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## *Full Length Research Paper*

# Consumers' Needs Assessment of Cutting Tools Against Suppliers

Getulio K. Akabane<sup>1</sup>, José Manoel Souza das Neves<sup>2</sup>, Roberto Kanaane<sup>3</sup>, Rogerio Gianeze<sup>4</sup>

<sup>1,2,3,4</sup>CEETEPS-Brazil

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**The study presents results with 54 clients cutting tools of the state of São Paulo through exploratory research with closed questionnaire addressing issues relating to various reasons the positive closing of a negotiation. The degree of importance of factors such as price, quality, time, and other issues such as participation in fairs and events, technical training and relationship with the seller, were classified according to the degree of importance. Actions to reduce delivery times and improve the logistics system and punctuality are critical success factors to improve the levels of customer satisfaction.**

**Keywords:** Trading, Cutting Tools, Satisfaction.

## INTRODUCTION

The market for trading of cutting tools has undergone changes in recent years with the entry of new suppliers coming from different parts of the world, making more aggressive competition. Over time and with a greater number of choices, customers have become more demanding and informed regarding the choice of the supplier. Meet customer expectations is a common goal of every company that wants to remain consolidated in the market but often companies do not know the real needs of their clients. This leads customers to define low profitable strategies or even without any added value to

such customers.

Thus, a vision based on relationships begins with companies. However, this view posits that companies can improve their ability to engage in processes and product innovation, carefully managing their relationships with customers and suppliers like universities or government agencies. The relationship-based school thinks in innovation as a highly structured activity, embedded in organizational networks and geographic boundaries (KAUFMAN et.al., 2000).

But there are risks for the development of this know-how through relations among companies. A customer can transfer the know-how to a rival supplier to minimize the dependence from customer or avoid these actions to keep your partner.

Provider may act in a similar way by threatening to seek, or actually seeking new customers (ROSENBLUM

AND SPENCER, 1996).

The use of machines for cutting metal into precise shapes involves, first, a relatively small number of transactions (therefore machine types): turning, boring, drilling, milling, planing, grinding, polishing, etc. In addition, all machines which perform such operations face similar technical problems such as power transmission (gear, pull, crank), control devices, feeding mechanisms, friction reduction and a wide range of problems related to the properties of metals (such as the ability to resistance to tension and heat).

Given the above, the following question come up: "What are the needs and expectations of consumer of cutting tools"?

From this question, the researcher has the general objective of to studying the influences of those consumers' expectations in the negotiation process with suppliers.

And the specific objectives are to:

- Measure consumer expectations of cutting tools in relation to their needs;
- Assess the degree of consumer satisfaction of cutting tools in relation to their current suppliers;
- Identify with the scientific literature the required steps in a negotiation process.

### **Conceptualizing strategic typology of supplier**

This typology splits into two dimensions according to a study by Clark and Fujimoto (1991): technology and collaboration which are divided into high and low categories that form the four strategies of different providers according to the chart below. The Quadrant I defines companies using standardized technologies and relate to customers through contracts-standard of market. Typically, companies in this environment have the low cost as it main value, investments in advanced technologies and management practices usually cannot be fully recovered. Neither customers nor suppliers are dependent, because switching costs are low. Companies in this quadrant are commoditized suppliers (CSS).

The Quadrant II shows companies that use standard technologies (active and general profile) that meet specifications and deadlines of customers. Always are attentive to develop advanced collaboration techniques to meet and anticipate current and future customer needs. As the detailed drawings and specifications (design) of the products remain under control (Clark and Fujimoto, 1991) of those companies, providers in this quadrant invest limited resources to innovate the products or process technology, thus avoiding dependence on a few customers.

The Quadrant III describes companies that employ advanced technologies and methods of collaboration to promote innovations in product design and

manufacturing. Firms in this quadrant compete primarily with the ability to continuously evolve with new forms of process and product (Clark and Fujimoto, 1991).

The Quadrant IV includes companies that emphasize technology and develop poor customer relations. These companies invest heavily in specific skills and assets of the company in the production of proprietary products (Clark and Fujimoto, 1991). These companies strive to the highest quality and performance that will attract new customers and reduce dependence on a few customers. Customers get benefit from the relationship with these suppliers, acquiring exceptional, even unique pieces without large investments. While customers do not outsource strategic parts to these suppliers, the risk of uncertainty remains manageable. Engineering companies oriented to fall in this quadrant are called companies specializing in technology.

### **Negotiation Process**

Over time, there has been an evolution in the methods of negotiation. Ferreira (2008) states that this development was initiated inside the family due to the need of developing some skills, in addition to knowledge gained, placing the negotiating power as one of the most important. Fisher et al. (2005) note some of the results of negotiations of historical importance, where some of these could have had an agreement or outcome with results superior to those achieved if current negotiations techniques had been used. The search for better results could have been a decisive factor for the improvement of negotiation skills over time. In the business context, Ferreira (2008) describes the evolution of the business coming from customer needs which over time customers become more informed, thus creating the need for a more skilled negotiator to meet all customers' demand. Overcome the sales goals, with the presence of new entrants in the market, requires a proper negotiation for achieving the expected mutual benefits and the long-lasting relationships.

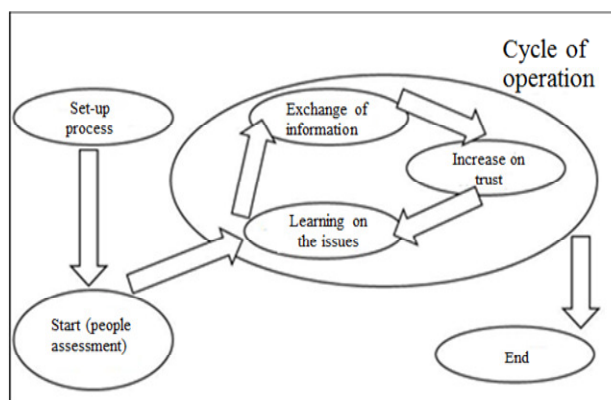
Several authors define the meaning of negotiation similarly. Fisher et al. (. 2005 p 15) describe as: "[...] a basic means of getting what you want from others." To Mello (2012 p 13.): "Negotiation is a process used to make social arrangements and resolve or avoid conflict". Andrade et al. (2012) define negotiation simply as follows: "Negotiation is a decision." Thus, the term negotiation refers to a process in which negotiators must decide to accept or reject a given proposal, or give way or not a determined pressure, i.e., negotiation is a process aiming to reach a common agreement.

The negotiation process does not end only with the debate between the parties, going far beyond from all the planning activities to effective implementation of the agreed between the parties. Such process is divided by

Strategic typology of suppliers

Collaboration		Low	High
Low	<p>I</p> <p><b>COMMODITY SUPPLIER</b></p> <ul style="list-style-type: none"> <li>- Supplier in the spot market</li> <li>- Low cost, low price, low priority</li> <li>- Small or no differentiation</li> </ul>	<p>II</p> <p><b>SKILLED COLLABORATOR</b></p> <ul style="list-style-type: none"> <li>- Parts supplier with detailed controlling</li> <li>- Use of controlled network in each industry</li> <li>- Possibility of keeping information on the customer's products</li> </ul>	
High	<p>IV</p> <p><b>SPECIALIZED IN TECHNOLOGY</b></p> <ul style="list-style-type: none"> <li>- Supplier of proprietary parts</li> <li>- Innovation on the technology of products with high barrier entrance</li> <li>- Advantages of the pioneerism</li> <li>- Use of drawing capabilities as a competitive advantage</li> </ul>	<p>III</p> <p><b>SUPPLIERS OF SOLUTIONS</b></p> <ul style="list-style-type: none"> <li>- Supplier of "Black Box"</li> <li>- High differentiation</li> <li>- Focus on low cost</li> <li>- Few movement, high added value process and flexibility on labor force</li> </ul>	

Source: Clark e Fujimoto (1991)



Steps of the Cooperative Negotiation  
 Source: (Mello, 2012 p. 90)

steps for a better understanding and detailing. Several negotiations dealing with sensitive issues that both parties should be prepared to know where you can compromise and where you should stand firm in a position in order to reach the best possible outcome. Each of the steps illustrates how the negotiators should be prepared and thus, avoid loss of time in several meetings in order to achieve better result.

Andrade et al. (2012) divide the negotiation into three distinct stages and in a generic way for any kind of negotiation. In the first step, it is defined the type of transaction to be treated as strategic, tactical or operational. The second step is the preparation for the negotiation process before meeting with other interested party, essential to know where you can make concessions and know also all the relevant limits to the

process. The third stage of negotiation as the post-trade, i.e., the implementation of the agreement.

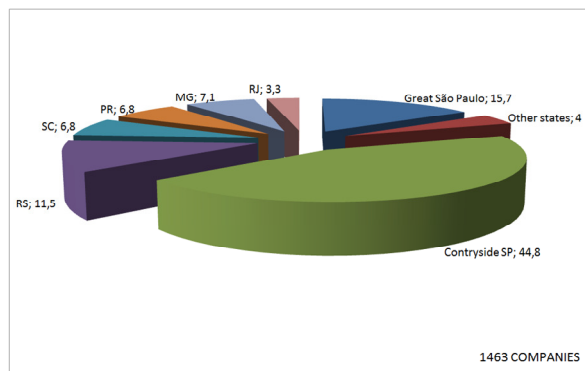
The analysis of the situation in negotiating with the collection and organization of information is also mentioned by Fisher et al. (2005) as the initial phase of negotiation called: analysis phase, where the personal emotions and sectarian perceptions should be considered as well as to identify the interests of all parties. In the second step, the understanding of how to deal with people's problems and the evaluation of the importance of their own interests should be sought, i.e., the preparation of which may be requested and which may or may not be given.

Mello (2012) describes the stages of negotiation splitting them between cooperative and competitive negotiations. Competitive negotiations are characterized

	1992	1994	1997	1999	2001	2003	2005	2009
Researched companies	1728	4484	4998	6376	7807	9042	10222	10031
Quantity of existing CNC machines in those companies	8031	12375	16250	20424	29031	34736 <sup>1</sup>	47328	54631
Quantity of existing machines in those companies (conventional and CNC)	72102	183766	183509	188586	205485	224933 <sup>2</sup>	222397	233040
(1) Included 2.846 CNC machines of metal cut and conformation								
(2) Included 49.357 machines of metal cut and conformation								

Evolution of the universe researched (Simon, 2009)

The distribution of companies in Brazil, as Simon (2009), corresponds to the following figure.



Quantity of existing CNC machines in those companies

by the high need for financial gain and assume some degree of conflict. Cooperatives negotiations are characterized in preserving the relationship, in addition to the needs of obtaining financial advantage. Cutting tools are wear items, i.e., companies in which machining is part of their manufacturing process, the acquisition of these tools is periodic. Therefore, in this type of trading, the preservation and improvement on the relationship are crucial, aiming periodic sales of inserts, or one-piece tools, thereby getting the volume of sales.

The cycle of cooperation is the major difference between the forms of cooperative and competitive negotiation where the parties of negotiators work together in order to reach a common goal and bring a greater understanding of the problems and solutions. The process is cyclic, where the best result is the goal of both (Mello, 2012).

Depending on the type of negotiation and the objectives pursued, negotiators can apply different strategies in the steps of negotiation. Mello (2012) presents four different types of negotiations, correlating the importance of future relationship and the degree of conflict which want to take on, as follow: relationship, indifference, competition and cooperation. The cooperation strategy aims to achieve high financial

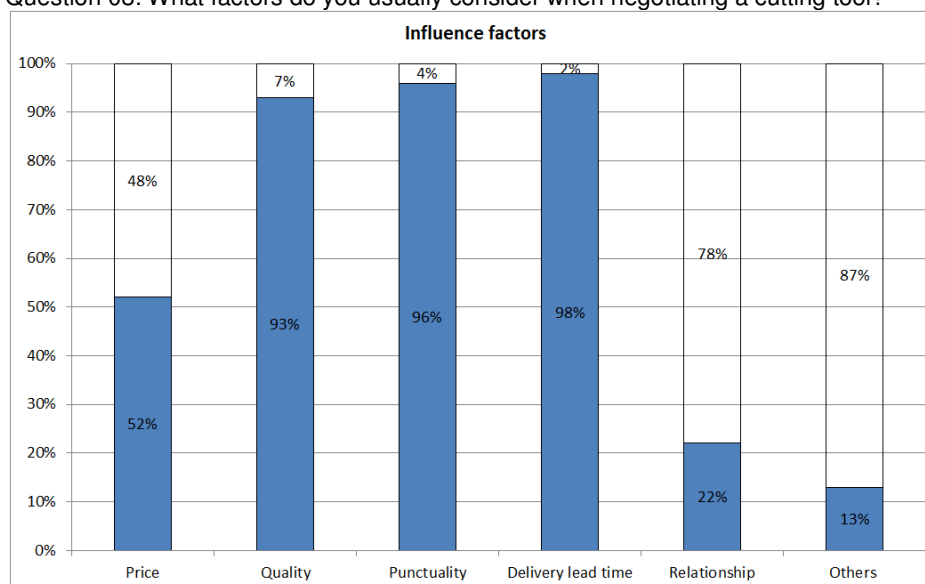
benefits, but also preserve the relationship (Mello, 2012). This is the model that is most similar to the negotiations of cutting tools due to sales targets to be achieved, but also the need to preserve the relationship. When the need to build a relationship is greater than the need to obtain financial advantage, we use the strategy of relationships (Mello, 2012). This is the main strategy used for opening accounts for consumers of cutting tools. In some cases, high rates of discounts on products or benefits strategically granted are allowed in order to create an environment of trust between seller and buyer.

In the case of the indifference, the need of financial gains or build a relationship is null (Mello, 2012). For instance, when a state bank offers a line of credit to certain companies that fit certain requirements. The process of granting this credit is simple, if the requirements are met, the credit is granted and is indifferent to build a good relationship.

According to Ferreira (2008), negotiation is a process which contains two questions that should be checked and answered: a) substantive questions: what are the goals that determine the negotiation, such as agreement on price, contracts, etc. b) the relationship between the parties: through communication, substantive issues are analyzed and appropriate decisions are taken. Thus,

QUESTIONS	Always	Offentimes	Rarely	Never
1 - In the negotiation process, in regards to the acquisition of cutting tools, expectations are met	37%	63%	0%	0%
2-The suppliers of cutting tools, in their view, provide products of adequate quality.	89%	11%	0%	0%
3- Do you always evaluate the negotiation process in regards to the acquisition of the cutting tool?	29%	67%	0%	4%
4 - Does the strategic location of companies which provide the cutting tool influence their buying decision?	7%	0%	28%	65%
5 – Does the product line offered by companies influence the purchase decision?	9%	35%	0%	56%
6- Does the training provided by companies of the cutting tool segment influence in the decision making regarding the purchase of the product?	18%	41%	15%	26%
7- Do the companies providing cutting tool which participate in trade shows / events influence the purchase of products?	2%	31%	54%	132%

Question 08: What factors do you usually consider when negotiating a cutting tool?



Analysis of percentage on the factors which influence the buying decision

Ferreira (2008) divides the negotiation strategies into two types: primal and cognitive. The primal is the one where you must choose between getting results between substantive or relationship issues, and cognitive strategy as being able to obtain both results.

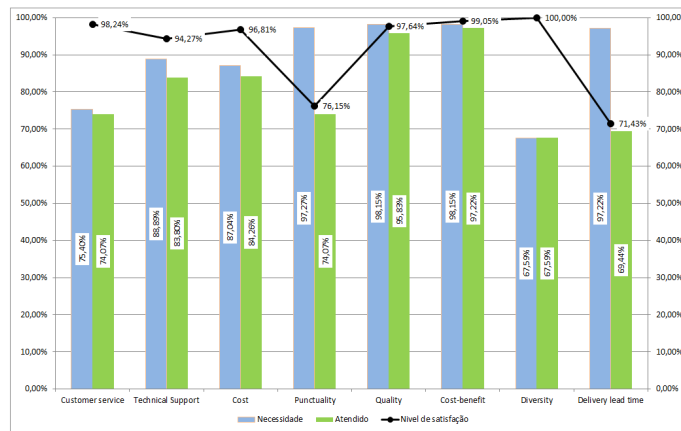
Fisher et al. (2005) divide the strategy of negotiation in the same way, putting competitive negotiation as a form of bargaining positions and the negotiation based on principled as being the cooperative negotiation of Mello (2012) and the cognitive of Ferreira (2008).

Most of the negotiations are delicate processes, often with great interests, values and money at stake.

Choosing the right strategy can increase the chances of success, but do not determine victory. Other actions should be taken in order to obtain the best results in the negotiation process. Those actions are mentioned as the "critical factors" in a negotiation process.

- **Improvisation and lack of planning:** the negotiators are much better prepared than at other times. Concomitantly, buyers are much more demanding and much more informed. Thus, for an unprepared negotiator or one who does not have a well-developed planning, possibly results will be lower than expected;

	Needs				Delivered			
	1	2	3	4	1	2	3	4
Customer service	0	11	31	12	0	12	32	10
Technical Support	0	11	14	35	0	9	17	28
Cost	0	5	24	28	0	0	34	20
Punctuality	0	2	6	48	2	13	24	15
Quality	0	0	4	50	0	2	5	47
Cost-benefit	0	0	4	50	0	0	6	48
Diversity	0	21	28	5	0	21	28	5
Delivery lead time	0	0	6	48	2	18	24	10



Analysis of the satisfaction level in specific questions

- Find the weak point of the opponents and attack them:** successful negotiations are those who valorize the negotiators and their positive aspects. The negotiator must have the ability to identify, valorize differences and turn them, leading it to success;
- Apply tricks, tips and ruses:** assuming that nobody is magic, the application of these methods tends to put the other part of the negotiators in a position of inferiority and instead of ensuring good results, can achieve a potential enemy;
- Trying to manipulate others:** also attempt to apply tricks, manipulation can put the other parties in a position of inferiority and thus not have the expected results;
- Attack, punching the table, intimidate:** negotiation is different from war. Who is in a negotiation and uses of aggression is because it has no convincing arguments to use.
- Learn to say no:** "The customer is always right". One of the inadequate views that exist is to think that to get mutual gains, one of the parties must agree with everything that is being proposed. According to Ferreira (2008 p 175.): "[...] through the cognitive negotiation, it is

possible to achieve gains in the substantive issues, say no and keep a friendly and interactive relationship [...]". It is understood that the chances of denial of certain requests may be considered without interference risks for the relationship building. In the negotiations of cutting tools it is common requests for excessive discounts or free supply of milling bodies, where the negotiator must be prepared to determine the limits on your goals, saying no when necessary;

- Learn to hear the no:** as important as knowing how to say no, it should also be prepared to hear the no. The negotiator must be prepared to receive the refusal of its offer and still continue negotiating without putting at risk the relationship and without losing focus of the initial objectives of the negotiation;
- Control over the conflicts:** According to Andrade et al. (. 2012 p 22), conflicts are defined as: "[...] a struggle over values and claims to status, power and scarce resources, in which the goal of the opponents is to neutralize, injure or eliminate rivals [...]". In a process of negotiation, conflicts can be generated before the emotional disarray by certain parties or even by decision of the subject at stake. As Ferreira (2008 p 139.): "[...] among the factors with power to transform the nature of a conversation, the emotional content is the most critical [...]". The results of a negotiation where the tension is part

Measuring consumer expectations of cutting tools, in regards to its needs:

Classification	Question	Needs
1	Quality	98,15%
2	Cost-benefit	98,15%
3	Punctuality	97,27%
4	Delivery lead time	97,22%
5	Technical Support	88,89%
6	Cost	87,04%
7	Customer service	75,40%
8	Diversity	67,59%

Assess the degree of satisfaction of cutting tools customers in relation to their current suppliers:

Classification in regards to the needs	Question	Satisfaction level
4	Delivery lead time	71,43%
3	Punctuality	76,15%
5	Technical Support	94,27%
6	Cost	96,81%
1	Quality	97,64%
7	Customer service	98,24%
2	Cost-benefit	99,05%
8	Diversity	100,00%

of one or both parties and non-rational decisions are taken, usually the result of this process are losses to both parties;

- **The importance of proactive listening:** Some negotiators concerns too much about your goals and everything that should or should not talk, elaborate long and exhausting preparations, but at the time of the negotiation, they forget one of the most important actions of the negotiation process: listen. A good listening is one of the skills which the negotiator has more difficult to exercise, especially if the other person is acting in a forceful, aggressive and disrespectful manner (Ferreira, 2008 p. 129).

- **Ethics in negotiations:** Negotiate, always raises underlying issues relating to the suitability and accuracy of information of the parties. Negotiators, in order to get the best possible, stay with the feeling that the other part could give more, or could be using tactics to make the most of the other part. Mello (2012) states that the personal reputation of each negotiator depends on their ethical attitudes. Thus the use of lies and bluffs in certain negotiations may lead negotiators to obtain financial benefits. However, building a good reputation in the market and be recognized as a trusted negotiator can be severely affected. Thus, to ensure a long-term relationship or build a relationship, ethical behaviors should be used.

- **Control over the emotions and feelings in the negotiations:** Negotiations may be processes which require emotional control due to tensions emanating from the importance of the outcome for both sides of the negotiators. The involvement of emotions and feelings within the negotiation process may be beneficial to sensitize someone about a problem to be solved, but can be catastrophic when a negative feeling takes hold of the negotiating parties. The overcoming proposed by Ferreira (2008) and Fisher et al. (2005), is the focus on the interests of negotiations and the control of the emotions is necessary, task that Ferreira (2008) puts as arduous but necessary so that the worst consequences are not resulting from the negotiation.

The success in negotiations of cutting tool depends on the ability of the negotiator to understand the needs of their customers. Understand the needs of negotiators make the process simpler and likely more successful. Numerous reasons can lead a negotiator to accept certain proposals placed on the agenda in the negotiation or simply reject them, thus giving the opportunity for other negotiator when the buyer has a choice between several suppliers. Understand the customer needs and have an action to achieve them, retain the customer loyalty because the instrument for retaining customers is to keep them satisfied (Kotler, 2010). So, understand customer needs and have an action plan to achieve them is an

appropriate way to retain customers. Cognitive negotiator must always be careful to identify the specific reasons which are behind the expressions of will. (Ferreira, 2008).

In negotiations of cutting tools, the reasons for purchasing a product can be motivated by the need of reducing the production time of a particular piece, or by the safety in having the material in stock, or by a desired quality product end, among many other reasons generated in the production process. Understanding customer needs is critical to a more appropriate and objective supply over your expectations. Thus, it is possible to offer to customer not only the selling of a product, but a bundle of added value to the product, usually intangible, which consequently adds the possibility of success in trading or even the price of the product offered. It is understood as the value for the customer, not just the sales value of the product, but a set of values of great importance to the customer that is added to the product (Kotler, 2010). In the context of cutting tools, some factors such as the speed of delivery, quality, on-time delivery, customer service, among others can be decisive factors for the buyer. A provider of cutting tool who does not have this concept becomes the negotiation an auction of price, reducing at a maximum level the total cost, rather than increase the total value.

Dissatisfied customers have great potential to look for alternative suppliers and the cost of losing a customer is high, as exposed by Kotler (2010). Find new customers is usually part of the company's philosophy, but keep them loyal to the brand is necessary for health of the company. The constant evaluation of their satisfaction is recommended to prolong the relationship and keep the level of stabilized or growing business in a satisfactory number for the supplier.

## **METHODOLOGY**

This paper uses an exploratory research method, where the search for greater knowledge of the subject is a key factor in achieving the goals presented to assess the needs of the cutting tool consumers.

Exploratory research aims to provide the researcher with more knowledge about the topic or research problem. So it is appropriate for the early stages of the investigation of the research when the researcher does not have enough knowledge to formulate questions and (or) specific hypotheses (Mattar 2012 p. 10).

In order to understand and analyze the needs of cutting tool consumers, an evaluation system should be applied, where the user states its own view on the expectations and performance of the service provided. To determine the factors that influence the closing of a negotiation, the application of a closed questionnaire meets the proposed objectives.

A field research is an empirical research accomplished where the phenomenon occurs or occurred or the one which has elements to explain it. May include interviews, questionnaires, tests and participant observation or not (Vergara, 2013 p. 43).

Usually, samples are collected from a population, when the universe is very large, since it is impractical to search all over the universe. The result of the collected data samples of a population provides relevant information on the entire population (Mattar, 2012). Two types of samples can be applied: probabilistic and not probabilistic (Vergara, 2013; Mattar, 2012). The definitions exposed by Mattar (2012) on convenience samples, where the selection of cases with a particular trial and survey strategies should be applied to assess the proposed objectives. Analyzing the research objectives, resources and theory, the non-probability sampling was used to evaluate the proposed objectives of this work.

Machines are the most important members of the broader classification of metallurgical equipment of propulsion engine. The basic distinction is that the machine-tools develop the contour of the metal with the cutting tool in a progressively way, while the other metallurgical equipment mold without the use of cutting tool by pressure (mold, stamping, puncture), forging, bending, shearing, etc. There is considerable complementarity and substitutability between the two classes of tools, where equivalence will necessarily occur according to evolution outside the category of machine-tools defined herein (Rosenberg, 2014).

While a proliferation of new skills, facilities, raw materials and services, and the existence of a relatively limited number of similar processes in many industries do not occur, the use of processing metal parts technology are based on centralized sources power. (Kaufman, 2000).

The data analysis was performed in cutting tools consumers in the state of São Paulo. Companies from several segments can have conventional or Computer Numeric Control (CNC) machines intended to fabricate component parts or complete product of the company, or simply performing maintenance of production machinery of the company. Due to this fact, determine exactly how many companies have machines which consume cutting tools, it becomes a difficult task.

The best survey of this segment that has been made was performed by the SEBRAE (Simon, 2009), which identifies which companies have conventional or CNC machines and provides information about quantity, type and age of the installed base. The figure below gives the evolution of the universe surveyed.

As described by Simon (2009), the universe was obtained from the database of the Aranda Publishing House, which selected those which use machining equipment in its production process. Within the 10,031



companies that are part of the universe of research, 1,463 companies responded to the survey conducted by Simon (2009), so the next data were based on these 1,463 companies that responded to the survey.

Thus, the number of companies located in the state of São Paulo is approximately 885 the companies. The graphic above shows that 60.5 % of the companies supplying cutting tools are located in São Paulo.

This study uses qualitative and quantitative methods of research in order to obtain an insight into the needs and expectations of cutting tools consumers. Virgillito et al. (2010) describe qualitative research as being used to aid the identification of important attributes of products and services and behavioral characteristics of consumers. In quantitative research, it is possible to detect the relationship between the latent feelings of the people to trademarks, images, and other factors analysis in order to measure their intensity and correlation (Virgillito, et al., 2010).

## RESULTS

The result was based on the data collection of 54 cutting tool consumer located in São Paulo. The responses reflect the level of satisfaction and expectations of these customers from various segments in which the machining operation is part of its production process directly, as the machining of components for sale, or indirectly, in the case of companies who sell forged or injected product, but that the development of their molds and dies are essential to the process.

The results were evaluated in regarding to their expectations and satisfaction on the following topics:

- Negotiation, quality of tools, strategic location;
- Product Line; training portfolio; exhibition at fairs and events.

Question 08: What factors do you usually consider when negotiating a cutting tool?

Other influence factors applicable to the negotiation process were related to the cost-benefit relation (five customers) and the possibility of refining the supply of some items (four customers) mainly on customers who have a high demand for drilling items.

Question 09: Considering the negotiation of a product in regards to the acquisition of cutting tools, evaluate the following factors involved:

## ANALYSIS OF RESULTS AND CONCLUSION

The evaluation of needs of the cutting tool consumers brings a new insight about where investment should be done in order to get the best service quality.

This new perspective leads the cutting tool suppliers to consider new strategic possibilities in order to establish a

good service and market expansion.

The cutting tool consumers, above all, seek quality and a good cost-benefit relation, but do not demonstrate great satisfaction in reliability compared to the timely delivery and reduced delivery times.

With reference to the objectives formulated, the following conclusions can be presented:

1. In regards to the general objectives:

a. To study the effects of expectations of cutting tool consumers in the negotiation process with suppliers:

It was concluded that one of the main values for the cutting tool consumers is the reliability in the product delivery. Lack of the cutting tools or delays in receiving it from suppliers can be disastrous for the production process, considering the production line simply stops without such tools. Costs are high with the idle machines or loss of parts produced in factories that have a low availability rate.

Factors related to cost-benefit and quality represent a high level of need to those customers. These factors demonstrate demanding customers in relation to the results of the product. They seek products of quality and not only low cost products, provided that the results of the application justify the charged price. Thus, it is understandable also the low importance attributed to the cost aspect only.

The customer service and technical support does not appear as an item of high importance. Currently consumers increased their knowledge about the application of cutting tools and this fact gives them the opportunity to select the tool that best suits their process without the need to search for information with their suppliers. The publication of the methodology of choices and technical information in catalogs and automatic choice applications, allows the consumer a precise analysis and the search for the correct tool. The assessment of this item also reflects to a low brand loyalty, i.e., in case of need for improvement in other factors such as cost, quality, lead-time, consumers will seek for options on the market.

The analysis of the diversity of products from a supplier also reflects a low loyalty to brands. It is not important that a vendor has an extensive portfolio, because when there is a need for improvement, the search for a more suitable supplier to your product will be inevitable. Currently there are lots of suppliers of cutting tools and when a tool does not meet the objectives of cost or quality, consumers have the option to search for alternatives that best fit their needs.

### And how specific objectives:

Expectations were measured according to a grade attributed to the consumers' needs and evaluated in percentage over the maximum possible of points for the

aspect. Thus, it was possible to sort by level of importance each studied aspect. It was identified customers concerned in getting a quality product to meet their process needs. Such customers also have given great importance to the delivery time.

With regard to this goal, it could be observed the low level of customer satisfaction in relation to delivery time and on-time delivery. Despite the requisite quality and cost-benefit have been classified with a high degree of importance, it is possible that consumers are satisfied with the tools provided to them or offered.

It is possible that the cutting tool suppliers are concerned about having the best product in the market, but the same importance is not given to the logistical structure to serve them with the expected quality. The possibility of customers having a high inventory to predict failures in delivery represents an increase in the costs, practice that has been avoided and applied the concept of minimum stock. Due to that, the cutting tool vendors should adapt to these needs and invest in logistics system and demand forecasting.

#### **b. Identify the steps contained in a negotiation process in the scientific literature:**

It was attempted to collect data and references in the scientific literature, making possible the understanding of the negotiation process and its different aspects, as well as customer satisfaction for the products and services. There was also the researcher's interest in delineating aspects related to machining processes and cutting tools, in order to bring out the understanding of specific aspects that guided this study.

This study allowed the understanding of the negotiation process of companies located in the state of São Paulo, which has the cutting tools in its portfolio. It is suggested that research be conducted nationwide, contemplating other states and cities that make up the universe of companies that use cutting tools in Brazil. Further studies are well regarded in the academic environment, of research and application in the context of engineering and especially in the context of the negotiating process.

Thus, the machine-tool industry as a result of various technological convergences plays unique role both in the initial solution of the technological problems as well as the rapid transmission and application of newly learned techniques to other uses. It is suggested that the machine-tool industry can be regarded as a center for the acquisition and dissemination of new skills and techniques like "machinery center" of the economy. Their greatest importance, however, is in its strategic role in the learning process associated with industrialization.

The interesting aspect about the group of industries discussed herein is that they are mutually dependent, especially in its development, in which, through

technological changes face limited number of processes and that the solution to the issues raised eventually becomes the specialized function of a well-organized industry.

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