THE USE OF DESIGN IN THE QUALITY MANAGEMENT: A CHANGE OF PARADIGMS IN THE FURNITURE SECTOR OF SANTA MARIA - RS

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This study aims to identify the customer needs in the furniture sector in the region of Santa Maria - RS. It has the purpose of providing benefits of a theoretical and practical order to add value through the use of design in the furniture production. The lack of professionals in the design business is a big challenge, because it involves changes in the paradigms that, as a matter of fact, refer to the acceptance of design as a differential factor. For the theoretical basis of the study it was used the furniture industry, emphasizing their main characteristics, as well as the origin and evolution of the management of design and quality. The field work was conducted through semi-structured interviews with managers of the micro and small companies. It was used in the research a questionnaire to seek the opinions of consumers on the importance of using design as a differential factor. The data found in the questionnaires were compared with the interview with the managers, and the results reinforce the need for companies using design as a tool in quality management.

Palavras-chaves: Management of design, quality, competitiveness, paradigms.
1. Introduction

The process of globalization is imposing changes in the behavior of markets, requiring an innovative position of the companies in face of new challenges and adjustments for a greater competitiveness to integrate to the characteristics of an open and challenging market. To the maintenance and conquest of new markets requires adding elements and characteristics that identify and differentiate products and services.

In some industries the role of design is just to beautify the product previously planned, absenting it from the integration over the steps that comprise the project. This position of the industries is against the real integration and innovation capacity proposed by the design management.

The Brazilian furniture industry presents production geographically dispersed throughout the national territory, is located mainly in the central-south region of the country, which accounts for 90% of national production and 70% of the labor sector (Coutinho, 2001). We can also say that, in Brazil, the furniture industry is characterized by the organization in regional clusters, and the main are: Great São Paulo (SP), Bento Gonçalves (RS), São Bento do Sul (SC), Arapongas (PR), UBA (MG), and Mirassol Votuporanga (SP) (STEFANO, JOÃO & FERREIRA, 2007).

According to Roese & Gitahy (2004) the search for the adequate production of the mobile consumer's purchasing power, the concept of market segregated in tracks by age, gender and lifestyles, are concepts that are beginning to be introduced in the sector in the late 60’s, but only in the 80’s they were widely diffused.

The importance of this study is to identify customer needs in furniture sector by providing subsidies of a theoretical and practical order to add value through the use of design in production. Thus, the design serves as an innovative and promising element to increase the competitiveness of the productive chain of the furniture sector.

2. Design and Quality

Issues relating to value are still present in current definitions of quality, however, other issues of quality, such as reducing waste of raw materials, time, human resources and also improve the use of equipment to reduce costs of production become part of the meaning of quality. In business, the concepts are basically oriented to care and meeting the needs and expectations of customers.

A company interested in producing quality must perform actions in order to understand and meet the needs of its customers. Although the concept of service to the customer needs were already present in works of Shewhart, Deming and Juran were the ones who developed the concept specifying its basic dimensions: quality of design and quality in terms of compliance.

Meet the expectations of customers requires that the company is always ahead of customer needs, and for this reason should be always committed to the continuous improvement of products and processes. The satisfaction serves to connect the processes culminating in purchase and consumption with the phenomena related to post-purchase, such as: changes in attitude, repeated purchases and brand loyalty (CHOI et al, 2008).

In view of White & Yu (2005) in a competitive environment, the profits of a company may be increased from the differentiation of their products or services, seeking to satisfy the wishes and needs of consumers.
However, there are paradigms for the integration of design in quality management in organizations. There are many interpretations and barriers imposed by managers in our country, they believe that the design is just one more cost for the product. But some companies do not examine for this viewpoint. In an international context, this paradigm is being changed, particularly in Europe. Because the administration of these companies is held by people with strategic vision, or people who have corporate culture consolidated.

The behavior of buying was driven to the need to acquire the objects (Lisboa, Stefano & Godoy, 2007). Over time, the design seeks to combine the customer's satisfaction with the profit of the company. To that end, uses creativity in an innovative way to combine quality and performance, durability, appearance and cost in a single product.

According to Rozenfeld & Forcellini (2006), product development involves several activities to be performed by different professionals in different areas of the company, that is: marketing, research and development, product engineering, supplying, manufacturing and distribution.

Thus, the direction that the design is taking in its historical development are putting it in a position where it is part of the universe of organizations, experiencing their problems, markets, projects and strategies.

3. Competitive advantages and practice of design in the micro and small companies

For a company to obtain competitive advantage, it needs to adopt strategies to deal with the competitive forces in the market, which the author described in: rivalry among competitors and entry of new competitors in the market, the threat of substitutes products, bargaining power of buyers and suppliers (PORTER, 1999).

Focus on cost leadership, promotion of product differentiation and specialization in a particular market segment are generic strategies, that is, methods for dealing with competitive forces. Through these strategies, the design found ways to incorporate business practices.

The design reduces costs, in a way that its work is geared to meet the desires and needs requested by the client. But, it is in the strategy of product differentiation that the design is configured as an instrument of fundamental importance, because this also serves the general strategy of targeting. The products absorb the subjectivity of values and symbolic communication of the design. Users of these products are identified with the symbolic references and become part of the social group of consumption of a product, and when they share a lifestyle, consumers determine the target market.

In the furniture industry, despite the progress that has occurred in recent years, companies are still competing at cost and not by differentiation, the majority of their products are copied, not possessing the required uniqueness to assign a specific identity. This characteristic is common also among large companies that still do not consider the scope of the work of professional design, mainly the benefits that his work can bring to their company (SILVA, 2006).

There are several ways to relate the design and micro and the small companies, but it is clear that there is a culture consolidated in this relationship. The design is usually associated, in the case of MSC's to the high cost and not as investment, thus the development of products is up to the adapted copies or, by using hybrid projects, in which is used a copy, but with small changes.

4. Relationship between international and domestic furniture industry
Brazil, unlike other countries like USA, Germany and Italy, shows high verticalization of production, with no specialization of production in parts, components or semi-finished products, resulting in an increase in industrial costs and many steps in the same production process and in the same industrial plant.

In relation to the development of furniture, according Silva (2003), firms copy models offered in the world market, with few companies seeking to create a design itself. In relation to the environment it is important to clarify that the productive chain of the sector is little organized, this entails the difficulty of implementing environmental programs that encompass all the links in the chain.

In the presence of initiative to further integrate this picture there is improvement through programs encouraged by the representative and the government organs (ABIMOVEL, 2005).

Due to the interference of government that comes in environmental programs in order to assess possible contributions and show activity in the sector some companies indicate difficulties in the implementation of these programs or even know the existence of them. However, it is observed, mainly in small and medium enterprise, a concern with the reorganization of the management processes to monitor these changes and make the global development and manufacture of products increasingly competitive.

5. Methodology

As a methodology it was used the qualitative-quantitative research. The field work was conducted through semi-structured interviews with managers the micro and small companies. For the research were selected three companies that are part of the Furniture Center of Santa Maria, today consolidated as a furniture network with other nomenclature. It was used in the research a questionnaire to seek the views of consumers on the importance of using design as a differential factor. For consumers, the research was conducted through a questionnaire applied in the four districts with the greatest significance of purchases, as the view of managers.

In these neighborhoods the homes were visited without a defined choice, trying to maintain the randomness of it, but not all participate in the study, that is, the questionnaire was responded in a spontaneous way and filled by the users. The data were selected based on the records of the Town Hall of Santa Maria, from the municipal census of 2007. With this step done, it was calculated the estimated size of the sample. The total population of these districts is 66,113 people. Of this population it was used a stratified sample of 385 valid questionnaires applied, representing a significance level of 5%.

Results from semi-structured interviews with managers of micro-pre-selected companies were confronted with the results of sampling of furniture consumers. The content of the interviews was directed to issues about the structure of industry, design, quality, issues and expectations regarding the sustainability of the sector.

6. Discussion of results

6.1. Discussion of results as interview with administrators

According to the interviewees, Santa Maria has approximately 180 companies operating in the furniture sector. Of these, only 22% are formally legalized in the municipality. In view of the interviewees, Santa Maria-RS by being located in the central region of the state (strategic location), and by having access roads for disposal of production, can get competitive
advantage through the formation of a cluster, with reducing costs and increasing efficiency in production processes.

From the perspective of these managers, there are clashes of corporate culture that are caused by lack of vision system, because the industry does not present a homogeneous configuration. There are companies with technological capacity to design and implement products of superior quality, recognized by the market, while other companies have gaps in their levels of technology, producing products with low acceptance and credibility in the market.

For Camara & Serconi (2006), organizations by being included in a complex environment and prone to uncertainties, encourages the formation of linkages and innovative behavior. Suppliers, customers, partners, government and organizations expanded the level of interaction, changing values, products, services and information. The geographic proximity of enterprises sector specialist, for small and medium sized organizations, has enabled an appropriate environment for the development and strengthening of them.

However, it is pointed out at the point of view of managers, there are clashes of corporate culture in organizations. These shocks are caused by the lack of systemic vision of the organizations owners, therefore, the group of firms is not homogeneous. While some have greater availability of technology and produce high quality products, with recognition in the market, others have low technological levels, which generate products of lower quality and limited market acceptance. There is concern on the part of entrepreneurs with the fact that products lose their value because of lower quality products made by other companies.

As for the difficulty in the serial production of furniture, is the lack of resources for purchase of new technologies which is highlighted. One of the biggest obstacles is concentrated at the hole-making, the system 32, and CHP (cutting of high precision) due to high costs.

As the current system of hole-making and cut of most of those organizations is manual, the automated system would save the time of this activity. Another issue addressed is the lack of channels of trade, due to the characteristic of familiar organizations, the primary means of advertising is via word-of-mouth. Family firms suffer from the lack of expansion plan, in general pass from generation to generation and there is no interest to improve technologically.

As the production system, has been characterized by slow procedures on grounds of non-standardization of the same, creating problems of optimization of business. The managers, in turn, emphasize that this fact has some advantages such as personalization services, direct trade structure and low cost. This fact is due to the greater proximity to the customer, therefore, it has increased participation and interaction in the production process.

In this context the challenge is to standardize the different types of processes combined with customized products, thus creating an optimal production system. This system generates reduction of both, wasting of raw material and labor. As a result increases the potential for gains generated on the grounds of customization to meet specific needs of customers.

Owens (2006) states that are several reasons for slow progress in productive systems such as: lack of demand in the definition of product and project management, technological uncertainties, lack of support from managers and resources. Are major concerns, including management and organizational style, lack of attention to detail, limited support for innovation, lack of strategic thinking and low manufacturing capacity.

In 2003, between 50 and 60% the companies in the Furniture Center of Santa Maria had their own designer at the beginning of the operation of the core. Currently, 80% of companies have one, since they realized the importance of this function. A majority of informal enterprises,
and also most of the formal, are composed of carpenters performing their designs manually, without having specific knowledge as the expert designers. For Weng (2008) the principal means of competition in business is innovation, in which it is based on the accumulation of human capital.

There is also a lack of investment in software to achieve the legal services and the lack of marketing, which means that the companies are in the "comfort zone". For Leslie & Reimer (2003) technologies of production and specific software facilitates the development of products, as they have versatile tools that replace pilot pieces still used, so they can change colors and design many different times. Manufacturers of furniture need adapt to the constant innovation of products in the current competitive market and understand that obsolescence is a threat to their survival.

With regard to aspects relating to social environmental responsibility, it appears that in the current context, Santa Maria does not have a company that treats industrial waste of the furniture sector, so that all this waste is allocated to the municipal landfill without any treatment. Companies receive the benefit wood, so that more waste is generated. The shavings (thicker sawdust) is usually donated to needy people, who use them in a wood furnace in their homes, or institutions such as the Association of Parents and Friends of Exceptional.

The establishment of the MDF was crucial to the expansion of the furniture industry, because that is fundamental to substitution of some timber as embu, loro, mahogany and ivory, considered as noble, in which their extraction are prohibited.

One way of sustainable use of flaps of MDF, developed by one of the managers, was the creation of a plate with these flaps, which has value 60% lower than a normal plate and greater durability. This plate was tested at the Federal University of Santa Maria (UFSM) in the laboratory of physical tests.

The managers mentioned that the obligations with the sustainability of production and origin of the wood are left to the suppliers. There is a relationship of trust, if the company is reported to use wood of origin prohibited, it is responsible.

In general, the client is not a priority concern for issues of compliance for businesses with the environment when buying a product because he believes that they are acting as legal issues and also according to their social responsibility -environment.

The expectation of growth of industry in Santa Maria is small, because companies known all over the country are penetrating in the market, which have the new technologies considered essential for innovative projects. The managers of the companies interviewed indicated that companies in the region which continue with the traditional view that the changes and improvements do not affect the productivity and product quality, will lost its space in the market.

6.2 Discussion of Results from the analysis of the research point of view of consumers

The following are the results of the analysis of questionnaires applied to consumers to identify the most relevant factors at the time of purchasing of planned furniture in the city of Santa Maria. Of the sample of 385 respondents 54.3% were female and 45.5% male.

It is observed in Chart 1, that 23.4% of 385 respondents have high school education, the same proportion also for those with higher education incomplete. Only 2.60% have primary school. Thus, we find that the largest proportion of the sample was between those with complete high school education, incomplete and complete higher education, which totaled 67.8%.
Chart 1 - Level of schooling of respondents

Chart 2 shows that 23.90% of respondents have family incomes up to 10 minimum wages, while 11.4% have incomes above 13 minimum wages. Thus, the research addressed people of different social segments, which was very important because the analysis reflects perceptions of different classes of income.

Chart 2 - Household Income of respondents

Of the 385 respondents, 278, or 72.2% were aware of the practice of design, while 27.8% were unaware about the practice, that is, most of the sample knew the use of design in the development of products. One should take into account that the objective of the matter was only set if the respondent knew or not the practice of developing products using the design tool, not taking into account the level of knowledge on the subject. Thus we can conclude that in general, in some way, people know what is design, it then find out if it affects the power of decision at the time of purchase. As for the variable influence of design in choosing a product "88.3% of respondents stated that design influences in the purchase of a product and 11.7% answered no.

It is observed in Chart 4, in relation to the variable importance of design in products 51.25% of 385 respondents think it is important and 30.63% very important. Henver (2004) recognizes the importance of qualified professionals in the design and highlights that to design useful products is complex because of the need for advances in the field of creativity and areas in which the theory is still inadequate.
As the graph 5, when questioned on the variable “to take into account the use of materials in making environmentally products” 83.6% answered that they take into account this variable at the time of purchase and only 16.4% with a contrary opinion. It is also considered that 1.82% of the respondents, which means, seven (7) observed that the company should inform better the source of materials used in making the product.

For Ferreira, João & Godoy (2008), aspects related to the socio-environmental responsibility, are a way inherent to internal policies of companies, which have a strong connection with the external environment.

Therefore, organizations need to emphasize the importance of a strategy that is focused on socio-environmental issue, where the organizations can obtain a significant market, given that consumers are increasingly concerned about the issues of environment and related to this product environmentally correct (FERREIRA, JOHN & GODOY, 2008).

In relation to the analysis of the group "degree of importance which is defined at the time of purchase of a mobile" it was defined that the parameters were set at a rating of 1 (unimportant) to 5 (very important).

It is observed in Table 1 that the item of minor importance in view of consumers is the variable cultural backgrounds, "33% replied that this is indifferent. As for managers, showed that companies in the sector believe that production in the cultural backgrounds is the best configuration to gain market.
As the profile of consumers of furniture, managers say that there are two profiles on the client requirements for the product: the more calm customer, which, in general, has capacity to understand the production process, which takes into account the ergonomic analysis and questions of practicality, and client that focuses on cost-benefit, or where the products are made on time.

Stefano, Chapoval & Godoy (2008) reinforce that consumer behavior is a key theme of sustaining the entire marketing activity carried out in order to develop, promote and sell products. Clearly, to optimize the effectiveness and efficiency of marketing activities, we must seek to understand how consumers make their decisions to buy or use products.

<table>
<thead>
<tr>
<th>Variables/Scale</th>
<th>Unimportant</th>
<th>Little Important</th>
<th>Indifferent</th>
<th>Important</th>
<th>Very Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of product features</td>
<td>2.10%</td>
<td>6.20%</td>
<td>11.70%</td>
<td>44.40%</td>
<td>35.60%</td>
</tr>
<tr>
<td>Esthetics</td>
<td>1.50%</td>
<td>2.00%</td>
<td>7.80%</td>
<td>55.20%</td>
<td>33.50%</td>
</tr>
<tr>
<td>Practicality</td>
<td>1.30%</td>
<td>1.30%</td>
<td>4.90%</td>
<td>43.90%</td>
<td>48.60%</td>
</tr>
<tr>
<td>Style</td>
<td>1.00%</td>
<td>2.10%</td>
<td>12.50%</td>
<td>45.50%</td>
<td>39.00%</td>
</tr>
<tr>
<td>Quality</td>
<td>0.30%</td>
<td>1.30%</td>
<td>2.90%</td>
<td>30.60%</td>
<td>64.90%</td>
</tr>
<tr>
<td>Cultural backgrounds</td>
<td>13.20%</td>
<td>11.90%</td>
<td>33.00%</td>
<td>28.10%</td>
<td>13.80%</td>
</tr>
<tr>
<td>Divulgation</td>
<td>3.90%</td>
<td>8.10%</td>
<td>18.40%</td>
<td>43.90%</td>
<td>25.70%</td>
</tr>
<tr>
<td>Durability</td>
<td>0.00%</td>
<td>0.55%</td>
<td>1.45%</td>
<td>30.40%</td>
<td>67.60%</td>
</tr>
<tr>
<td>Security</td>
<td>0.30%</td>
<td>1.00%</td>
<td>1.30%</td>
<td>31.70%</td>
<td>65.70%</td>
</tr>
<tr>
<td>Cost/benefit</td>
<td>0.50%</td>
<td>1.30%</td>
<td>2.10%</td>
<td>34.30%</td>
<td>61.80%</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>0.00%</td>
<td>0.30%</td>
<td>1.80%</td>
<td>37.90%</td>
<td>60.00%</td>
</tr>
<tr>
<td>Company image</td>
<td>3.40%</td>
<td>3.10%</td>
<td>14.0%</td>
<td>47.30%</td>
<td>32.20%</td>
</tr>
<tr>
<td>Raw material origin</td>
<td>4.40%</td>
<td>3.70%</td>
<td>19.50%</td>
<td>43.60%</td>
<td>28.80%</td>
</tr>
<tr>
<td>Time of delivering</td>
<td>0.30%</td>
<td>0.80%</td>
<td>3.60%</td>
<td>37.60%</td>
<td>57.70%</td>
</tr>
<tr>
<td>Technical assistance</td>
<td>0.30%</td>
<td>1.00%</td>
<td>1.50%</td>
<td>35.60%</td>
<td>61.60%</td>
</tr>
<tr>
<td>Many possibilities of adaptation</td>
<td>0.30%</td>
<td>3.40%</td>
<td>11.60%</td>
<td>43.40%</td>
<td>41.30%</td>
</tr>
</tbody>
</table>

Table 1 - Percentage of variables in the degree of importance given at the time of purchase of a mobile

The most important item in the consumers' point of view is the "durability", 67, 60% responded as being very important. Other items such as "security", "quality" and "cost/benefit" were also highlighted as very important.

These variables will only be appropriate to the product and the completion of a good project design, which focus these variables, as the first step in understanding and control of these variables is the understanding of the relationship of cause and effect, which is inserted in the process production. To Moreira (2001) the product development focuses on meeting the expectations and needs of their consumers, and also meet the technical specifications of the final project.

Table 2 shows the minimum and maximum value, standard deviation and average coefficient of variation, of the questionnaire applied to consumers for the variables of the "degree of importance which is defined at the time of purchase of a furniture."

<table>
<thead>
<tr>
<th>Variables</th>
<th>Minimum value</th>
<th>Maximum value</th>
<th>Standard deviation</th>
<th>Coefficient of variation*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of product features</td>
<td>1</td>
<td>5</td>
<td>0.95</td>
<td>0.23</td>
</tr>
<tr>
<td>Esthetics</td>
<td>1</td>
<td>5</td>
<td>0.78</td>
<td>0.19</td>
</tr>
<tr>
<td>Practicality</td>
<td>1</td>
<td>5</td>
<td>0.75</td>
<td>0.17</td>
</tr>
<tr>
<td>Style</td>
<td>1</td>
<td>5</td>
<td>0.81</td>
<td>0.19</td>
</tr>
</tbody>
</table>
Quality & Cultural background & Divulgence & Durability & Security & Cost/benefit & Satisfaction & Company image & Raw material origin & Time of delivering & Technical assistance & Many possibilities of adaptation \\
1 & 5 & 0.64 & 0.14 & 1 & 5 & 1.21 & 0.38 & 1 & 5 & 1.04 & 0.27 & 2 & 5 & 0.53 & 0.11 & 1 & 5 & 0.60 & 0.13 & 1 & 5 & 0.66 & 0.14 & 2 & 5 & 0.54 & 0.12 & 1 & 5 & 0.94 & 0.23 & 1 & 5 & 1.01 & 0.26 & 1 & 5 & 0.63 & 0.14 & 1 & 5 & 0.61 & 0.13 & 1 & 5 & 0.80 & 0.19

Note: * The coefficient of variation is the ratio between the standard deviation and the average and is presented as percentage (%). If CV: less than or equal to 15% - Low dispersion - homogeneous, stable. Between 15 and 30% - Average dispersion. Greater than 30% - High dispersion - heterogeneous.

Table 2 - Standard deviation, average, maximum and minimum coefficient of variation of the variables on the "degree of importance given at the time of purchase of a mobile"

As the coefficients of variation found for the respondents, for the sixteen issues, we obtained a percentage below 30%, which means that the averages are representative for the dataset analyzed, that is, the values are considered important for interviewed. In variable cultural backgrounds "the coefficient of variation found was over to 30%, that is, the answers of the interviewees are highly dispersed. Chart 6 shows the averaged allocated by the factors that consumers consider to be more important when buying a furniture.

As the graph 6, the issue of security, with an average of 4.62, gained prominence when parents worry about the safety of their small children, because projects with failure to produce furniture pointed corners or generate shares cutting, which increases the possibility of accidents. The ergonomics, in view of Nunes & Franzoni (2004) on the management of processes and quality in organizations is that they examine these processes emphasizing the organization as a whole, thus linking the needs of all users involved, these needs can be of different levels. The convenience variable, identified as important by consumers (average
4.37), is also linked to the ergonomics of product, because a good project sees issues of comfort, maintenance, cleaning and use of them.

As for aesthetics (average 4.17) there is a product that can be aesthetic and not have a defined style, and may lose the focus, such as classic furniture, contemporary etc. The aesthetic is intrinsically linked to the style, and that, is the professional of design who must set the right focus.

Regarding the variable "different possibilities of adaptation, with an average 4.22, it is emphasized that it is another reason for organizations to take forward the process of production of modular furniture, which are characterized by flexibility to be adapted according to the need of consumers. The furniture module allows serial production with lower costs. According Hexcel (2003) the product has advantages of use, due to greater rationality in the occupation of space and enables that an environment can be acquired gradually.

Another important aspect to highlight is the "image of the company," emphasized as important to consumers (average 4.02). Any company that invests in design, whether large, medium, small or micro, makes his mark known in a positive market for the quality of what is produced, because their products add functionality, beauty, comfort, efficiency, respect for the environment, as well as innovative features and more technologically advanced.

The variable cost / benefit was also identified as important by consumers, (average 4.56), occurs when a company has a production process optimized, so that costs and expenses are minimized, reflecting on the final price of the product to be marketed by the company.

<table>
<thead>
<tr>
<th>Do you know the practice of designing products?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schooling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incomplete Primary School</td>
<td>40.0%</td>
<td>60.0%</td>
</tr>
<tr>
<td>Complete Primary School</td>
<td>52.0%</td>
<td>48.0%</td>
</tr>
<tr>
<td>Incomplete High School</td>
<td>59.1%</td>
<td>40.9%</td>
</tr>
<tr>
<td>Complete High School</td>
<td>70.0%</td>
<td>30.0%</td>
</tr>
<tr>
<td>Incomplete Higher School</td>
<td>77.8%</td>
<td>22.2%</td>
</tr>
<tr>
<td>Complete Higher School</td>
<td>75.3%</td>
<td>24.7%</td>
</tr>
<tr>
<td>Incomplete Post-Graduate</td>
<td>83.3%</td>
<td>16.7%</td>
</tr>
<tr>
<td>Complete Post-Graduate</td>
<td>78.6%</td>
<td>21.4%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>72.2%</strong></td>
<td><strong>27.8%</strong></td>
</tr>
</tbody>
</table>

Table 3 - Crossing the variables “Do you know the practice of designing products?” with “Level of schooling”

It is observed in Table 3 that 83.3% who know the practice of design have postgraduate incomplete, while 60% of the ones who do not know contains primary school.

<table>
<thead>
<tr>
<th>Which product do you choose to buy?</th>
<th>Product with design</th>
<th>Product without design</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Till 3 minimum wages</td>
<td>72.7%</td>
<td>27.3%</td>
</tr>
<tr>
<td>Till 5 minimum wages</td>
<td>72.0%</td>
<td>28.0%</td>
</tr>
<tr>
<td>Till 7 minimum wages</td>
<td>71.6%</td>
<td>28.4%</td>
</tr>
<tr>
<td>Till 10 minimum wages</td>
<td>83.7%</td>
<td>16.3%</td>
</tr>
<tr>
<td>Till 13 minimum wages</td>
<td>84.1%</td>
<td>15.9%</td>
</tr>
<tr>
<td>More than 13 minimum wages</td>
<td>87.0%</td>
<td>13.0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>79.0%</strong></td>
<td><strong>21.0%</strong></td>
</tr>
</tbody>
</table>

Table 4 - Crossing of variables “Which product do you choose to buy?” with “Family income”
Table 4 shows that 87% of respondents who choose products with improved design and environmentally correct, with a price higher than normal have a family income over 13 minimum wages. Overall, the respondents are willing to pay more for a product with good design. Shows that, regardless of social stratification, the importance of design is considered relevant.

This willingness to pay more for a well prepared design product, reflects the variables in which consumers have been addressed, because they know exactly the levels that make a product of the higher level, they increased their level of requirements before a decision to purchase furniture.

Therefore, the present practice of design shows fundamental importance in management, value it is to ensure competitiveness to the product and development to the company, since performed by experienced professionals, who can adapt the company's resources, market needs and goals to be achieved.

7. Conclusion

The search for mechanisms that create competition between companies is becoming more intense and the race for innovative methods to achieve efficiency is of great importance. The case of the Brazilian furniture industry, it needs to structure itself with emergency and impose a tendency to allow it to reoccupy the spaces lost and entering new markets. This research sought to understand how these companies operate in relation to factors related to design, and also extending the discussion about environmental issues such as sustainability. The managers were interviewed of the Furniture Core of Santa Maria and sought to understand the viewpoint of consumers. Showed that the view of some managers to design is characterized as something that higher the production cost incurred in unnecessary costs for businesses.

In the study it was evident that the micro and small enterprises of the sector, will only consolidate the use of design when they are actually losing ground in the market to incorporate the design in their culture. This conservative approach in view of some managers in part related to the paradigm that is associated with short-term vision that sees the design as just a cost. Meanwhile, a long-term vision of the original cost of the product will be diluted to increase sales and credibility in the consolidation of the company, both in the quality of product, such as issues of social and environmental responsibility. Observe that the reality of the furniture sector demand big improvement in its production chain, because the furniture industry, almost entirely, is composed of family businesses and national capital entirely, as evidenced by the results of field research held in Santa Maria - RS.

This is due to lack of vision and entrepreneurial attitudes of entrepreneurs, which are characterized as the familiar character, where investments in research and innovation are on the margin, as in most of the production is set to craft. The role of design management in this sector, it is characterized as enhanced technology available to develop new products, the organization and operation of enterprises and especially to seek excellence in service delivery. The companies that will come from other places to invest in the region, which have strong capital to invest, are probably already working with this methodology. Due this, the region's companies that do not fit the current context where the changes are continuous, will hard
remain on the market, and which will survive only a short term, will be outdated, because both the technological aspect, and the regard to corporate culture.

References


