Textile Companies and the Factors Involved in Their Competitiveness. A Bibliographic Review

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Abstract

Currently, large, medium and small companies present great challenges in a global and competitive world, the human factor within the organization has taken an important role because it is to be thinking within the company with the determination of the fulfillment of the objectives. In this context, this research will analyze the competitive performance of the textile industry on a global scale from the bibliometric study of the human factor, productivity, innovation, customer service and determine whether the knowledge, skills, experiences, etc., with which they have, affect or contribute to competitiveness in order to identify which are the variables that impact on the total improvement of competitiveness and thus propose improvement solutions that allow the growth of this sector. In this way, the main beneficiaries are the entrepreneurs who, based on this study, would take into account determining factors that impact the competitiveness of the company. This analysis is carried out by means of a detailed bibliographic review.

Keywords

Business Improvement, Economic Evolution, Competitiveness, Productivity, Efficiency

1. Introduction

Since the signing of the North American Free Trade Agreement (NAFTA) in 1995, industries registered notable growth with exports to the United States of America (USA), particularly the textile and clothing industry registered a remarkable performance (Cutipa-Limache, Escobar-Mamani, Anchapuri, & Valleymond-Tacora, 2021; Zambrano, Berzosa, Romero, & Mora, 2020).

From 1997 to 2002, the garment industry in Mexico ranked first as a supplier of garments to the US, but in 2007 this industry was affected by the inclusion of China as a supplier to the northern countries and Latin America, becoming the...
first US supplier, and Mexico the second supplier (Suárez, Rosales, Flor, & Chimbo, 2022; Vargas, Cano, García, & Soto, 2017).

The problems abroad are reflected in the increase in the illegal market and the trade agreements signed by our country with various world economies give advantages to other nations (Hernández-Gracia & Duana-Avila, 2020); the increase in the relative cost of domestic inputs compared to foreign inputs such as those from China and Taiwan and the competitive strategies that maintain the main competitors and global buyers and textiles limit their competitive position in the international market, in addition to the fact that the main international trends identified for the textile industry are centered on the continuous loss of jobs, the migration of textile capacities to more competitive developing countries (Inocente, Ávalos, Habrahamshon, & Melchor, 2020; Silva Narvaste, Wong Silva, Silva Narvaste, & Gallo Coca, 2020; Zambrano et al., 2020).

To achieve competitiveness, skills, knowledge and processes developed by the people who work within a company are required, which sustain and renew the competitive advantage of the same and consequently the serious question to what extent the preparation of human capital in the textile companies affect their competitiveness?

The competitiveness of human capital in textile companies is key to obtaining competitiveness, which depends on the capacity for innovation, productivity, competitiveness and quality of the people who work in them (Ćurčić, Radivojević, Grubor, & Simonović, 2020; Da Silva, Vieira Júnior, & Vanalle, 2020; Sabina et al., 2019).

However, not all factors have the same importance for the achievement of competitiveness (Echeverría, Aguilar, & Buitron, 2018; Zaruma, Santos, Escudero, & Vivanco, 2017). In this sense, the purpose of the research is to integrate a theoretical framework for the analysis of the competitiveness of human capital by analyzing a series of variables such as innovation, productivity and quality (Del Carpio Gallegos & Miralles, 2019; Gamarra-Alván & Díaz-Muñante, 2018).

2. Materials and Methods

The research was carried out using the tools offered by the dimensions directory. Since this directory represents many of the journals with the greatest impact and visibility that project the results in research and advances in research in economic and business science. In addition, the bibliometric analysis and mapping tool VOS viewer is used. This software was used to:

1) Create maps based on network data.
2) View and explore maps.

The data extracted from the Dimensions academic directory were exported as CSV files, to be processed in the aforementioned bibliometric analysis tool. The exploration analyzes works from the year 1980 to November 12, 2021, under the search criteria, “competitiveness of the textile company”, which was applied to the title, abstract and keywords of the contributions. The search showed a total
of 1213 related articles and 11,072 registered patents, in the previously declared period. From these, the contributions with the highest Hirsch index (H Index) were selected, which referred specifically to the factors that intervene in the competitiveness of the textile industry.

3. Results and Discussion

During the industrial era, in the vast majority of cases, organizations achieved success when they could increase their financial capital, that is, they increased their buildings, machinery, equipment and investments. The image of organizational success was represented by the size of the organization and its facilities, its accounting assets and above all by its physical wealth. Currently successful organizations are extremely agile and innovative, for this reason they do not depend on their size, that is, the fact that a company is large today is not a sign that it is successful. There are small organizations that manage to be more profitable compared to larger ones. This is the result of their ability to provide products and services that are creative and innovative. Thus, in the information age, financial capital ceases to be the most important resource of the company and other intangible assets quickly take their place, in this case reference is made to intellectual capital (Del Carpio Gallegos & Miralles, 2019; Gamarra-Alván & Díaz-Muñante, 2018).

3.1. Literature Review and Bibliometric Analysis of the Factors That Intervene in the Competitiveness of Textile Companies

Research related to textile companies and the factors that intervene in the competitiveness of this sector are numerous and their number will grow every year. **Figure 1** shows the evolution of the number of publications per year related to this topic. This fact denotes a growing interest in this subject in the international scientific community.

Visualization map of the collaboration network among the most prolific authors in this research area. The colors are this graph highlights 4 large groups of researchers, the lines indicate the relationships between them and the dimensions of the spheres indicate the scientific productivity of each researcher (**Figure 2**).

**Table 1** shows the most cited authors in this research area. The table is ordered by the number of publications of the authors. The authors are ordered from the greatest number of publications to the least number of publications.

3.2. Human Capital and Competitiveness

Human capital is the knowledge that each person possesses, develops, and accumulates in his or her academic training and career path, as well as the individual qualities that each person possesses, such as loyalty, versatility, flexibility, etc. that affect the value of the individual’s contribution to the company (Lucato, Costa, & de Oliveira Neto, 2017).
Figure 1. Scientific publications by year.

Figure 2. Author collaboration network.
Table 1. Leading researchers in this academic field.

| Name, Organization, Country                                | Publications | Citations |
|------------------------------------------------------------|--------------|-----------|
| Sanjay Prabhu Govindwar, Hanyang University, South Korea  | 48           | 3825      |
| Harvey Checkoway, University of California, San Diego, United States | 38           | 823       |
| David Christopher Christiani, Harvard University, United State | 35           | 1213      |
| David B Thomas, Garvan Institute of Medical Research, Australia | 35           | 899       |
| Roberta M Ray, Fred Hutchinson Cancer Research Center, United States | 33           | 848       |
| Dao-Li Gao, Fudan University, China                         | 30           | 805       |

During the history of organizations, people have been considered from different perspectives. The foregoing is the product of the adoption of different concepts related to human nature, which, in most cases, aim to justify the way in which companies treat people, as well as their problems and needs. Based on these statements and points of view, which in many cases are partial and incomplete, the conceptual bases were laid to perceive and treat people throughout the last century (García Vargas, Teodoro Cano, Rojas García, & Arias Soto, 2017).

Human capital is considered as an enabling factor for development and economic growth, for its training various elements come into play, the most important are education and job training, because through them skills, talents, skills are discovered and developed, the skills and abilities of individuals. This idea prevails among theorists who study education from an economic perspective, for example, (Chen, Yang, Yang, & Gu, 2015) defines human capital as: one that includes qualitative components, such as ability, Similar knowledge and attributes that affect individual ability to perform productive work, expenses introduced to improve these capabilities also increase the value of labor productivity and will produce positive returns (Yu et al., 2017).

The skills and knowledge acquired and developed by individuals throughout their lives, become the tools that will allow them to participate efficiently in the production process (Soto, 2016).

Nowadays, having skills, knowledge, being creative, innovative and autonomously seeking results for the company is part of the new profile demanded by organizations (More & Pawar, 2015).

Globalization has brought about a more complex world that demands, among other variables, competitiveness, innovation, quality, continuous improvement, for companies. To stay and progress in the market, human capital is needed to develop skills and abilities that make a difference, understanding the term com-
petence as a practical understanding of situations, which is based on acquired knowledge and transforms it as the diversity of situations (Torres, das Chagas, & de Araújo, 2012). Gutierrez and Reis (2008) considers the possible competencies to be divided into essential competences and functional competences.

Essential competencies provide guidance on how to perform functions and how to be a professional, and functional competencies are the set of skills and knowledge. We can define in a general way that competencies are the tools used to deal with a problematic situation combined with a series of acquired knowledge, that is, experience. While ability is the ability acquired by man, to creatively use his knowledge and habits both in the process of theoretical and practical activity.

The main source of creating competitive advantages for a company resides fundamentally in his knowledge or more specifically in what he knows, in how he uses what he knows and, in his ability, to learn new things. In this way and in connection with this special relevance of knowledge, today’s society is also called the knowledge society (Pomareda Angulo, 2012).

Competitiveness is also defined as the process of dynamic integration of countries and products to international markets, depending on both supply and demand conditions (Oh & Kim, 2007). It is related to the ability to increase the standard of living of the inhabitants, to generate sustained increases in productivity, to successfully enter international markets, among others (More & Pawar, 2015). It reflects the extent to which a nation, in a system of free trade and fair market conditions, can produce goods and services that pass the test of international markets, while maintaining and increasing the real income of its population in the long term (Vargas et al., 2017).

3.3. Competitiveness and Innovation

Innovation can be determined in the environment of a company, it can also determine what should be new only from the point of view of the company (Resta, Dotti, Boffelli, & Gaiardelli, 2015), therefore, innovation is the successful exploitation of new ideas. Innovation = invention + exploitation.

The innovation covers the following five cases:
• The introduction in the market of a new good.
• The introduction of a new production method.
• The opening of a new market in a country.
• The conquest of a new source of supply of raw materials.
• The introduction of a new structure in a market.

Innovation is the key element to create a competitive advantage by searching for new markets for new and better ways of operating in the field (Bilalis et al., 2006).

The profile of productive specialization shows the type of preponderant innovation in the system and the needs of the organizational environment that it requires, helping to understand the existence or absence of organizational inter-phases
to support innovation and transfer. Likewise, the existence or not of continuity and adaptability in science and technology policies and of strength and diversity in the functions performed by the organizational interphases are related to social, political and historical factors of a structural nature. These factors reflect a type of power distribution institutions and historical social demands of a society such as the degree of linkage to innovation, its role in the strategic orientation of the productive, scientific and technological development of the country and its capacity to propose innovative proposals. For the development of areas of knowledge and the organization of activities in science and technology (Casalet, 2005).

3.4. Competitiveness and Total Customer Satisfaction

The quality and development of channels for evaluation and performance are affected by structural characteristics of the systems in which they are inserted, such as the type and specificity of knowledge that the national productive structure demands and the clarity of those demands. the absorption capacities of the scientific and industrial sector, the type of incentives for association found by both actors and the market failures prevailing in the knowledge market (EU, 2001).

3.5. Competitiveness, Formation and Training of Human Capital

They are necessary factors for business success and therefore this culture must be developed in companies. Creative people are attractive to the new economy because they produce new shapes or new designs that may be attractive to markets or because they are capable of finding solutions to problems generated in various areas of the supply chain (Toyne, Arpan, Barnett, Ricks, & Shimp, 1984).

Each company needs to create a competitive condition in which its resources differ from others to become a true advantage. All resources should be translated into economic benefits, this depends on their correct use and management, as well as on the control and integration in the activities of the company. Management therefore needs to establish a strategy for the proper use of the most important resources and promote their development to maintain its competitive advantage (Yu et al., 2017).

3.6. Staffing

For the purposes of this research, assignment is understood as the action of choosing a person to perform a task with a certain profile that can be defined from measures that allow it to be compared with the qualities of the candidate. It is recognized that it is the Human Resources of the company that allow it to achieve a sustainable competitive advantage in the long term (Nayak, Singh, Padhye, & Wang, 2015).

In the classical literature on Human Resources Administration they refer (Lucia & Lepsinger, 1999) the following benefits derived from Human Resources
management by competencies:

- Ease of aligning behavior to the organization’s strategy and values.
- Helps to maximize productivity.
- Ensures that job specifications focus on behaviors causally linked to successful performance.

Adegbite (2012) defines Human Capital competence as an underlying characteristic of an individual that is causally related to a standard of effectiveness and/or superior performance in a job or situation.

There are many other definitions of competencies for Human Capital, and although they may introduce small nuances in general, they refer to these concepts: knowledge, skills, personal characteristics, attitudes or values. All people have a set of attributes and acquired or innate knowledge, which define their competencies for a certain activity.

In this way, for this approach the limits to the growth of the company are internal and depend on the resources available to it. The growth options that are presented to you will always depend on the versatility of your resources to the extent that they can offer the capabilities that are required, such versatility is essential (Mortimore & Peres, 2001).

In practice, the criteria that define who has the ideal profile to perform a certain task are individual skills, experience, availability and collaborative work. The concept of Human Capital competencies is not new, but competency management is growing in importance in the business world: its attention offers the novelty of a management style in which teamwork, competencies as discussed above.

Some researchers have emphasized the importance of investment in human resource development to improve the quality of human capital and create a sustainable competitive advantage (Vargas et al., 2017), however, it remains little studied in the context of SMEs, despite the fact that a prominent place is practiced in these organizations (Pajo, Coetzer, & Guenole, 2010).

Commonly in the studies of SMEs three particularly dominant theoretical perspectives are presented; first, the concepts of strategic management and organization theory have been used to study human resources which include the use of institutional theory and resource-based theory to explain the use of training and development methods (Durand Caruajulca & Villanueva Calderón, 2021); secondly, the relationship between the formal development of management and business strategy (Inocente et al., 2020); thirdly, the environment of an SME and the scope of formal and informal learning opportunities and training and development expenses (García Vargas et al., 2017; Resta et al., 2015).

Other studies suggest three theoretical perspectives that have particular utility in human resource development in the context of SMEs, complex resource-based theory, upper echelon theory, and strategic choice theory. These three perspectives are particularly well suited to the SME context as they capture the informality of human resources, emphasizing the central role of the owner-manager.
by adopting particular approaches to human resource development. Chadwick, Vargas et al. (2017) found that the strategy process in SMEs is a dynamic process that focuses on the coincidence of human resource practices with short periodicity.

From a social constructivist perspective, (Wahyuni & Boeditomo, 2013) try to explain how the social experience is created and gives meaning to the organization’s environment, thus recognizing the centrality of the context. First, they argue that the notion of localized interpretation has value in opening a theoretical and analytical space to explore human resources in SMEs as a socially constructed category, provides researchers with the space to understand the emergence of human resources in SMEs and the opportunity to interact with stakeholders. They can identify their own version of the HRD concept. Such an approach is in accordance with important developments such as human resource management, particularly SMEs who argue that small businesses need to be studied in relation to how they behave, rather than contrasting practice with an idealized image of what they should do (Oh & Suh, 2003).

Another concept is Contextual Rationality, which refers to actions being reasonable within a given context (Toyne et al., 1984). Teng & Jaramillo (2005) has argued that contextual rationality emphasizes that rational action does not need to have full knowledge of the reasons for the actions to occur and that you do not have to fully understand the effectiveness of the actions for a rational subject to be constituted. These characteristics can be explained by the context in which the action takes place. It is argued that contextual rationality is a key and therefore can legitimize particular human resource development practices in the context of SMEs.

The concept of polyphony (Garrido & Peres, 1998) provides a research tool to understand human resources in SMEs. It suggests that human resources in SMEs should be understood as a polyphonic phenomenon if there are different discourses to emerge and be accommodated. Researchers have shown that, although polyphony is always present, it tends to be silenced by a dominant discourse (Adegbite, 2012). In the case of human resources, the dominant discourse has tended to assume that generic models have universal relevance and therefore has failed to adequately capture the context-dependent nature of human resource development in SMEs and the variation in systems, strategies and processes in organizations (Wahyuni & Boeditomo, 2013).

3.7. Competitiveness and Productivity

Productivity is the relationship between the production of goods, in the case of a manufacturing company, or sales in the case of services, and the quantities of inputs used. In this way, the concept of productivity is equally applicable to an industrial or service company, a business, an industry or the economy aggregate. In other words, productivity tells us how much product the inputs used in an economic activity generate. This measure expressed as an index allows us to see
how this relationship between products and inputs has changed over time, that is, whether or not the transformation of inputs into output has become more efficient. If we refer specifically to labor productivity, then it will be the relationship between product and labor inputs and its index tells us how this relationship has changed with respect to a point in time. Why is the increase in productivity important? Because productivity causes a chain reaction within the company, it encompasses a better quality of products, better prices, job stability, permanence of the company, greater benefits and greater collective well-being (Echeverría et al., 2018). A chain derived from greater productivity is generated, because only with Productivity increases can there be growth on healthy economic bases.

One of the sectors that presented a sustained increase in productivity during the 1988-2000 period is the Manufacturing Sector, where the textile companies are located, which registered in 2000 a variation with respect to 1993 (base year) of 16.5%. In contrast, there are other sectors that are not so favored such as community, social and personal services, which in 2000 registered a downward variation of 3 percentage points with respect to the base year and the Construction Sector with a variation of −17.2% with respect to 1993 and −27.5% with respect to 1988. This sector has not been able to recover since 1995 and although in 1999 and 2000 it registered small increases, it is very far from reaching the productivity levels it had at the beginning of the study period (Lucato et al., 2017).

4. Conclusion

Some determining but not conclusive factors are analyzed in the study that is adjusted to textile companies, it is considered that creative human capital innovates and impacts the number of implemented ideas that allow streamlining production processes and productivity, thus impacting the variables analyzed. Therefore, said companies should consider in their ranks trained personnel, committed to the organization with a positive attitude towards improvement, innovation and change.

The number of new ideas that come from human capital implemented in production serves to achieve organizational goals, reduce losses or losses, with their creativity generates the number of ideas to improve the production processes necessary in textile companies in search of positioning itself again in the market as number one in the Manufacturing Sector.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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