Methodology for the Evaluation of the Value Chain in the Chemical Industry

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Abstract

The objective of this research was to propose a methodology for the evaluation of the value chain of the sector dedicated to the manufacture of chemical substances and products. To carry it out, a systematic literature review was carried out, whose conceptual basis was Porter's value chain model. It was found that this model is applicable in different sectors, thus allowing this evaluation to be carried out in the sector in question. The proposed tool, of a qualitative nature, evaluates both primary and support activities that make up the generic value chain. In addition, a series of questions related to Corporate Social Responsibility (CSR) in this sector is proposed. It is concluded that the value chain represents a powerful evaluation tool, with the capacity for flexibility and adaptation to the contexts and business sectors to be evaluated.

Keywords
assessment tool, chemical industry, Corporate Social Responsibility, value chain.

1. Introduction
Since the middle of the 20th century, the entry of different economic actors caused an increase in competitiveness in international markets, for which the creation and conservation of value became a crucial topic of analysis in the business world. In fact, the period of recovery and reconstruction of the countries involved in the Second World War was configured as the ideal setting for the emergence of many businesses that were dedicated to meeting the changing needs of society. In this line, the companies understood that it was unavoidable to adjust their business models, so that they adapted them to the demands of the environment (Ramírez et al. 2021). Among the business groups that had to combine their actions in the market, there were those dedicated to the production of chemical substances.

That statement is consistent when it is recognized that it is difficult to conceive any routine, recreational or productive activity in which said substances do not intervene (Yarto et al. 2007). In this regard, Cortinas de Nava (2009) suggests that a large part of these types of elements have been the basis for the progress of various production processes, so they can also be considered an essential factor when generating business, income and employment. To corroborate this, GQSP Colombia (2020) explain that the chemical industry is heterogeneous and diverse, with limits that are difficult to establish in comparison with other sectors, and with the capacity to supply many of them. Montes-Valencia (2015) states that, although this industry has contributed to improving people's quality of life, it is also the cause of contamination in the soil, water and air. Faced with this reality, it highlights the role played by Green Chemistry as an alternative solution to obtain the sustainability of the planet and it is based on 12 principles (Vargas and Ruiz 2007), which have been adopted in the production of many products (Scandurra et al. 2004).

1.1 Objective
The objective of this research was to propose a methodology for the evaluation of the value chain of the sector dedicated to the manufacture of chemical substances and products, so that a comprehensive evaluation of the activities of the companies aimed at to generate greater added value, as well as to achieve their sustainability in the market.

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2. Literature Review

2.1. Origin of the value chain and its relationship with market sustainability

Narváez and Villalobos (2020), establish that the main challenge that companies must face is the one that has to do with the changing environment and needs. In turn, these elements have given way to the establishment of cooperative relationships that are sustainable over time between different actors involved in the production of a final good or service (Ramírez et al. 2021). At this point, it is important to highlight that sustainability is directly related to the generation of value, since with it, is possible to obtain a long-term value business approach (Marquéz et al. 2021). Within this context, the concept of value chain arises, popularized by Porter (1986) and understood as an interrelation of activities whose purpose is to increase productivity levels, generate added value (Vásquez-Barajas et al. 2020) and obtain competitive advantages (Mayo 2005 cited by Quintero and Sánchez 2006).

Its analysis seeks to achieve high levels of competitiveness, following a vision of economic, social and environmental sustainability, which is achieved through the addition of value through productivity, traceability, differentiation, quality, commercial relations and the supply of long-term services to establish commercial relationships and stable prices throughout the chain (Gottret 2011). In the field of administration, its importance lies in the efficiency of meeting objectives, designing quality strategies and innovation systems (Londoño and Botero 2012; Prajogo et al. 2008). Also, this concept facilitates the creation of alliances between its actors, allowing the more efficient use of resources, facilitating the flow of information and jointly generating solutions to bottlenecks and other problems (Porter 2006); knowing that only those companies that demonstrate a sustainable value chain will be able to be competitive in the long term (The Consumer Goods Forum and CapGemini 2022).

2.2. Elements of the value chain

The generic value chain proposed by Porter (2006) is made up of three basic elements that are the primary activities, the support activities and the margin. Primary activities are those that are related to product development; those of support, support the accomplishment of the primary activities; Finally, the margin is the resulting difference between the value and the total cost incurred by a company for carrying out value-generating activities. In this sense, the primary activities include outbound logistics, operations, inbound logistics, marketing and sales and post-sale services; On the other hand, support activities include infrastructure and systems, human resources, technology and purchases; as for the margin, it assumes that the value must exceed the costs that have been added during the production process (Londoño et al. 2012).

2.3. Value chain assessment methodologies

The analysis of the value chain acquires a high degree of importance within strategic planning, since it has characteristics that emphasis on the identification of sustainable competitive advantages, the relevance of links and their interrelationships, as well as the identification of generic strategies in various activities capable of creating value (Hergert and Morris 1989). Nonetheless, Clay and Feeney (2019), establish that despite the importance of value chain evaluation, the research results around its assessments methodologies are very limited, emphasizing the little interest that the academy has given to it. As a consequence, they highlight the absence of a common theoretical framework for this particular tool, for which Gereffi et al. (2005) suggest that it is necessary to develop common parameters that make it possible to define the different types of existing value chain and that could be incorporated into particular study frameworks. Additionally, emphasis is placed on the definition of objectives and prior motivations for the analysis of the value chain within a clear framework and approach, considering that the evaluation of this concept from a single perspective can lead to biased or incomplete conclusions (Clay et al. 2019; Vivar-Astudillo et al. 2020). To corroborate those statements, it should be noted that there are different methodologies, which are both qualitative and quantitative in nature. Among the efforts documented to date, there are evaluation methods by integration factors, a SWOT analysis (Arce and Calves 1985; De La Hoz et al. 2011; Vásquez-Barajas et al. 2020), a qualitative questionnaire based on Porter's traditional model and others similar tools which main objective is to examine main and support activities as sources of competitive advantage, existing relationships between them, as well as problems that require attention (Vásquez-Barajas et al. 2020).

3. Methods

The present study was qualitative and used the systematic literature review method proposed by Hochrein et al. (2015), made up of the stages of taxonomic classification, literary analysis and conceptual relationship; in turn, it allowed to fulfill the objective of proposing a methodology for the evaluation of the value chain of the sector dedicated to the manufacture of chemical substances and products. It is important to point out that the conceptual basis underlying this

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research is the value chain concept proposed by Porter (1985). Thus, following the order of the review methodology, in the first stage a bibliographic review was carried out based on keywords and year of publication, without including any other exclusion criteria. Also, it was decided to give importance only to those studies that were related to the conceptual basis of the value chain proposed by Porter. Likewise, Scopus, Redalyc, Google Scholar and Dialnet were the repositories selected. With the criteria selected in the first stage, then the literary analysis was carried out. The keywords 'value chain', 'value chain', 'value chain in the chemical sector' and 'methodologies for the evaluation of the value chain' were used.

In addition, the search period was 2018-2022; however, given the importance of the value chain in the strategic-business field, as well as the limited number of articles dedicated to the evaluation of the subject in question in the last five years, studies prior to the mentioned period were included. In this line, the articles obtained were organized according to the title, abstract and conclusions, to organize them in order of importance. In the last stage, corresponding to the conceptual relationship, the findings of various studies were identified and related according to Porter's postulates on the subject in question. Thus, these activities made it possible to identify key performance evaluation elements corresponding to the study sector, as well as the theoretical model of the value chain. Subsequently, the evaluation tool proposed in this study was developed, which was validated through a pilot study carried out in more than 50% of the companies in the sector dedicated to the manufacture of chemical substances and products in Cuenca-Ecuador. In this way, it was guaranteed that the questionnaire covered sufficient aspects to give way to the identification of competitive advantages in the organizations dedicated to these activities.

5. Results and Discussion

The value chain model proposed by Porter in 1985 pursued strategic goals (Karvonen et al. 2012), which is why organizations from different sectors have been considering it in their analyzes over time. Because of this, a value chain evaluation methodology was built, according to the scheme proposed by González et al. (2018). Thus, the tool presented below presents several groups of questions, both closed and open, that correspond to each of the primary and support activities that make up the generic value chain model, as well as to aspects that are directly related to the sector dedicated to the manufacture of chemical substances and products.

5.1. Primary activities

Internal logistics: Logistics represents a transcendental link within corporate strategies, as it helps organizations reach high levels of efficiency and effectiveness, as well as agility and creativity, aspects that guarantee competitiveness and the design of strategies focused on business sustainability (Pinheiro de Lima et al. 2017). In the case of the chemical sector, it was decided to evaluate a total of eight aspects. The objective of this group of questions is aimed at highlighting those weaknesses and strengths that could potentially be harming (or benefiting) the organizational actions in the market and that, therefore, require attention in the short, medium or long term. The elements evaluated are presented in Table 1.

Table 1. Elements evaluated in internal logistics

	Question	Yes	No
Q1.	Do you have a logistics plan?		
Q2.	Is there a defined area for the storage of raw materials and supplies received?		
Q3.	Are stocks coded and classified?		
Q4.	Do you know the costs associated with inventory storage?		
Q5.	Do you know your actual inventory?		
Q6.	Do you know your theoretical inventory?		
Q7.	Does the actual inventory compare with the theoretical inventory?		
	Q7.1. How much does it usually vary?	Percentage	
Q8.	Is there a defined area for the storage of finished products?		

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Operations: The operations link represents an area that constantly interacts with the rest of the organization; therefore, its strategic contribution is significant and cannot be ignored in the process of designing and implementing organizational strategies (Zúñiga 2005). Due to the aforementioned, this link acquires a particular degree of importance, which is why it is one of the links that covers the greatest number of questions, thus evaluating a total of 20 aspects, which are shown in Table 2. Its purpose is to determine those weaknesses and strengths, so that the guidelines of a path of continuous improvement are set, whose scope and impact positively affect the rest of the organizational areas, thus allowing value to be continuously generated.

Table 2. Elements evaluated in operations

	Question	Yes	No
Q1.	Are production planning and scheduling techniques used?		
Q2.	Are production processes standardized?		
Q3.	Are the processes documented? (process manual)		
Q4.	Are there technical specifications of the product?		
Q5.	Are inspections or quality controls carried out during the production of the product?		
Q6.	Is there traceability of the production process?		
Q7.	Is there a machinery maintenance plan?		
	Q7.1. Is the maintenance plan adhered to?		
Q8.	Is process performance measured?		
Q9.	Are production costs identified?		
Q10.	Do you know the actual production capacity of the company?		
Q11.	Has the company identified the waste it generates?		
	Q11.1. Does it have mechanisms to reduce or treat them?		
	Q11.2. Which are?	Specify	
Q12.	Does it have mechanisms to reduce emissions and the impact of the company's activities on the environment?		
Q13.	Does it have mechanisms to optimize the use of water and energy?		
Q14.	How is obsolete product handled, in poor condition and that does not meet quality standards?	Specify	
Q15.	Are there adequate temperature chambers to be able to control the transformation process of the product?		
Q16.	What kind of materials are used in the transformation process of the raw material? (water, salt, sulfur, petroleum, gas, coal)	Choose	
Q17.	Are the containers used in production resistant to corrosion, high temperatures and process pressures?		
Q18.	Is there a guide to carry out the storage of products?		
Q19.	Are the minimum safety and health measures established for plant workers in the production of products?	Specify	
Q20.	Is there a process for renewing machinery according to the advancement of technology?		

External logistics: The analysis and management of external logistics as a business activity gives way to a more efficient administration of resources which, in turn, allows increasing productivity, reducing costs and optimizing processes (Vásquez and Layton 2013). Due to the above, eight unavoidable aspects of analysis and application were identified in organizations dedicated to the production of chemicals, which are presented in Table 3. The objective pursued is to generate value through the improvement of competitiveness and productivity, considering elements that are usually ignored in practice.

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Table 3. Elements evaluated in external logistics

Question		Yes	No
Q1.	Do stored finished products have insurance?		
Q2.	Have you identified the maintenance costs of the finished products?		
Q3.	Do you maintain control and record of unavailable products (due to deterioration, obsolescence, poor condition, expiration)?		
Q4.	Do you keep a record of delivered orders?		
Q5.	Are distribution costs known?		
Q6.	Do you keep a record of shipments made?		
	Q6.1. In relation to destiny?		
	Q6.2. In relation to weight?		
	Q6.3. In relation to the capacity of the means of transport?		
Q7.	Are there minimum conditions that an order must meet to be shipped?		
	Q7.1. Which are?	Describe	

Marketing and sales: In periods of high uncertainty and volatility, marketing is presented as an essential need in companies, as it allows them to manage tools and develop skills aimed at reinvention and adaptation to new realities. This allows organizations to remain in the market, emerging stronger from hostile environments (Martinez et al. 2018), such as the current situation. For these reasons, the proposed tool evaluates a total of 11 aspects, which are shown in Table 4. The objective pursued is to follow up on key elements that ensure knowledge of the market, as well as the consequent organizational adaptation, also guaranteeing the positioning and sustainability of the company.

Table 4. Elements evaluated in marketing and sales

Question		Yes	No
Q1.	Have you done market research?		
Q2.	Have you identified your market segment?		
Q3.	Are market diversification strategies considered?		
Q4.	Are there communication channels with customers?	Specify	
Q5.	What information does the customer receive about the product? (ingredients, nutritional information, content, etc.)	Specify	
Q6.	Does the company have an established corporate image?		
Q7.	Is there a trademark property registry?		
Q8.	Are advertising campaigns carried out to promote the company and its products?		
	Q8.1. What means do you use to spread advertising? (television, radio, social media, newspaper)	Specify	
Q9.	Does the company use social media?	Specify	
Q10.	Is there a register of clients?		
Q11.	Is there an opening for society to learn about the production process?		

Services post-sale: The after-sales service contributes to maintaining customer loyalty and, consequently, to the permanence of the products offered in the market, as well as the achievement of business goals (Navas and Gamboa 2019). For this reason, it was decided to evaluate a total of six aspects that are shown in Table 5. The objective pursued is to guarantee the after-sales service in the organizations of the sector, controlling and correcting basic aspects of this area, so that value is generated. perceived by the customer.

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Table 5. Elements evaluated in services post-sale

	Question	Yes	No
Q1.	Does the company provide an after-sales service (customer service)?		
Q2.	Does your company accept product returns?		
	Q2.1. What criteria are considered to accept a product return process?	Describe	
	Q2.2. What is the most frequent reason for return? (expiration, quality, Packaging flaws)	Specify	
Q3.	Does the company measure customer satisfaction?		
	Q3.1. How?		
Q4.	Does the company keep a record of customer complaints?		
	Q4.1. How long does it take to respond?		
	Q4.2. Are complaints followed up and resolved?		
Q5.	Are improvement actions generated in response to complaints?		
Q6.	Are the costs associated with claims and non-conforming product quantified?		

5.2. Support activities

Infrastructure: This analysis refers to the examination of its physical component, but also of those institutional capacities and the use of technological solutions that allow creating and taking advantage of opportunities framed in technological development, business growth with the ability to compete at the international and quality job creation (Forteza 2015). These are the reasons why it was decided to evaluate a total of 14 aspects, divided into four sections that are: strategic administration (Q1-Q5), management systems (Q6), financial administration (Q7-Q10) and a category corresponding to others (Q11-Q14). These are shown in Table 6. The objective pursued by the evaluation of this link lies in identifying the possible problems that do not allow adding value for the client.

Table 6. Elements evaluated in infrastructure

	Question	Yes	No
Q1.	You have formalized and comply with all the points of the strategic plan?		
Q2.	Are the workers aware of the company's Annual Operating Plan and do they carry it out in accordance with the company's mission and vision?		
Q3.	Does it have indicators that allow it to measure the fulfillment of the objectives?	Specify	
Q4.	How often are goals tracked?		
Q5.	To what extent are the objectives met? (percentage)		
Q6.	The company has management systems? (quality, environmental, occupational health and safety, GMP, etc.)	Specify	
Q7.	The company has some type of additional accounting control that allows better control at the production level (Cost Accounting, Throughput)	Specify	
Q8.	Does the company have an investment plan?		
Q9.	What was the last investment you made? When was it done?	Describe	
Q10.	Does the company currently have financial obligations to third parties? (banks, government, corporative)	Specify	
Q11.	Are there information transparency policies?		
Q12.	Do you have a digital platform for information storage?	Specify	
Q13.	Does the company have established organizational values?		
Q14.	Do you have a code of ethics?	Describe	

Human Resources: It is considered as the key factor to develop adaptation capacities in the company, enabling organizations to sustain themselves in paradigms of continuous improvement and total quality (Agudelo et al. 2016). For this reason, it was decided to evaluate a total of 25 aspects, which are presented in Table 7. Its objective is to carry out continuous monitoring, control and evaluation of human talent, so that the strategies that are intended to be implemented obey the needs and capacities of organizational collaborators.

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Table 7. Elements evaluated in human resources

Question		Yes	No
Q1.	Is there a Human Resources policy?		
Q2.	Do you have personnel selection or hiring processes?		
Q3.	Do you have defined profiles for the positions?		
Q4.	Is there any method to evaluate job profiles?	Describe	
Q5.	Are induction processes carried out for new staff?		
Q6.	Do you train your staff?		
Q7.	Are personnel performance evaluations carried out?		
Q8.	Is the work environment evaluated?		
Q9.	Do you have any incentive plan?	Describe	
Q10.	Are staff included in decision-making processes?	Describe	
Q11.	Do you have an occupational health and safety policy?		
Q12.	Do you know the occupational risks to which the collaborators are exposed?	Describe	
Q13.	What kind of safety equipment is given to workers?	Describe	
Q14.	Does the company have a medical department?		
Q15.	Do you perform some type of medical check-up on your employees?		
Q16.	Is there any labor organization within the company? (unions, associations or others)	Specify	
Q17.	Does the company offer any special benefit plan for its employees?	Describe	
Q18.	Do you provide food service to your employees?		
Q19.	Do you provide transportation service to your collaborators?		
Q20.	Is there an internal retirement policy?		
Q21.	Are there internal dismissal policies?		
Q22.	Do you have internal policies for setting salaries?		
Q23.	Are there career plans?	Describe	
Q24.	How is internal communication carried out?	Describe	
Q25.	Are there mechanisms to protect diversity and avoid discrimination?	Describe	

Technology: It is understood as a process of generating and using new products that affect not only the organization, but also its consumers and other interest groups (García-Córdoba 2010). Due to their importance, it was decided to evaluate ten aspects, which are presented in Table 8, with the aim of identifying strengths and weaknesses in the management and use of technology, aimed at adding value for the client within the organizational model. These aspects could be modified depending in the industrial sector and the size of the company that is being evaluated, it is important to remember that when addressing the technological issue, not only expensive or recent technologies are addressed, but any technological means that supports the performance of productive activities.

Table 8. Elements evaluated in technology

Question		Yes	No
Q1.	What function does the internet have within your company?	Describe	
Q2.	Does the company have a website?		
Q3.	Do you have any offer of products or information in digital media?	Describe	
Q4.	Is there a product development department or area?		
Q5.	How do you design the products?	Describe	
Q6.	Do you consider that the technology used in your company is competitive in relation to (sector, country, etc.)		
Q7.	Do you have software to help you manage production?	Specify	
Q8.	Do you have software to help you manage accounting?	Specify	
Q9.	Are the computer systems used in the organization integrated (interconnected)?		
Q10.	Is energy inefficiency of the processes avoided? How?	Describe	

Purchases: They represent a real and effective factor when it comes to achieving business success, since they encompass negotiations, which involve the examination of key factors such as the quality of inputs, guarantees and

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other transcendental characteristics aligned with supplier issues that play a fundamental role when it comes to offering a product on the market (Sangri 2014). In this line, it was decided to evaluate a total of eleven aspects, which are presented in Table 9. Its main objective is to examine the current state of the purchasing processes of the companies in the sector, taking into consideration that this link is crucial to when obtaining the final products of the sector in question.

Table 9. Elements evaluated in purchases

	Question	Yes	No
Q1.	Do you have a defined purchasing process?		
Q2.	Do you have an inventory management system?		
Q3.	Are quality aspects of the orders received controlled?	Describe	
Q4.	Does it have formal mechanisms for the selection of suppliers?		
Q5.	Does it have mechanism that consider the sustainability of the suppliers?	Describe	
Q6.	Are the suppliers evaluated?	Describe	
Q7.	Do you demand compliance with regulations or standards from your suppliers?		
Q8.	Do you maintain communication channels with suppliers?	Describe	
Q9.	The raw materials used are mainly national or foreign?		
Q10.	Is there difficulty in obtaining raw materials or supplies?	Describe	

Corporate Social Responsibility: Additionally, it has been decided to include a section dedicated exclusively to Corporate Social Responsibility (CSR), due to the important role that this topic represents both within the academy and in the activities carried out by the chemical sector. Because of that, it has been decided to evaluate a total of 12 aspects, whose objective is to ensure the existence of companies that develop, or maintain, and strengthen actions in the market aligned with the interests of interest groups, but also with the environmental needs that are claimed today for nature. The evaluated aspects are presented in Table 10. It should be emphasized that the topic of CSR is constantly evolving and the topics described here, as in the other cases, are just a suggestion, not a limitation.

Table 10. Elements evaluated in Corporate Social Responsibility

	Question	Yes	No
Q1.	Does the company carry out Social Responsibility practices?	Describe	
Q2.	Are the principles of Green Chemistry applied in the elaboration of your products?		
Q3.	Are there contracting processes for the purchase of machinery that reduces the environmental impact?		
Q4.	Does the company contribute to society, to reduce the environmental impact?		
Q5.	What is the contribution with which it contributes to society in order to reduce the environmental impact?	Describe	
Q6.	Is there any Environmental Management certificate regarding the creation of a system for eco-auditing and environmental management?	Specify	
Q7.	Is there a waste disposal process that adheres to environmental standards in accordance with the industry?		
Q8.	Are there policies or procedures within the company that allow for the friendly disposal of the product? after it has completed its useful life?	Describe	
Q9.	Does the company carry out actions or participate in environmental remediation programs?	Describe	
Q10.	Within your production process, do you use tools (software) that help optimize the use of chemicals?	Describe	
Q11.	Have you had problems with the community due to the actions of the company?	Describe	
Q12.	Does the company have mechanisms to report and communicate about its actions?	Describe	

Discussion

Moreno et al. (2018), establish that there is no single value chain method or model, since the proposal made by Porter is not mandatory. For this reason, they tried to outline a methodology to solve this problem through a literature review

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and an experiential analysis. They point out the need to properly guide the value chain concept according to the business contexts in which it is intended to be applied. Thus, the tool proposed by the current study also constitutes an effort to measure the value chain proposed by Porter, which enjoys flexibility and adaptation to different realities of the chemical sector. For their part, Guzmán-Bautista and Chire-Fajardo (2018), based their study on the analysis of the value chain and the analysis of the competitive diamond proposed by Porter. Its objective was to determine the existing deficiencies in the value chain of Peruvian cocoa to subsequently propose comprehensive improvement proposals using competitive factors. With this, the authors were able to obtain a photograph of the groups participating in the value chain of the product in question. In this regard, this research is also aligned with Porter's models and aims to provide entrepreneurs that 'photograph' that reflects the current situation of their value chain, to carry out improvement actions. In turn, Moreno-Miranda et al. (2020), evaluated the sustainability of cocoa agri-food chains in public-private agendas in Ecuador.

To achieve this, under a qualitative and quantitative approach, they examined socioeconomic, agronomic, and environmental aspects through a mapping of the value chain and the identification of its actors. The results demonstrated the feasibility of applying strategies in the value chain in the long term, whose main contribution lay in a comprehensive analysis capable of monitoring the adoption of sustainable models. Thus, the methodology of this last study is aligned to the one which was carried out in this research and manages to highlight its contribution to the improvement of the management of primary and support activities of a value chain. In the same line of ideas, Pittaluga and Pirrocco (2021), contributed to the development of tools aimed at identifying opportunities in the country in strategic value chains for the chemical sector. They carried out a systematization of qualitative and quantitative information on the sector in question. The results made it possible to obtain a tool with the capacity of identifying opportunities in the face of threats, using the strengths of the sector of interest for this purpose. Again, the purpose pursued by said study is aligned with the one of this research, since the developed tool seeks to facilitate the process of identifying strengths and weaknesses, making the latter be mitigated and using the positive aspects to take advantage of opportunities that arise in the market.

6. Conclusion

The high levels of uncertainty and volatility of the environment in which companies operate today, have turned value into a necessary element, but not optional, to survive in the market. To achieve this, the value chain is presented as the appropriate tool for this, since it has the capacity to carry out a comprehensive business examination, taking into consideration all those economic-productive activities that are carried out, as well as the interests of the stakeholders. Thus, its careful examination allows obtaining an overview of business performance, quickly identifying strengths to be exploited, as well as weaknesses to be corrected; all this, framed within a context of improving competitiveness, management, growth and sustainability. On the other hand, the importance of making efforts aimed at evaluating the value chain must be established, considering it as a key management model that should not be neglected. Thus, the tools built for this purpose, whether of a quantitative, qualitative, or mixed nature, constitute valuable contributions to be considered by businessmen, according to their convenience and purpose of analysis. Likewise, this work aims to highlight the importance of CSR evaluation as a complementary and unavoidable element of the value chain, given the importance and the dynamic and transversal role of the environmental field that it plays today with all interest groups. In addition, the inclusion of this theme demonstrates the flexibility and adaptability of the value chain model, thus showing that it can be adjusted to any economic-sectoral reality. It is recommended that, for future research, quantitative evaluation tools, such as dynamic modeling, be built so that continuous evaluation and control can be carried out. Likewise, it is recommended to work from the academy in the construction of this type of tools that help in a substantial way to improve the business management of different economic sectors.

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