

Strategic innovation management in the furniture industry

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Abstract: This paper discusses the innovation issues involved in the product development process. Our main purpose is to characterize general innovation strategies and the strategies adopted by the Brazilian furniture industry. This study was conducted in metropolitan Curitiba. To this end, a bibliographical survey was made, placing the Brazil's furniture industry into context and clarifying the strategies of companies located in the aforementioned region. The information obtained through a questionnaire was complemented with interviews conducted with furniture designers. This survey provided data, which was then compiled, analyzed and interpreted in order to establish a picture of the dynamics of innovation in metropolitan Curitiba's furniture sector. Based on a bibliographical review and on current practices in the furniture industry, parameters are established and proposals made for five strategies these companies can adopt to develop innovative, competitive and value-added products. To complete the study, several initiatives of three furniture companies operating in metropolitan Curitiba are described. Several strategies are then proposed, which are tailored to fit these initiatives, illustrating the correlation between the aspects observed and innovative products.

Keywords: furniture industry, innovation, competitiveness

1. Introduction

The quest for products that present differential characteristics from their concurrenents and simultaneously represent something new to the customers has become one of the most important objectives in the business organizations. Considering the nowadays global markets, in which customers are more informed and demanding, to develop strategies that can help managing innovation (resulting products that present novelty and are distinguished by the customers) is a need that has to be completely fulfilled. However, even considering the importance of the previous context, the culture of counterfeiting, present in several segments, imposes restrictions in the development of innovative products.

The present work considers the observations originated from the products developed by the Brazilian furniture industry. The inexistence of a methodical approach in product development that involves innovation, as well as the lack of information from the furniture industry, are the major factors that have been driven this study. From the Literature review concerning innovation and a survey conducted in the Metropolitan Region of Curitiba, five propositions of strategic range, considering innovation aspects in the development of product in the furniture industry, are suggested. Three cases from companies operating in the region of survey and obtained from the "Criação Paraná" initiative, are presented. Several of the strategies proposed could be found in the cases examined, suggesting that their use can originate products with innovative, competitive and added value characteristics.

2. The innovation

The concept of "new" (considering product, process and service) has been enlarged in the market with the association with innovation. Those organizations or companies that have been working with obsolete products or technologies, tend to lose market, since the

customers, who are better informed, are constantly looking forward for products that can satisfy their changing needs.

The development of new products has to be based in the human experience, social and global problems, economic issues, production, form, use, creativity, as well as a deep understanding of the present culture. As soon as, the company seeks to establish different characteristic to its products and these are easily perceived by the customer (becoming decisive in the purchasing act) the product acquires a superior status in relation to the concurrenents. Therefore, this product is associated to a company that presents an innovative potential.

The main barrier to the innovation, is not related to the new product configuration, but due to the uncertainties and risks that the company has to face. However, what has to be considered in this case, are the advantages that the innovation brings into the product and that can significantly surpass the disadvantages. Innovation can introduce the following advantages: 1) explore an unknown market; and 2) the introduction of a technology that has not yet been used by the company. Learning how to deal with these risks can lead to creative solutions.

BAXTER (1999) classifies the innovation strategies into four categories (Table 1).

Finally, its important to note that the strategic plan sets a development path to the company, guiding the management decisions, which have to be coherent with the strategy adopted by the organization.

3. The Brazilian furnitury industry

In Brazil, one of the industrial sectors, that can benefit from the application of strategies for product innovation is the furniture sector. Nowadays, 16,000 companies of several sizes work in this

Table 1. Innovation strategies according to BAXTER (1999).

Strategy	Characteristics
Offensive	<ul style="list-style-type: none"> • investment in Research and Development (R&D); • multidisciplinary teams; • the long term payback perspective; • strong marketing approach; • companies are seen as market leaders.
Defensive	<ul style="list-style-type: none"> • do not invest very much in R&D, although some research is conducted to follow the leaders; • work with reduced costs and risk; • do not need strong marketing actions, since the market already accepts the product; • can be framed as being the “second in the class”, since usually they wait the product launching from the market leaders.
Traditional	<ul style="list-style-type: none"> • trade their products in stable markets; • innovations are not relevant, and are limited to few modifications in the product; • companies with few resources to introduce innovations.
Dependent	<ul style="list-style-type: none"> • companies that are subcontracted, very much dependent on the head office or clients to introduce innovations;

segment. The Furniture Parks worth to be mentioned are: Bento Gonçalves (RS); São Bento do Sul (SC); Araçatuba (PR); Linhares (ES); Ubá (MG); Mirassol, Votuporanga and Great São Paulo (SP) (GORINI, 2000).

This segment presented a gross revenue of R\$ 8,8 billions (ABIMOVEL, 2003). Despite that, certain companies when developing new products, employ strategies that result in products that are not competitive in the market, with low added value and very similar to the others.

The market research is not considered as a strategic factor amongst most companies in the furniture sector. Several companies even do not know their customer profile, leaving to the retailer, sales person or commercial representative, those considerations with respect to the new products. Other information sources are the business fair, from where several companies copy those products that have been considered a market success (which becomes a parameter for new launchings) (GORINI, 2000).

The furniture companies present a diverse degree of technological application. Since, it involves a manufacturing process, where final product is usually the assembly of several parts, the upgrading of the plant (shop floor) can be implemented into phases of the productive process. Therefore, it is common to find in a same company old fashioned equipments dividing the same room with modern and sophisticated machines.

The main source of design adopted by most small and medium enterprises (SME's) is what has been called as “hybrid project”. This consists of unifying several models into a single alternative, which has been inspired in pieces observed in fairs, specialized magazines and concurrent catalogues. Thus, the strategy to create new products is based in observation and copying. SANTOS (1999) mention an opinion expressed by a furniture businessman: “The new furniture customer is becoming more faithful to the directives imposed by the decorative fashion. Our company, introduces modifications following national leading companies or copying imported products, just “tropicalizing” it”.

The big companies in the market opt to develop their own products. Several of them, employ the “trial and error” approach. Others, develop their own projects in a more efficient manner, hiring qualified members to integrate the team, contracting design offices or even free-lance designers. Several SME's that have adopted in the past the “hybrid project” approach, have been following the strategy

of the big companies, aiming at differentiating their products and thus obtaining a competitive advantage (SANTOS 1999).

3.1. The metropolitan region of Curitiba

Starting from the characterization of the furniture industry in Brazil, a survey in the Metropolitan Region of Curitiba has been conducted. This survey aimed at producing an overview of the strategies adopted by the local companies considering the product innovation issue. Thus, an objective questionnaire was sent to 52 companies, via e-mail. The questionnaire was divided into two parts. The first one, contained questions that should gather general characteristics (number of employees, time in the market, type of furniture, types of materials, customer profile). The second one, questions involving specific topics related to innovation were prepared.

The return of questionnaire was 13% and Table 2 presents a general panorama of the companies (identified generically by E followed by a number) involved.

3.1.1. Collected information: questionnaire

In the questionnaire, it was asked which elements can induce the product success. Several factors were listed and the respondent had to appoint three of them in order to importance (1°, 2°, 3°). It was observed that items such as: functionality, comfort and brand were present in most of the answers, not considering its relative position. The “design” factor was not mentioned on purpose, aiming at identifying it the companies would consider it important to the success of their products. Only two companies, mentioned design as being an important factor (one listed it in the 1st place).

Next, companies should indicate how often they were introducing modifications in the style of their products. Five companies answered that they input modifications in the style of their products, and four of them, implement them every six months. Similarly, they should signal about their approach towards materials and finishing. Six companies stated that they introduce either new materials or finishing every six months. Following, the retailing profiles were identified. What was observed that the majority of companies sell their products through small retailers. Two companies have their own selling points. One company mentioned to be exporting its products. Those companies working up to order indicated as commercial channels, architects

Table 2. General panorama of the sample.

Company	Time of performance in the market	Number of employees	Classification	Furniture type that manufactures
E1	25 years	10 to 49	Small	Under measure - residential
E2	35 years	10 to 49	Small	Upholstered
E3	14 years	Above de 100	Big	Closets, shelves, tables and racks
E4	10 years	10 to 49	Small	Upholstered
E5	15 years	10 to 49	Small	Center table / lateral / cupboard
E6	19 years	50 to 99	Medium	Pieces of furniture for office
E7		10 to 49	Small	Under measure - residential and commercial

and interior designers, who develop the projects that have to be produced.

In another section, it was asked if a market survey to launch new products in an approach employed, as well as, if these companies have a systematic procedure to measure the product acceptance level with its clients. In this case, five companies do not conduct any market survey to launch new products. On the other hand, six of them stated that they follow the final customer acceptance level, via technical support, call centers and sales person feedback.

Next, it was sought to highlight the strategies adopted by these companies to develop new products. The survey revealed that those products that were a selling success become a reference to the new ones. Another strategy mentioned is the visits to fairs which provide “inspiration” to launch new products. Three companies maintain their own design team. Those companies working up to order, see the architects as responsible for developing new products, once the company just produces the furniture and has little participation in the product project.

Finally, four companies were favorable to establish partnerships with other organizations to open new markets, while three of them do not demonstrate any interest in that.

3.1.2. Collected information: interview

The complement the information collected by the questionnaire survey, an interview with designers working in the furniture industry was conducted. The structure of the interview was similar to the questionnaire. In this case, the area of interest was to relate the designers professional experience to the innovation context. According to the professionals interviewed, until few years ago design and innovation were seem as burden that increased the costs of the final product. Therefore, several companies would use the “copy” approach to launch “new” products. However, according to the interviewed, gradually this scenario is changing and nowadays, several companies see design and innovation as means to provide differential characteristics to the products, ensuring competitiveness and added value to the target-market is not well known and few companies measure the acceptance level of their products.

3.2. Innovation in the furniture industry: scenario

Contrasting what has been found in literature with what occurs in the furniture industry, it has been observed that to develop new products most companies are employing inadequate strategies. Therefore, some products do not fulfill the customer expectations, do not present any differential characteristics and not competitive in the

market. From the previous section, a set of strategies for innovation in the furniture industry can be proposed.

4. Proposed strategies

In this section, five propositions of strategic range that aim at helping in developing innovative products in the furniture industry are presented.

4.1. Differentiation

For a product to be considered innovative, it must present some features that are unique to whom buys it, or contains an attribute that differentiates it from the others. What has been observed is that in the furniture industry the similarities in most products difficult to observe the differentiation aspects. The hybrid project approach, which several companies adopt to produce modified copies from existing products, makes this differentiation even less perceived. As a result, a strong standardization occurs, which restricts design variations, originating models of domestic furniture very similar to each other. The application of traditional and defensive strategies is a very common approach. The first one, allows the introduction of minimum changes, usually restricted to finishing variations (e.g. furniture with cherry/mahogany patterns modified to ivory/tobacco finishes). The second one, relies on the observation of catalogues from concurrents, specialized magazines and visits to furniture exhibitions as means to develop new products.

From this context, it is proposed that the company should invest in hiring a design personnel who would be responsible for specifying the new product according to the company’s capacities. Adopting an offensive strategy, seeking to really develop innovative products, working with multidisciplinary teams and involving the whole company in the innovation process, will contribute to launching products more competitive and with added value.

In this case, the manufacturing process that are not inside the company’s domain can be subcontract, contributing for a more complete development of the productive chain in the furniture industry.

4.2. Knowledge about the target-market

Knowing the market that the company is aiming, therefore avoiding a short sight of the potential customers, is an important strategy not only to develop innovative products, but also products coherent with the customer aimed.

What has been observed with the results from questionnaires and interviews, is the absence of implementing any type of research, in order to know the customer and the target-market. If a company

does not know for whom it is designing, it also does not know what it wants to be (e.g. a market leader). For that, actions such as identifying the clients costumes, habits and needs in the domestic routines of Brazilian households (focusing on functionalities and preferences) should be adopted. This can be reached by a direct survey with customers and professionals of diverse furniture branches, as well as companies call centers. A fast recognition of these profiles is important, since it unveils new market opportunities that, if well explored, can induce the development of innovation products.

4.3. New materials

The use of a novel material or a new application for a known material, can result in a innovative product. From the information obtained with the survey, it has been observed that the most companies have stated to change the materials that they apply in the manufacturing process. However, it must be emphasized that changes in finishing colours and pattern variation do not represent innovation. Several companies understand differentiation as only argument for innovation. Announcements such as “This product is 100% MDF”, induces the customer not to think in the company’s product, but that the company is a material “retailer”. In this case, it is proposed that new materials should be explored, as well as new forms of using known materials. The application of alternative materials such as bamboo, coconut fibers, banana-free fibers, despite producing interesting effects, are low-cost raw materials and, when adequately employed, can add value to the final product.

4.4. Technology transfer

The technology transfer can occur when a company purchases a new equipment, fulfills an order, invest in training an employee, the upgrade of the productive process is performed in stages. Micro and small companies usually cannot afford the costs of a radical change. I has been noticed thought the data from survey, that furniture industries from the Curitiba’s Metropolitan region can establish partnership agreements. From this perspective, it is suggested the association between companies to develop joint projects of common interests, originating competitive advantages such as: purchasing of raw-materials at reduced prices; acquisition of technologically adequate machines; accrediting suppliers; co-participation in relevant events and industrial/ commercial fairs, among others. Apart from that, the change of experiences could generate a technology transfer that can bring benefits to both sides of the partnership.

4.5. Style definition

The developed products that present unique characteristics, which define a proprietary style, can be easily recognized by the customers, and decisive for the purchasing act. The Brazilian furniture industry, the culture of products “copying” (locally produced as well as imported) is largely present in several SME’s. When employing the “copying” strategy for product development, it results that the product does not present a proper identify, the companies do not show a characteristic style. As a consequence, a brand and customer preference is not consolidated. Considering this context, it is proposed that the company’s style should be constructed. This can be obtained hiring a qualified professional, who with the company’s personnel, can establish a market positioning, and concepts that should be explored together with the products image, so the customers can associate them to the company. The product language definition can be explored (originating differentiated products), considering local characteristics, handcraft items, population habits and trends, company’s productie capacities, among others.

5. Illustrative application

Starting from a partnership among State Government, Sebrae, BRDE, Tecpar, FIEP and Center of Design of Paraná, appeared in January of 2001 the program “Criação Paraná”, whose objective was it of diffusing the design as innovation tool, through the development of competitive products and of joined value. They participated in the program 47 companies of the whole Paraná, and of these, 17 were of the furniture industry (Criação Paraná, 2002). To complete this study, they will be described the initiatives of three company that participated in the program “Criação Paraná” and that they are part of the Metropolitan Region of Curitiba. The developed products will be presented, as well as pointed some strategies described previously and that they were used for the development of these products. The Table 3 presents the three developed products.

6. Conclusions

With this study it has been possible to illustrate the levels of insertion means of innovation management in the Brazilian furniture industry. From what has been analyzed and interpreted, five strategical propositions that can be adopted by those companies from the Metropolitan Region of Curitiba. This study aims at supplying

Table 3. “Criação Paraná” products.

Image	Product	Propositions
	<p>The company, wich works with up to order furniture, wanted a new product manufactured in series, that could compete in the internal market. From a company’s request, the apuí material (Brazilian liana) was employed for the superior and interior covers. Additionally, solid wood, waferboard and glass were applied. With this a differential piece of furniture was created, merging social and cultural values, with a great ethnic appeal.</p>	<p>Target-market knowledge: furniture of series production. New materials: the unique use of a national raw-material (apuí). Style definition: the application of elements (liana, fittings in the drawer) that can be associated to a handcrafted works, to a piece of furniture produced in series. This strategy allows to develop a proper style to the furniture, differentiating in the market.</p>

Table 3. Continued...

Image	Product	Propositions
	<p>The company produces high standard chairs, employing solid wood. The considered design should somehow reuse the raw material chips and parts. From this context, a portable bench with moveable back support was developed. The back support can be repositioned to stand plates fork and silverwares, being ideal for barbecue rooms. The proposed bench is versatile and can be nested. Another differential exists in the patterns and set os colours obtained from pieces of different wood types.</p>	<p>Differentiation: it is a differentiated piece of furniture, implementing more than one function, and that can be nested.</p> <p>New material: despite using a raw-mateial that was already known by the company, the unusual way of applying it was innovative. What was previously problem to the company, originated a new product, with added value and presenting a rational manufacturing.</p> <p>Style definiton: a work that values national raw material was conducted. Additionally a style was introduced, when simplifying the fittings in the product.</p>
	<p>In this case, the product resulted from the complete development cycle: a design office, the industry itself and sales organization. The industry originally was responsible for supplying parts and components for products. When it acquired a new polyurethane injection equipment, people perceived an opportunity to develop a whole product (not only parts). The design office studied the poliurethane characteristics, fitting them into a novel product proposal. Therefore, a design of a chair with seat and back support, both injected in poliurethane, was developed. Additionally, graphisms were explored, as a differential approach. The production process is CFC free (water-based), which implies a non-pollutant environment (ecologically correct) with reduced costs.</p>	<p>Differentiation: hiring a design team that developed the product together with the industry. In this case, it was possible to join the knowledge of the company's available process to the new possible products developed by the design team. Therefore, the multidisciplinary team designed a differentiated product.</p> <p>New materials: here, a material that was considered to be secondary by the furniture industry (poliurethane), was employed. Therefore, this material became a differential in the final product.</p> <p>Technology transfer: the purchasing of new equipment originated new project opportunities.</p>

means for these industries to develop innovative solutions for their products.

The furniture industry in the focus region lacks of innovative products. However, from the illustrative application, it has been observed that the application of strategies aiming innovation can spring differentiated products, that are competitive and added value.

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