



The Clothing Industry in the State of Tlaxcala: Approximation to the Key Factors for the Innovation

Alicia López Vázquez* · Crisanto Tenopala Hernández · Maria Elizabeth Montiel Huerta ·
Kathy Laura Vargas Matamoros

Administrative Engineering Department, Technological Institute of Apizaco, National Institute of Technology of Mexico, Apizaco, Tlaxcala, Mexico
lova_alicia@hotmail.com

Abstract: After realizing a substantial analysis of the state of the art with respect to the SMEs of the clothing sector in the state of Tlaxcala and investigating their current context, it becomes crucial to focus research efforts to undermine the problems detected, considering the Innovation as an indispensable strategy to greatly counteract the current situation. With this background, this study aims to analyze the key factors that inhibit innovation activities in the aforementioned sector, as well as the percentage of companies that have carried out innovative activities in the last period of operation, which have an innovative interest. which have led or carried out an innovation process. For this purpose, a type of non-experimental-transactional-descriptive research is used, where, through the analysis of information, a value proposition is proposed: "The design of an agent for innovation".

Resumen : Tras realizar un análisis sustancial del estado del arte respecto a las Mipymes del sector vestido en el estado de Tlaxcala e investigar su contexto actual, resulta crucial enfocar esfuerzos investigativos para minar las problemáticas detectadas, considerando a la innovación como una estrategia indispensable para contrarrestar en gran medida la situación actual. Con tal antecedente, el presente estudio tiene como objetivo en primera instancia analizar los factores clave que inhiben las actividades de innovación en el sector mencionado, segundo, detectar el porcentaje de empresas que han realizado actividades innovadoras en el último periodo de operación, tercero, descubrir a aquellas que tienen interés innovador y, por último, revelar el motivo que los ha llevado o llevaría en adelante a incursionar en algún proceso de innovación. Para tal efecto se emplea un tipo de investigación no experimental-transeccional-descriptiva, donde, mediante el análisis de la información se plantea una propuesta de valor: "El diseño de un agente para la innovación".

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1. Introduction:

The clothing industry in Mexico has been a key component in the country's economy for years, mainly due to its participation in market dynamics, the number of economic units it represents, the volume of personnel employed and its outstanding contribution to GDP since a national and state perspective. The textile industry and the clothing as a whole confirmed on average 5% of the GDP of the manufacturing industry at the national level with a significant decrease from the year 2010 (Figure 1); while, in Tlaxcala, the percentage of participation of the sector rose to an average of 12.5%, reporting a minimum growth of 2013, which can be seen in Figure 2 (INEGI, 2016).

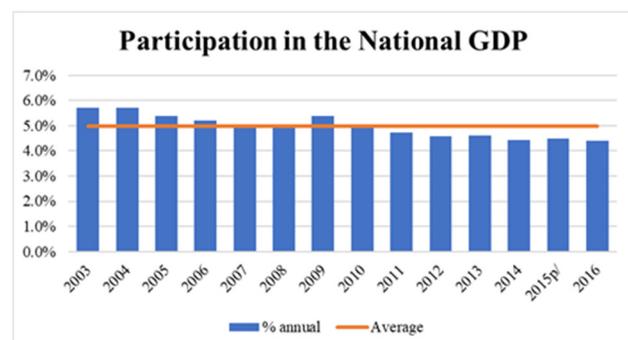


Figure 1. Participation of the textile and clothing sector in the GDP of the manufacturing industry nationwide
Source: From (INEGI, 2016).

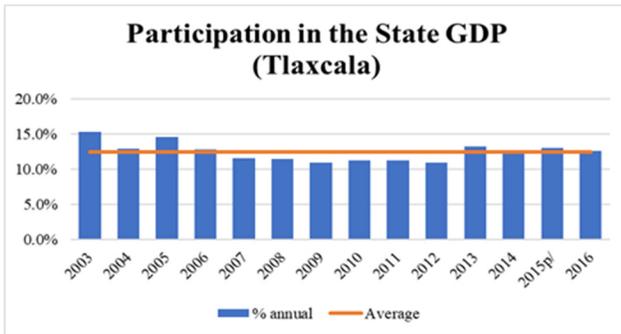


Figure 2. Participation of the textile and clothing sector in the GDP of the manufacturing industry at the state level
Source: From (INEGI, 2016)

Thus for García Castro (2004) the textile and clothing industry presents problems from its structure, summarized in technological lag, the lack of its own design, shortage of trained personnel and the little integration of the links of the textile productive chain, to which we must add the fall of the domestic market and the lack of financing for companies, the growing participation in the market of the "illegal" industry and the costs derived from insecurity; thus, Vera Muñoz et al. (2013) complements that starting in 2001, with the preferential treatment granted to the Caribbean countries and the incorporation of China into the WTO, (who would later recover the US market) it was left in serious straits to the Mexican industry in general, especially by the exaggerated competition that was unleashed with the opening of our markets facilitating in a certain way imports.

In this way we reach the current mode of operation of the clothing industry in Mexico where most economic units concern micro, small and medium enterprises whose main activity is located in the maquila (assembly) specializing in labor-intensive activities with little added value, while large economic sectors such as the United States opted for higher value-added activities (design, research, and market development) (Ramos Francia, & Chiquiar Cikurel, 2004).

Under the new conditions, the subsistence of the sector is derived from unique combinations of research, design, sales, marketing, and high-quality financial services. From the above, it is affirmed that the opportunity is found in a timely way to move from the assembly to the complete package or own brand inclusive, understanding that to achieve this integration in the linkage, learning processes are required that develop technological, innovation, administrative and business capabilities (Gereffi & Memedovic, 2003; VERA, 2009).

This review explains why the study, where the central objective as mentioned in the synthesis aims to determine the key factors that inhibit innovation in the state of Tlaxcala, considering the lack of innovation in its products as one of the main problems facing the clothing industry and that stops its growth, as well as an essential

element so that micro, small and medium enterprises can initiate an enveloping process that leads them to venture gradually in more links of the productive chain, managing to maintain, grow and compete in the current market.

2. Methodology:

In this section, we present the design of the research, which will be the guideline that marks the development of the study and contributes to the achievement of the proposed purpose. For Hernández Sampieri, Fernández Collado, & Baptista Lucio, (2010) "The term design refers to the plan or strategy designed to obtain the information that is desired" (p.120), thus, for the investigation in the matter, it is as shown in Figure 3.

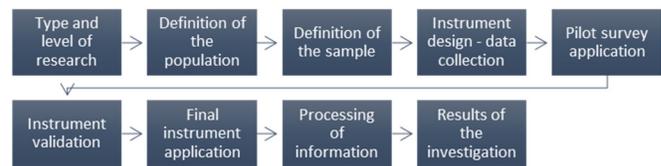


Figure 3. Project research design.

Source: From (Hernández Sampieri et al., 2010).

2.1.Type and Level of Research:

The research is non-experimental, given that the information is obtained from the current business situation, without building a scenario or changing variables, transactional because the data collection is done in a single time determined and descriptive, then seek to determine the key factors that inhibit innovation.

2.2. Definition of the Population:

To carry out this section of the design, information provided by the National Statistical Directory of Economic Units (DENUE) is used and three prevailing factors and two phases to carry out the filter are taken into account, which is visualized in Table 1; then, the central-southern zone of the state where the highest concentration of MSMEs is found (Figure 4), resulting in a final population of 413 companies.

2.3. Definition of the Sample:

Based on the information of the population, it is decided in the researcher's opinion to carry out a non-probabilistic sampling, explained by the limitation in resources (time, economy, distances, and personnel), and based on the availability of collaboration entrepreneurs (Walpole, et al., 1999); In this way, the goal of capturing information from 38 economic units was set.

2.4. Desing of the Data Collection Instrument:

For this purpose, a structured survey is designed to assess and determine which are the key factors that inhibit innovation in the target sample.



2.9. **Derived from the processing of the data** and following the objective of the study, the following results are detailed:

3. Results:

a) The Key Factors that Inhibit Innovation:

We obtain the result shown in Figure 5, where, according to the data obtained, it is observed that there are four key factors identified as inhibitors by entrepreneurs in MSMEs.

- F1- Linkage and cooperation with other organizations.
- F3- Technological and absorption capacities.
- F5- Impact of innovations.
- F6- Sources of financing and use of public instruments.

With the identification of the key factors that delay innovation, it is possible to create a proposal that counteracts the effect of them and in the best of cases, take them to a level of development where they become enhancers of innovation.

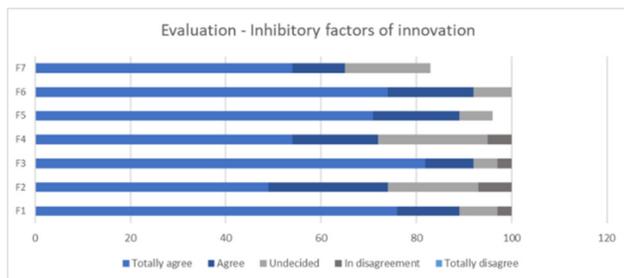


Figure 5. Results of the evaluation for inhibitory factors of innovation.

Source: Based on the results of the survey.

b) In relation to the percentage of companies that have carried out innovative activities from the current situation and up to the last year of operations, the results of the Item no. 9, observed in Figure 6, show that only 3% claim to have done it very frequently, 13% frequently and the sum between casual and rare amounts to 84%.

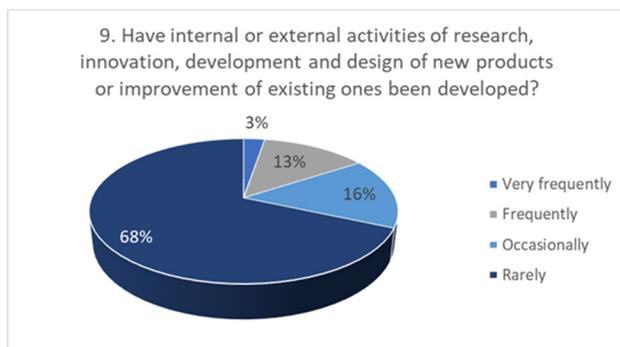


Figure 6. Companies with innovative activities.

Source: Based on the results of the survey.

c) About the companies that have an innovative interest, a total of 89% of the companies surveyed that claim to be interested in venturing into innovative activities are obtained, which is a fortunate result that could be interpreted in which the entrepreneur is aware of the urgency to innovate and what can be represented for your organization, however for the reasons of the barriers that have been mentioned in this study as inhibiting factors, these intentions have not been able to be consolidated (Figure 7).

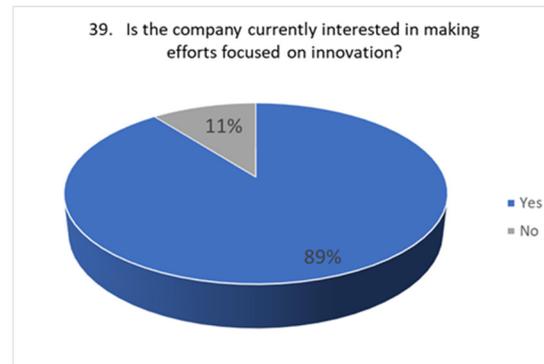


Figure 7. The interest of the company to initiate innovation activities.

Source: Based on the results of the survey.

d) Regarding the reasons that would lead companies to enter into an innovation process, it was found that the main driver of their innovative interest is the differentiation of products, that is, the development of new or significantly improved products with a 42 %, followed by 37% for the search for reduction in production costs through: Use of new materials, changes in the process, incorporation of new equipment, changes in distribution channels and marketing strategies and / or better use of labor, another cause with medium strength is the detection of a total or partially unmet demand in the market with 16% and finally 5% is the search for new niches or markets (Figure 8).

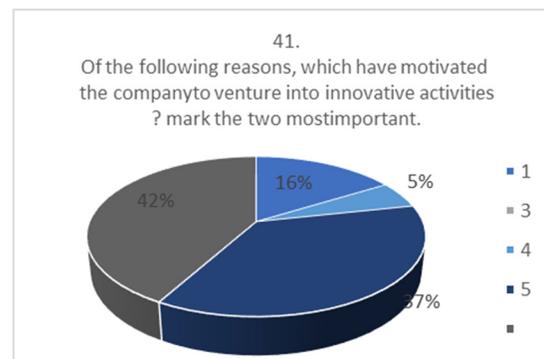


Figure 8. Determinants of the incursion into innovation activities.

Source: Based on the results of the survey.

4. Conclusions

Although it is true, the key factors studied, constitute a powerful inhibitor of innovation with respect to the current situation of the sector, however; seen in reverse, well developed, articulated and with proper management, can become key factors of success for innovations in the clothing industry.

Given that the current problem lies in the lack of innovation in this sector, a subject for which the performance of the same in recent years has been precarious, with a tendency to worsen, in the results of the study it was observed that only 3% of the companies declare to carry out innovative activities very frequently and 13% frequently, although due to the results of the extensive survey it could be thought that the percentage is much lower, that the results were not as expected or that the innovation process was carried out in an unplanned way and with adapted resources (not intended for it).

On the other hand, as mentioned above, the factors studied can inhibit or favor innovative activity, in this way, in the country and very particularly in the state of Tlaxcala they have been rather debilitating; So, this study highlights the need to put into action an adequate management of them, which contributes greatly accelerating the innovative performance of the sector.

The figures in paragraph b) in the section "results" alarm and show that the innovative work is scarce, hence the importance of initiating or reactivating innovation as a competitive strategy, through an organization that articulated with others agents of the business ecosystem and systemically attend to the needs of MSMEs, acting as a facilitator of the key factors that far from delaying, trigger the innovation of the clothing sector in the state of Tlaxcala.

Such a structure should attend critically the four agents detected as key inhibitors, 1. Be able to link and achieve cooperation between MSMEs and other agents of the innovative environment, 2. Provide technology companies and professionals with topics of innovation in the design of your products, why focused on product design? Since this represents the main motivator to venture into innovative activities expressed by the employer, added to that is a strategy of differentiation and competition before import goods, 3. Manage innovations so that innovative efforts are guided by clear objectives and defined, through efficient planning that increases the probabilities of maturity and placing on the market of the project, 4. Capture, manage and provide information on public support instruments, applicable to your project, process and/or product. As well as informing and channeling entrepreneurs to the adequate sources for financing them.

Corresponding Author:

Alicia López Vázquez, M.E.

Administrative Engineering Department, Technological Institute of Apizaco, National Institute of Technology of Mexico, Apizaco, Tlaxcala, Mexico.

E-mail: lova_alicia@hotmail.com

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