) Investigate, together with the managers of the large companies of the Serra Gaucha in the metal mechanics area, if the existing methodologies in the area are still valid for the formulation of the company's strategies;
- b) Identify the managers' perception of the variables considered in the business strategies;
- c) Check if the classic concepts in this area are still valid in the current scenario of companies.

## **2. THEORETICAL FRAMEWORK**

### 2.1 STRATEGY

In literature the concept of strategy is relatively new, it was once designated only in military art. According to Pagnoncelli and Vasconcellos (1992) the word strategy has its etymological origin in the ancient Greek word *stratègós* which means the art of the general in command of his troops and from the Latin *strategia* which is related to the art of war, it is a term of military origin. The strategy defined the administrative function of the generals and the strategist was the one who formulated and shaped the actions to reach an objective (MOTTA, 1991).

The link between the term strategy and management took place in the mid-1940s, with the emergence of game theory. Von Neumann and Morgenstern (1944, p.79) state that in game theory, strategy is “a complete plan that specifies which options will be made by the player in each possible situation”. Through this theory, it was possible to obtain a unified view of conflicts, whether they originate in business activities or in war.

Ansoff (1977) complements that strategy is a conscious, controlled and formal process that integrates organizations and their environments. In this sense Thompson and Strickland (2001) state that in the business world, organizations have a high degree of strategic freedom. Market conditions allow that even organizations that compete in the same segment can easily differentiate themselves from one another through their strategic choices, capable of creating a unique value proposition for consumers. However, it is necessary to understand that in some situations, the best policy for implementing the strategy is the propensity to delegate power to

subordinates and let them act in the best way that suits them, as long as it makes sense and works. And complement Hill (2000),

In this sense, for a strategy to achieve its objectives, according to Hamel and Prahalad (2001), it is necessary to generate a sense of urgency, form teams, and identify needs for improvement.

## 1.1 PRODUCTION AND MANUFACTURING STRATEGY

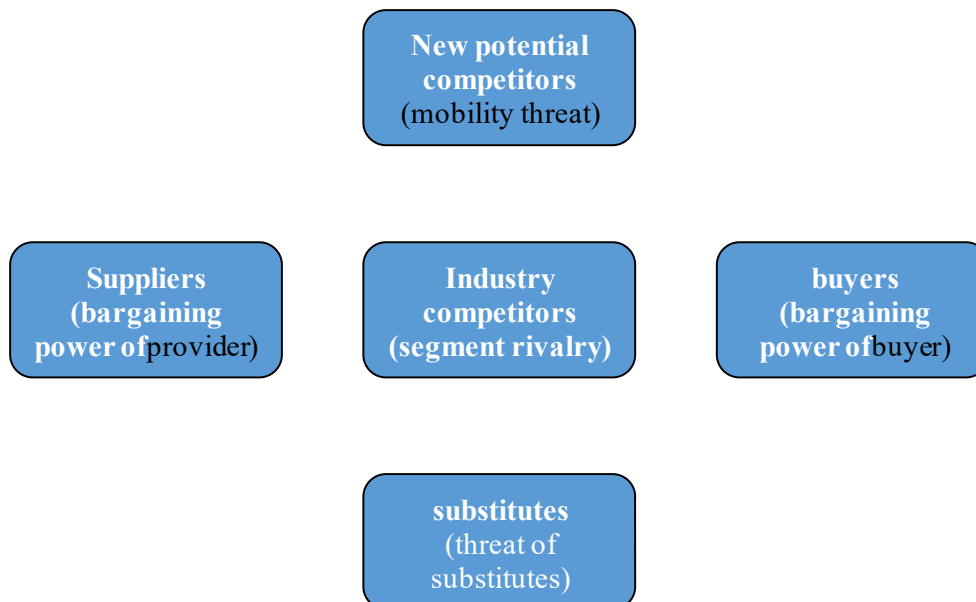
### 2.2.1 Michael Porter's Model

Porter (2001) sought to establish an overview of the characteristics to be perceived that induce the profitability of a sector, and, therefore, have significant importance in the strategic formulation. For the same, whatever its collective stimulus, the strategic purpose of the organization is to discover a position in the sector in which it finds itself, which allows it to adequately protect itself against these forces or persuade in its favor.

Organizations need to anticipate changes. Porter (2001) mentions in the formulation of the strategy that it is important for companies to know well the market in which they operate and their strengths and weaknesses and to know how to exploit the positive aspects better than their competitors.

For Porter (2004) a company's competitive strategy consists of the business approach and initiatives that are committed to attracting customers and understanding their expectations, to resist competitive pressures and strengthen its market position. And that in order to analyze the forces that influence the competitiveness of the environment, it is necessary to go beyond the established participants, evaluating five forces and, for that purpose, he created the Porter Model of the five competitive forces: (i) competitors in the sector; (ii) threat from new competitors; (iii) threat of substitutes; (iv) buyers' bargaining power; (v) bargaining power of suppliers. Figure 1 shows this model:

**Figure 1 – Influence Factors in the Purchase Process.**



Source: Porter (2004, p. 4).

In relation to the sector's competitors, Kotler and Keller (2006) observe some characteristics that make a segment uninteresting: being in a stable or declining situation; existence of powerful, aggressive and numerous competitors; fixed costs and high investments to increase production capacity. These factors provide possible and frequent price and marketing wars.

Faced with the threat of new competitors Porter (2004) says that the attractiveness of a segment varies according to the entry and exit barriers of the segment. The segments where entry barriers are high and exit barriers are more attractive, characterizing an environment where few new companies are able to enter the sector and poor performers leave quickly.

Substitute products are a threat that requires constant monitoring of price trends. Therefore, when there are actual or potential substitute products for the product, they limit the prices and profits of the segment, thus making the segment with this scenario uninteresting (KOTLER; E KELLER, 2006).

A segment is not attractive if buyers have strong or growing bargaining power. Likewise, when the bargaining power of suppliers allows them to raise prices or reduce the

quantities supplied, it makes the segment unattractive, generating profit margin instability (KOTLER; E KELLER, 2006).

Therefore, Porter (2001) requires the organization to acquire a deep understanding of its resources and capabilities at each point in the value chain to establish a defensible competitive position over time.

### **2.2.2 Operations Value Network**

Porter's value chain can be retrofitted to the production area, thus creating a Value Network Operations (RVO). The Operations Value Network goes beyond the initial idea of a value chain, emphasizing that value creation activities do not necessarily need to have an exact logical sequence and that the interactions between the different activities are constant (PAIVA, CARVALHO, FENSTERSEIFER, 2004).

For the authors, an operations strategy will only be efficient in creating value if it offers the customer what they want. That is why Paiva, Carvalho and Fensterseifer (2004) describe the concept of interrelated activities of the Operations Value Network, where they are listed in three objectives: i) add value to the customer, ii) integrate the activities of RVO and iii) continually seek the adequacy between existing activities.

The first objective is related to the creation of value, being directly linked to the areas of marketing and production.

The second objective is to integrate the activities of the RVO, creating conditions for the decisions along the network to be aligned, that is, the integration of activities primarily through the competitive criteria in all activities. And finally, as a third objective, is the adaptation of the activities of the RVO, orderly evaluating the different existing activities, through the elimination of expendable activities and the readaptation of the existing activities with the competitive properties.

In this way, RVO can be separated or composed of the following activities: i) Product development; ii) Supplies, iii) Production; iv) Distribution; v) Bundled Services. RVO balances the aspects covered in the value and decision chain, in order to simultaneously integrate all activities in the production chain.

The authors also describe five competitive criteria as shown in Table 1, in the area of production management that are related to the organization's business strategy, namely:

**Table 1 - Competitive Criteria**

<b>COSTS</b>	The company can compete for costs, where the main decision is to produce with higher profit margins or to produce in high volume reducing the margins;
<b>QUALITY</b>	Another way to compete is through the quality of the products offered, or having a higher performance compared to your competitors. Emphasizing the difference between real quality and perceived quality (it is more linked to marketing and advertising);
<b>DELIVERY PERFORMANCE</b>	Relationship established between the supplier and the customer, also a way to compete through performance in delivery, mobilizing resources to guarantee the promised work, delivering on time and, if necessary, correcting failures. Competing with delivery in a shorter period than the competitor;
<b>FLEXIBILITY</b>	In this criterion, the company is able to quickly absorb changes in non-standard production batches, as well as in the type of product that will be produced. Flexibility is linked to the company's equipment and technological processes, however, the company must define with what kind of flexibility it will act;
<b>INNOVATIVENESS</b>	It is the company's ability to launch new products or services in a short period of time, meeting customer expectations, in addition to using this criterion as a way of differentiating from its competitors.

Source: Adapted from Paiva, Carvalho and Fensterseifer (2004, p. 45).

### 3. METHODOLOGY

The essential strategy of this research is of an applied nature, with a qualitative and quantitative approach with an exploratory purpose through the sample by adherence. Qualitative works are studies that allow the observer a maximum understanding of the episodes or phenomena by the researcher (COOPER; SCHINDLER, 2003; MALHOTRA, 2006).

The object of study was carried out through a comparative multi-case study between the vision of different managers of large companies, both belonging to the metal-mechanic sector, in different segments. YIN, (2010), defines that case study carries out a study of empirical attitude, investigating a current fact in the context of real life, where the connection between the phenomenon and the context in which they are inserted is commonly considered. In turn, Gil (1991) adds that such a methodology involves the in-depth study of one or more objects in order to allow their open and detailed knowledge.

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In this way, data collection took place through individual in-depth interviews, being conducted through a semi-structured approach and with the application of a Basic Script of Questions (FLICK, 2009) in a single session, with an estimated duration for each interview in around 1h 30min.

Content analysis was used to assist in the analysis and interpretation of data (BARDIN, 2004), the interviews were electronically recorded and transcribed (FLICK, 2009).

In relation to the interviewees, the key informants were investigated. In this sense, we tried to define some selection criteria: position, length of company, size of the company, sector of activity and companies that operate in the international market. In this way, the following professionals were identified, shown in Figure 2:

**Figure 2 - Profile of respondents**

Identification of Respondents	Position or Function of the Respondents	Company time	International market performance	Field of activity of the Company	Company size
Interviewee A	Manager	35 years	120 countries	Household items.	Large
Interviewee B	Principal	34 years	80 countries	Friction materials.	Large
Interviewee C	Supervisor	13 years	100 countries	Bus bodybuilder.	Large
Interviewee D	CEO	38 years	100 countries	Vehicles and implements, auto parts and services.	Large
Interviewee E	CEO	8 years	80 countries	Friction materials.	Large

## 4. RESEARCH ENVIRONMENT

The metalworking sector encompasses a wide variety of activities related to the transformation of metals. Ferreira (2002) describes that the activities can be understood in the following industrial segments: (i) metallurgical industry; (ii) machinery and equipment industry; (iii) final goods industry; and (iv) other activities such as the production of hardware, tools and other metallic materials and the electrical equipment industry. Even with some differences in their industrial activities, it can be highlighted that some general characteristics and trends of the metal-mechanic sector are linked as a whole.



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The organizations in which the interviewed managers work are large. According to the classification of SEBRAE (Brazilian Service of Support to Micro and Small Companies), large companies have more than 500 employees, in the case of Industries. Also according to the National Bank for Economic and Social Development (BNDES), large companies have annual gross operating revenue greater than 300 million reais.

Manager A's company operates in the domestic utensils segment, has a total of 6,800 employees, is present in 120 countries, has more than ten factories throughout Brazil, five distribution centers in the domestic market, and 14 in the domestic market. external.

In the company of interviewees B and E, the economic activity consists of the production of friction materials. It has factories in Brazil, the United States and China, has distribution centers in the countries of Argentina, Europe, the United States, with commercial operations in the United States, Chile, Germany, Mexico, the United Arab Emirates and South Africa. It operates in 80 countries. of the five continents. The company currently employs approximately 3,600 employees worldwide. The company had its gross revenue of R\$ 981.0 million, according to data made available on its website. It is worth mentioning that interviewee B is a director in the area of innovation and technology, and interviewee E is the company's CEO.

Manager C's company is a world manufacturer of buses, has factories in more than seven countries, namely: Brazil, Colombia, Argentina, Mexico, India, Egypt and South Africa. the world, and its net revenue is R\$ 3.6 billion.

Manager D's company is present in more than one market segment, covering the segments of vehicles and implements, auto parts, in addition to consortium and bank services. It has an international sales and service network, being present in more than 100 countries around the world. It is among the largest private Brazilian companies, leader in all its segments. Its net revenue is R\$ 4.3 billion.

## **5. CASE STRUCTURE**

### 5.1 STRATEGY CREATION

The first question applied to managers refers to their personal opinion about what is considered for the creation of strategy by companies in terms of input and output.

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To facilitate understanding, figures 3 and 4 present a comparison between similarities and differences observed in the interviews in relation to the question of creating a strategy in the entries, of the variables considered both internal and external environment variables.

**Figure 3 – External environment category: Inputs for formulating strategies**

Categories	similarities	peculiarities				
		INTERVIEWED TO	INTERVIEWEE B	INTERVIEWEE C	INTERVIEWEE D	INTERVIEWEE AND
Analysis of the external environment	Market		SWOT Matrix Tool - search through the analysis of the external scenario and knowing the strengths and weaknesses, the strategic map is made, outlining the objectives.	Sales Strategies.	Information series .Market number and segmentation for better performance.	Swot Matrix: made by areas but looking at the company as a whole at the leadership level, looking for new ways to collect information each year. Market research, knowledge, experience of company people, economy, competitors, distribution model
	Economy		Grow in a sustainable way and this is within our vision, growth in a sustainable way. Look at the external environment to see where the opportunities and threats to growth are.		Macroeconomic information: dollar, inflation, interest rate, financing	Company positioning. Market segmentation. Competition analysis.
	Suppliers			Partner, who produces.		
	Customers	The consequence of an effective process, brings to the customer the satisfaction of the purchased product.			The customer has to know that he is buying a product that has value. Satisfied customer, quality product, all based on the order that was requested.	

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**Figure 3 – Internal environment category: Inputs for formulating strategies**

Categories	similarities	peculiarities				
		INTERVIEWED TO	INTERVIEWEE B	INTERVIEWEE C	INTERVIEWEE D	INTERVIEWEE AND
Analysis of the internal environment	People	The human is the greatest asset of companies.		Well-qualified/trained employee.	Strategies with people, how are we going to be with our team, how are we going to be developing our staff, what kind of activities are we going to develop with them, how are we going to be strengthening our team, training, courses.	Experience of the company's people.
	Strategies		Growth foci, allocation of resources. having the SWOT matrix as the basis and strategic horizon for the company and the main tool for working on the strategic plan.	Strategy in the case of sales, commercial strategy is the representative. We don't have stocks, we sell to produce. Add value to the product and to the customer	Series of information for strategic planning. Macroeconomic assessment, how will GDP growth be, GDP will be positive, negative	The main information, economy, who are the main competitors, what is the distribution model of the company. Strategic objectives. Action plans. Future vision
	Physical structure	Conditions for people to carry out work.				
	supply chain	Raw Materials - Inputs				Efficiency of buying, producing and selling
	Defined processes	People also go through the process, many people say the product is important for the customer to be satisfied, excellent, but it is important that the people who go through the company here, through the process also, in the end, leave happy, so people			The strategic map is that element that helps you to direct all the company's efforts in one direction, right, so that one isn't going one way, the other the other. It aligns the company's strategies through the map.	So there have already been different processes and, what is most important in my opinion, is that there is not a right process, but I think that every year the company has to look for different ways to do this, because there is always important information.

Strategic planning is the compilation of all the information acquired in the inputs, for the evaluation of what will be transformed into outputs. Within the strategic planning, there is all the verification of the data collected for the expansion of the business, such as internal and

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external analysis of the company, analysis of the economic scenario of the market, the experience of the company and its professionals to leverage its positioning.

A very interesting observation pointed out by manager E in relation to his experience with strategic planning is the perception that the:

“[...] the biggest problem with planning is not the planning itself, it's the execution. The only point in planning that I see that companies make mistakes and people make a lot of mistakes is the base being poorly made or wanting to do too many things at the same time”.

The managers exposed the elements that can be contemplated for the exits, such as: the conclusion of the organizational strategies and objectives, the market segmentation, the final positioning that the company wants to obtain, the goals for the organization and this includes the revenue that estimate to reach, the number of sales, the markets that will be explored, the company's action plan, the final finished product, customer satisfaction, quality, adding value to the product/service.

Thus, according to Figure 5, managers' opinions on the output elements were identified.

**Figures 5 – Outputs for formulating strategies**

Interviewee A	Interviewee B	Interviewee C	Interviewee D	Interviewee E
<ul style="list-style-type: none"> <li>- Satisfied and happy people;</li> <li>-Final product with quality and customer satisfaction;</li> <li>-It's a whole set are not isolated things;</li> <li>-Work conditions;</li> <li>-Investment in technology.</li> </ul>	<ul style="list-style-type: none"> <li>- Future planning;</li> <li>-Objectives that will be achieved, in a period of time;</li> <li>- Market opportunities;</li> <li>- Analysis of the company's potential;</li> <li>-Growth objectives of the company.</li> </ul>	<ul style="list-style-type: none"> <li>- Satisfied customer;</li> <li>- Product with delivery on time and quality, based on the order;</li> <li>- Happy customer is the end result.</li> </ul>	<ul style="list-style-type: none"> <li>- Verification of market opportunities, segmentation, stronger or weaker positioning;</li> <li>- Greater market share, establishment of shares for each market indicator;</li> <li>- Practice a “reboa” (planning review);</li> <li>- Analyze the indicators of the strategic map.</li> </ul>	<ul style="list-style-type: none"> <li>-Looking at your planning must seek, what is my competitive differential.</li> <li>- Efficiency of buying, producing and selling.</li> <li>- What is the company's positioning, where does it want to position itself, does it want to be a leader, wants to focus on its specific segment, wants to have the entire vertical integrated chain, that is, it has several strategies.</li> </ul>

Source: Prepared by the authors.

## 5.2 APPLICABILITY OF THE PORTER MODEL

One of the instigations that the work sought to carry out was to understand if the Michael Porter Model, which was created in 1979, is still valid in the current scenario.

It can be seen that managers agree that this model can still be used, they described that they are not the only companies in the market, that they will have competitors, that the market is dynamic, and that with globalization there are no borders. In addition, there are technological factors, where information arrives much faster and products can often be copied.

They believe that Porter's model meets the need, precisely because it covers the internal and external aspects of the company, providing subsidies to the company's strategies. The competition cycle is something natural that is happening, and each company is increasingly seeking to gain its space.

However, this model serves as a support, as each company has its own model, to be more competitive, that is, this model serves as a basis but can be changed according to the company's needs. Most companies look for their axes, their competitive differentials with greater operational efficiency, and technological factors as an essential factor in the chain. In addition, another factor that is not listed in the chain, but which is very important, are changes, such as factors such as sustainability, which consequently encompasses the three economic, social and environmental factors, where the impact of this is increasing in decisions. .

Briefly, this model is still valid, but it must be adapted to our days, the needs, and the requirements of the customers, therefore it partially meets the lack of more attributes in the chain such as: operational efficiencies, external factors to the company and the very processes and models of the companies in which they operate.

Managers claim that the model created by Porter in 1979, that in this period historically the industry still came from a Taylor system where the process was highly prioritized. And currently the dynamics of the world is increasing and more accelerated, that is, companies are dealing in global scenarios, and not just regional ones, so companies on the other side of the world are operating here in Brazil, and vice versa.

In this sense, it is necessary in the process of strategy creation, it is important to use: technology as a competitive differential for the company and tools that help in this process, such as: Business Competitive Intelligence (BCI), the Business Intelligence (BI) tool and Strategic Conduct Performance, which expose external shocks to the sector, including issues

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such as the economic and financial scenario, foreign market variables, competition analysis and issues such as environmental and tax problems. And human capital cannot be forgotten, because although there have been great technological advances, labor is an important factor in a process, resulting in the desired final delivery.

### 5.3 COMPETITIVE OPERATION CRITERIA

In the scope of competitive operating criteria, the application of the questionnaire to managers was carried out in two categories. The first covering the five competitive criteria, namely: delivery, quality, innovativeness, flexibility and costs, asking respondents which of these criteria provide the company with a competitive edge.

Responding to the first category, in the analysis of the interviews, the competitive criterion that presented the greatest prominence was innovation. Of the five respondents, four of them highlighted innovation as fundamental to the company's competitiveness. Noting that innovation must offer its customers a differentiated product, with a good technological base, a good development, with differentiated design, and emphasized that innovation can start internally in its processes, leading the company to be ahead of its competitors.

They added that all the competitive criteria are important for the company, and that they are not isolated factors, but that one of them must prevail, because, in this way, the company can focus on a point to stand out. However, there is no point in innovating, without meeting delivery deadlines, without being flexible to customer demand, with costs according to the market, and quality as a primordial factor for a product, which is not just another differential, but a basic requirement. for delivery.

“[...] All of them are important, but the differentiation lies in innovativeness, that is, in innovation, in the technological basis of the product and in the quality of the product. Of course, you can't forget about cost, flexibility, but I would emphasize in our company the technology that we call innovativeness and product quality as two competitive differentials within the company.” Interviewee B

Collaborating with this, one of the interviewees registered that all the competitive criteria are factors of competitiveness, but that to define them the company must turn its attention to its own segment of activity and its customer portfolio, thus defining which criterion will be used, but he emphasized that the company must use at least two and at most three criteria to act.

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The analysis of the second category on competitive criteria refers to their applicability. At this point, managers consider that these criteria are applied, but the delivery of service is lacking, justifying that it is not enough to have minimized cost, be flexible or/and innovative without delivering a package of solutions to the customer, that is, it is going beyond the basics, be present in his needs and attract him after the sale. Nor can we forget the inclusion of people in the competitive criteria, since their involvement with the organization's business is fundamental, justified by the need to have, in addition to technology, people trained and qualified to operate. Another point raised was the relationship with the client, approaching him, understanding his needs, so that you can attract and satisfy him. And for one of the interviewees, a current issue that, in addition to the five competitive criteria, can be inserted is sustainability in economic, social and environmental terms.

Regarding the aspect of organizations selected the competitive criteria according to the market in which they operate, of the five interviewees, four fully agree, and only one partially agrees. Respondents who strongly agreed reported that for each market the company should make a thoughtful analysis, keeping its focus on the main criterion. In addition, there are market differences to be evaluated, considering, for example, the sophistication, and the company must offer a product suitable for that particular market, otherwise it will not obtain the desired result. The interviewee who partially agrees says that, in addition to looking at the market, the company must also consider its strategy.

Another point analyzed refers to the possibility of prioritizing all criteria – if simultaneously at this point it is observed that there is no consensus.

Regarding the five interviewees, for two interviewees, in total agreement, they reported that:

“[...] Yes, because they are interdependent, they are not dissociated, I do this and I close and I do that and I close. No, I have to be looking at the global context in all its aspects, in all its nuances, with all its modifications, it's very important to always be looking at everything”. (INTERVIEWED A)

“[...] I believe so, you have to look at all of them, there are some that can be stronger, flexibility has to be used, quality, there is the issue of costs, networking with the customer and of course innovativeness”. (INTERVIEWEE C)

The three interviewees who totally disagreed, believe that when all criteria are prioritized simultaneously, the company loses focus, loses team strength, spending a lot of energy, and not

focusing on its Know Hall, and that the most appropriate thing is to prioritize one or two criteria. working in a segmented way.

#### 5.4 OPERATION VALUE NETWORK

As for the model by Paiva et al. (2004), about the Operations Value Network, the perception of managers was of total agreement in the use of RVO in the formulation of strategies, they realize that activities are not isolated factors, but depend on raw material, labor of people, of an innovative product, with quality, and thinking about delivery and, finally, customer satisfaction.

On the other hand, managers who partially agree, see the chain not as a sequential process, but as a more cyclical process. The model is fully applied to some companies, but there are others that are lacking, such as technology companies, or the banks themselves, as there are more interconnections than those shown in this model.

And finally, in the understanding of managers in relation to which activities add value and which should be considered in the formulation of the strategy, in view of which each interviewee has their individuality, there were different points about RVO in the formulation of strategies, but all their perceptions were extremely relevant for the analysis of the question. In table 2, we have a comparative table between the answers of each interviewee about which activities add value to RVO.

**Figure 2 - Comparison between RVO activities**

Interviewee A	“There is no way to work in isolation, but at times there is an activity that will be prioritized over another, seeking to add value to your product”.
Interviewee B	“One must work based on the SWOT matrix, analyzing the external environment and knowing the strengths and weaknesses to formulate the strategies and objectives that one is proposed to achieve”.
Interviewee C	“The first thing to do is look at the market, the demand that it is bringing, to start projecting the delivery, evaluating the processes, and finally starting production”.
Interviewee D	“Adding value is everything that is done on top of what was purchased. Starting with the acquisition of raw materials, components and the company's internal work to add value”.
Interviewee E	“All the value that will be added starts with the supply chain, in the purchase of the raw material that will be produced and sold, meeting the client's purpose, not forgetting the quality of the product, the issue of cost, the form of delivery, the performance of the company, always based on the vision, seeking to be more efficient and effective to the point of selling”.



## 5.5 NEW STRATEGIES

In formulating the strategies, each manager brought with them their professional experiences, their market experiences, and their training. It can be seen that their answers are connected with theories that justify their perceptions for the creation of new strategies.

For Interviewee A, analyzing the variants and the market situation is an important factor when talking about new strategies:

*“[...]Companies need to look at the needs of consumer markets, if you notice that some companies venture out and don't research exactly what is going to happen”. But the companies that research are more successful, because they launch the products according to the needs of the consumers. It is important to look at what is happening in the world, because today with globalization and access to the internet, you can buy products from anywhere in the world, so people no longer need to leave their homes having the convenience to buy. Of course, you still go to the store, being served, touching the product, but we have to consider that the potential consumers that are emerging are young and were born on the computer and they buy virtually without any problem”.*

In this sense Kotler and Keller (2006) state that in the analysis of the external environment, threats and opportunities are verified, a business unit must be attentive and monitor macro environmental forces (economic, demographic, technological, political-legal and sociocultural) and also micro agents. environmental factors (customers, competitors, distributors and suppliers) that affect their ability to generate profits.

For Interviewee B, one way to define new strategies is through the BI-Business Intelligence Tool.

*“[...] The company needs to have a well-structured BI, it has to be able to collect information about its market and competition, about future movements. The introduction of a Business Intelligence inside the company is something important”.*

For Turban et al (2009) the BI - Business Intelligence tool aims to allow interactive access to data, provide data manipulation and deliver managers the ability to perform adequate and in-depth analysis, analyzing data, performance, past history of the company, and consequently make a more assertive and concrete decision. The BI process consists of transforming data into information.

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In contrast to Interviewee C, people are key factors for creating new strategies, directly influencing future decision-making.

“[...] It's the people, the market where it will be inserted, I can't think of a new factory, in a country where I don't have manpower, the network of suppliers, logistical issues, the community, all this influences a new proposal. And, for example, people, today we also have to adapt to different generations, what X used to do in a totally different way, today Y is doing completely differently, today they are our current managers so we can see how things have changed. We need prepared people, technology, manpower skills and innovate to get out of the comfort zone for new challenges”.

Stresses Filho (2007, P.32) that “labor is no longer considered as a simple resource or input of production processes and is now valued, as it is responsible for managing business actions”.

Regarding the creation of new strategies, Interviewee D believes that the basis for their evaluation can be considered the Porter model, with some more criteria that would add, such as people.

“[...] What would I consider for a new business strategy proposal? I would take into account Porter's work, which I think is basic and fundamental, and I would add what we said a few things more. But I would consider his base, which is a base. He has a scientific basis that underlies his work, his theory. I would use that foundation and add some things that have been changing in the world. Sustainability and Human Resources. He clings a lot to the technical aspect and leaves the HR part out there, out in terms, it's not salient. And for me companies are people. There is no other way for me.”

For Porter (2004) a company's competitive strategy consists of the business approach and initiatives that are committed to attracting customers and understanding their expectations, to resist competitive pressures and strengthen its market position. Creating Porter's Model of the five competitive forces: (i) industry competitors; (ii) threat from new competitors; (iii) threat of substitutes; (iv) buyers' bargaining power; (v) bargaining power of suppliers.

In the sense of people as a key factor, points out Gil (2001, p.15):

Today's human resource managers cannot regard employees as mere resources that the organization can dispose of at will. They need to treat them as people who drive the organization forward, as partners who invest in it.

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And finally, Interviewee E, brought in his considerations about new strategies in a comprehensive way containing factors such as competitive differentials, market analysis and the issue of Sustainability.

“[...] The first is focus, and looking at focus this way is that question: what is my competitive advantage in the market where I work or want to work, whether in the world or in the company's target markets. You have to say a lot that your competitors are going to be global. And the second, I think that the issue of sustainability is something that is very strong in the world, in Brazil more and more. You have to look at the social, economic and environmental impact on the company. You have to take care of the political side, the sustainable side and the ethical side, which is the issue that companies are increasingly looking for”.

According to Kotler and Keller (2006) to assess growth opportunities, it is necessary to be involved in the planning of new businesses, as well as the possibility of reducing or extinguishing businesses that have already been overcome. According to Carvalho (2001), the success of a strategy lies in knowing the rules and the other players well, maintaining strong channels for monitoring changes in the competitive environment, always being aware of new trends.

The selection of competitive criteria needs to be carried out by analyzing customer needs; the existing trade-offs between the competitive criteria; the company's performance in these criteria in relation to its competitors; and the strategic resources that the company has or may have. Strategic Resources are defined as resources that can give the organization its capacity for competitive advantages (BARNEY, 2001).

In terms of sustainable development, a sustainable company, according to Barbieri (2007), would be one that creates long-term value for shareholders or owners and contributes to the solution of environmental and social problems.

## 6. CONCLUSION

This study was conducted through the general objective that sought to verify the managers' view on the validation of the theories of manufacturing strategies used by large companies in the metal mechanic sector of the Serra gaúcha.

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Due to the wide scope of the subject, the bibliographic reviews that supported the development of this work provided a consolidated basis for a better understanding of the concepts related to the theories, as well as for the creation of the application questionnaire for managers.

The application questionnaire took the form of a semi-structured interview, applied between the interviewee and the interviewer. The managers were very receptive and spoke openly about their opinions regarding the topics discussed, demonstrating knowledge of the themes and always seeking to exemplify to make it as clear as possible.

The results acquired during the research were satisfactory, as it can be analyzed that the responses of these managers came from their theoretical background already acquired. One of the points of reservations of the interviewees is the fact that the theoretical bases, many of them by the year of creation, must be adapted to the current market where the companies are inserted, always looking for the best positioning and consolidation strategy.

A very important point when carrying out the stage of analysis of the responses of the interviewed managers was that they were not able to detach from their opinions the experiences they acquired in the company in which they work. The examples used, the company's tools, their business experiences, influenced their answers.

The specific objectives of the work were contemplated, therefore, they consisted of investigating with these managers, if the existing methodologies in the area are still valid for the formulation of the strategies of the organizations. We tried to find out the managers' perceptions about the variables considered in the business strategies and if the classic concepts in this area are still valid in the current scenario of companies. And it was noted that the methodologies are still valid for the formulation of strategies, but with some points of consideration due to the change in the market, as a business strategy must be very well founded to be the most assertive linked to the company's objectives.

The interviews provided, in addition to satisfactory answers, a satisfaction in knowing that what we are acquiring is improving every day, and that changes are occurring faster, making companies more competitive and managers more dynamic.

It can be noted that the interviews were not just reports, but the experience of people who are at the forefront of large organizations. And that can dynamically deal with skills and dynamism, in relation to market fluctuations, the influences of society and technological and

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personnel modernization, thus making a connection between theory, practice, experience and business vision.

Concluding this analysis, it can be concluded that the study carried out reached its objective, demonstrating the validation of existing methodologies, how much a well-founded basis, a properly defined strategy, through the points that intervene in the organization, can add value to the company and keep it in the spotlight seeking greater competitive advantage in a competitive environment. But remembering that a company must constantly expand its visions of the market, personnel, process and business, adapting to the changes of a globalized world.

## REFERENCES

ANSOFF, HI Business strategy. Sao Paulo: McGraw-Hill, 1977.

BARBIERI, Jose Carlos. Corporate environmental management: concepts, models and instruments. 2nd ed. Sao Paulo, 2007.

BARDIN, L. Content analysis. Lisbon: Editions 70, 2004.

BARNEY, JB Resource-based theories of competitive advantage: A ten-year **retrospective on the resource-based view**. Journal of Management, v.27, n.6, p.2001.

BNDES- National Development Bank. Institutional website available at: <http://www.bndes.gov.br>/Accessed on: 24 Apr.2014.

CARVALHO, MM Quality in Design: World Class Manufacturing", São Paulo, Editora Atlas, p.114-130.2001.

CIC- Chamber of Industry, Commerce and Service. Institutional website available at: <http://www.cic-caxias.com.br/http://www.cicsfarroupilha.com.br>/Accessed on July 7, 2014

COOPER, DR; SCHINDLER, PS Research Methods in Management. 7. ed. Porto Alegre: Bookman, 2003

FAHEY, L.; RANDALL, RMMBA **practical course**: strategy. Rio de Janeiro: Campus, 1999.

FERREIRA, MS The formation of knowledge networks in the metal-mechanical clothing industries of Nova Friburgo. Rio de Janeiro, 2002.

SON, H. **Valuing human capital in the business environment**. Banas da Qualidade, São Paulo, year XVII, n. 185, p.32, 2007.

REGMPE, Brasil-BR, V.6, Nº3, p. 74-97, Sep./Dec.2021 [www.revistas.editoraenterprising.net](http://www.revistas.editoraenterprising.net)Page94

## Investigation of Theories of Manufacturing Strategies: Analysis of Managers' Vision

FLINT, DJ; LARSSON, E.; GAMMELGAARD, B. Logistics innovation: a customer value oriented social process. *Journal of Business Logistics*, vol. 26, no. 1, p. 113-147, 2005.

FLICK, U. *Qualitative research design*. Porto Alegre: Artmed, 2009.

GIL, AC *Methods and techniques of social research*. 3. ed. Sao Paulo: Atlas, 1991.

GIL, AC *Personnel Management: Focus on professional roles*. Sao Paulo: Atlas, 2001.

HAMEL, G. The age of revolution. **HSM Management**, no. 24, p.116-126, 2001.

HAMEL, G.; PRAHALAD, C. Strategic intent. In. Mintzberg, H. and Quinn, JB *The Strategy Process*, 3 ed. Porto Alegre: Bookman, 2001.

HILL, T. *Manufacturing Strategy: text and cases*, 2nd ed. New York: Palgrave, 2000.

KOTLER, P.; KELLER, KL *Marketing Management*. 12. ed. São Paulo: Pearson and Prentice Hall, 2006. [C:\ProgramData\Avira\AntiVir Desktop\IPM\IpmDocument.html - .remind\\_later](C:\ProgramData\Avira\AntiVir Desktop\IPM\IpmDocument.html - .remind_later).

MALHOTRA, NK *Marketing research: an applied orientation*. 4. ed. Porto Alegre: Bookman, 2006

MOTTA, PR *Contemporary Management: the science and art of being a leader*. Rio de Janeiro: Record, 1991.

MINTZBERG, Henry. *Creating Effective Organizations: Structures in Five Settings*. Sao Paulo: Atlas, 1995.

PAIVA, E.L; CARVALHO, JJ M; FENSTERSEIFER, JE *Production and Operations Strategy: Concepts, Best Practices and Future Vision*. Porto Alegre: Bookman, 2004.

PAGNONCELLI, D.; VASCONCELLOS, FP *Planned Business Success*. Rio de Janeiro: Qualitumark, 1992.

PORTER, ME *Competitive Strategy: Techniques for analyzing industries and competition*. 2nd ed. Rio de Janeiro: Elsevier, 2004.

PORTER, ME; MONTGOMERY, CA *Strategy: The Pursuit of Competitive Advantage*. 6.ed. Rio de Janeiro: Campus, 2001.

SEBRAE- Brazilian Support Service for Micro and Small Enterprises. Institutional website available at: <http://www.sebrae-sc.com/> Accessed on: 24 Apr.2014.

SIMECS- Union of Metallurgical, Mechanical and Electrical Material Industries of Caxias do Sul. Institutional website available at: <http://www.simecs.com.br/> Accessed on: 23 Apr.2014.

REGMPE, Brasil-BR, V.6, Nº3, p. 74-97, Sep./Dec.2021 [www.revistas.editoraenterprising.net](http://www.revistas.editoraenterprising.net) Page95

## Investigation of Theories of Manufacturing Strategies: Analysis of Managers' Vision

THOMPSON, A.; STRICKLAND, A. Strategic Management, 12th ed. New York: McGraw-Hill, 2001.

TURBAN, E.; SHARDA, R.; ARONSON, J; KING, D. Business Intelligence: a **management approach to business intelligence**, Artmed, p. 254, 2009 .

VERGARA, SC Management research projects and reports. 11. ed. Sao Paulo: Atlas, 2009.

VON NEUMANN, J.; MORGENSTERN, O. Theory of Games and Economic Behavior. Princeton: Princeton University Press, 1944.

YIN, RK Case Study: Planning Methods. Porto Alegre: Bookman, 2010.