

<https://doi.org/10.23913/ride.v15i29.2026>

Scientific articles

Barreras legales de exportación que limitan a las empresas mexicanas del estado de Aguascalientes, México

Legal export barriers limiting Mexican companies from the state of Aguascalientes, Mexico

Barreiras legais à exportação que limitam empresas mexicanas do estado de Aguascalientes, México

Julissa Elayne Cosme Castorena

Instituto Tecnológico de Pabellón de Arteaga, México

julissacosme@gmail.com

<https://orcid.org/0000-0002-4739-9157>

Rafael Preciado Gutiérrez

Instituto Tecnológico de Pabellón de Arteaga, México

rpreciado42@gmail.com

<https://orcid.org/0009-0002-1329-0011>

Carlos Alberto Santamaría Velasco

Universidad de Guadalajara, México

carlos.santamaria@academicos.udg.mx

<https://orcid.org/0000-0001-8832-1121>

Ariann Andrade Alonso

Instituto Tecnológico de Pabellón de Arteaga, México

ariannandrade316@gmail.com

<https://orcid.org/0009-0004-3852-1773>

Resumen

La globalización ha generado una interacción internacional que impulsa tanto la oferta como la demanda de mercancías. Sin embargo, ciertos sectores, con base en el concepto *barreras a la exportación*, imponen restricciones para proteger la industria nacional y equilibrar la economía. Aunque en 2014 se registraron 164 empresas exportadoras en el estado de Aguascalientes, no se han identificado las razones por las cuales algunas de ellas optaron por no exportar o lo hicieron de forma esporádica. Ante esta situación, surge el presente estudio con el fin de analizar si las barreras legales afectaron el proceso de exportación de las empresas en dicha región. Para ello, se ha aplicado un instrumento a empresas exportadoras que permitió demostrar estadísticamente que las barreras legales tienen un impacto significativo, lo cual concuerda con hallazgos similares de estudios previos. Para futuros trabajos se recomienda ampliar el tamaño de la muestra e incorporar variables actuales de innovación, especialmente aquellas derivadas de eventos recientes que hayan impactado el comercio internacional, como la pandemia de covid-19. Además, sería beneficioso desarrollar una encuesta que pueda servir como base para futuros estudios sobre exportación.

Palabras clave: exportación, comercio internacional, logística.

Abstract

International interaction as a result of globalization generates an impulse between the supply and demand of goods. However, there are items that limit access to products under the premise of protecting the national industry and balancing the economy. These aspects are known as export barriers.

Although in 2014 there was a registry of 164 exporting companies in the state of Aguascalientes, the reasons why the companies decided not to export or exported sporadically were not identified. Given this situation, the study is presented that analyzes whether the legal barrier variables impact the export process of hydrocalid companies. An instrument is applied to exporting companies where it is statistically proven that the group of legal barriers does have a significant impact, generating this similarity of impact in previous studies of export barriers according to the literature. It is recommended to expand the sample size of future analysis, include current innovation variables derived from the latest events that impacted international trade such as COVID-19, in addition to generating a survey that can be used as a basis for export studies.

Keywords: export, international trade, logistics.

Resumo

A globalização gerou uma interação internacional que impulsiona tanto a oferta como a procura de bens. Contudo, determinados setores, baseados no conceito de barreiras à exportação, impõem restrições para proteger a indústria nacional e equilibrar a economia. Embora em 2014 estivessem registradas 164 empresas exportadoras no estado de Aguascalientes, não foram identificadas as razões pelas quais algumas delas optaram por não exportar ou o fizeram esporadicamente. Diante desta situação, o presente estudo surge com o objetivo de analisar se as barreiras legais afetaram o processo de exportação das empresas da referida região. Para tal, foi aplicado às empresas exportadoras um instrumento que nos permitiu demonstrar estatisticamente que as barreiras legais têm um impacto significativo, o que está de acordo com conclusões semelhantes de estudos anteriores. Para trabalhos futuros, recomenda-se ampliar o tamanho da amostra e incorporar variáveis de inovação atuais, especialmente aquelas derivadas de eventos recentes que impactaram o comércio internacional, como a pandemia de covid-19. Além disso, seria benéfico desenvolver um inquérito que pudesse servir de base para futuros estudos de exportação.

Palavras-chave: exportação, comércio internacional, logística.

Reception Date: August 2023

Acceptance Date: April 2024

Introduction

International trade – and, in particular, the export sector – has a significant impact on the economy of countries. Therefore, it can be stated that an increase in exports leads to a surplus, while an excess of imports can cause a deficit in the trade balance, hence international markets are constantly interested in regulating the supply and demand of their products.

Now, according to González, Martínez, Otero and Gonzalez (2014), the term *export* refers to the sale of local products for acquisition abroad, and its importance has been increasing due to the internationalization process. In the case of Mexico, it currently has 14 free trade agreements (FTA) with 50 countries, which should provide it with broad access to international markets. However, limitations, known as export barriers, remain that hinder the free flow of trade.

Among these limitations, legal barriers stand out, the overcoming of which would allow activities related to exports to be improved and, therefore, to increase the profits obtained in this way (Abassi *et al.* , 2012). However, it should be noted that although the literature addresses a wide range of export barriers, the absence of an official instrument at the international level has made it difficult to effectively measure a country's exports and the difficulties it faces in this area.

Therefore, the present research represents a valuable opportunity to analyze a select set of barriers and their impact. Generally, export barriers can be classified into two broad categories: external or market-related, and internal or business-associated (Antoldi *et al.* , 2012; Pinho and Martins , 2010; Tesfom and Lutz, 2006). Of all of these, we will focus on the group of legal export barriers.

The present study was carried out in the state of Aguascalientes (Mexico), which has distribution infrastructure that places it among the states with the highest volume of cargo transported by land and rail, which promotes both exports and imports. .

Theoretical framework

One of the most significant factors that contributes to improving export performance in companies is the way in which obstacles are overcome, as this results in an improvement in export performance in the industry and an increase in its performance. (Abassi *et al.* , 2012).

Studies on export barriers began in the 1960s, although it was not until the 1980s and 1990s that they gained relevance. In this sense, Alexandrides was one of the pioneers in addressing concepts and problems related to export barriers since 1971 (Leonidou , 1995a). This author pointed out, for example, that some of the greatest difficulties for companies were competition abroad, complications in finding international markets and the lack of knowledge to carry out exports, while others point out that companies in the process initial exporters face the challenge of obtaining funds to start their operations (Bilkey and Tesar, 1977; Leonidou , 1995b), which can be divided into attitudinal, structural and operational (Leonidou , 1995a, 2004).

Bilkey and Tesar (1977), for their part, developed a model that breaks down the export process of a company along six stages of business evolution, which makes it possible to understand the perceptions of export barriers defined by each of these stages. . Their analysis suggests that as export experience increases, organizations perceive a greater number of difficulties in international marketing activities, such as product restrictions, consumer regulations, and process problems.

Furthermore, for companies that begin exporting, the main challenge is obtaining funds to start operations (Bilkey and Tesar, 1977; Leonidou , 1995b), so Tesar and Tarleton (1982) emphasize that the main task should be to identify the export opportunities and concentrate efforts on conceptualizing export.

Leonidou (1995a) and Kaynak and Kothari (1984) were pioneers in encouraging the analysis of the transculturation present in export barriers, in addition to understanding the regional variations that arise in export obstacles. For their part, Barrett and Wilkinson (1985) point out that

achieving competitive agreements with foreign suppliers and guaranteeing adequate transportation costs to reach foreign markets are obstacles of considerable impact for companies considering exporting.

Morgan and Katsikeas (1997) identify three categories of export barriers: strategic, operational and informational, while Baurismichmidt *et al.* (1985) classify five factors that encompass the importance of management in business units.

Later, in 2004, Leonidou grouped export barriers into two categories: internal and external. The former are related to the company's lack of resources and organizational capabilities (Tesfom and Lutz, 2006), while the latter originate in the environment where the company operates, whether in the export market or in the national context (Leonidou, 1995a, 2004).

Likewise, Groke and Kreidle (1967) refer to the deficit of specialized information on export activity as a key obstacle to exporting, while Schroath and Korth (1989) categorize a total of 211 barriers at nine different points in 1989: opportunities in the destination market, lack of knowledge about regulations, lack of qualified personnel, problems related to language/culture and currency exchange, operations costs, lack of capital for foreign expansion, concern about the domestic market and other additional barriers.

Rabino (1980), on the other hand, mentions ten obstacles, while Bauerschmidt alludes to five factors based on 17 different barriers. Gripsrud (1990) proposes ten barriers, as well as nine factors obtained from the analysis carried out by Leonidou (1995b), who lists a set of 22 various limitations.

Leonidou (1995a, 2004) proposes a general grouping of limitations that he classifies into two categories: internal barriers (within the company and associated with its resources or international marketing strategy) and external barriers (in foreign markets). Álvarez (2004) divides these barriers into three parts: internal to the company, internal to the destination country and external; while Hutchinson *et al.* (2009) classify them into internal, external and government support barriers.

Then, Leonidou and Katsikeas (1996) take as a basis the dimensions of barriers to group them into 24 and 8 categories: product adaptation, information and communication, export price limitations, *marketing adaptation*, exogenous logistical restrictions, national export policy, complexity of processes and currency devaluation.

Subsequently, a grouping of four categories of barriers is suggested: strategic, information, operational and derived from processes (Westhead *et al.*, 2002). Likewise, in 2010 Arteaga and

Fernández established a classification of four groups: knowledge, resources, procedures and exogenous barriers.

Export barriers encompass a variety of impediments, such as attitudes, structural and institutional issues, internal or external barriers, that discourage domestic companies from starting the internationalization process, limit active exporters in the long term or frustrate them to the point of about to abandon exports completely (Kahiya , 2013).

In their research, (Jiménez, Estrella, Ruiz and Sánchez 2013) they include variables related to barriers to international trade, the percentage of turnover dedicated to R&D, export experience, turbulence in the international environment, export intensity, as well as a series of control variables. To measure investment in R&D, the percentage of turnover dedicated to this area in the company is used, a measure commonly used in the literature (Coff , 2003; Bausch and Krist, 2007; Hsu and Boggs, 2003; Krishnam *et al.* , 2009).

Furthermore, thanks to the Arteaga and Fernández scale, derived from the review of existing literature, a list of twenty-six variables is obtained. The scales used to measure export barriers are divided into four groups based on the theoretical review: 1) knowledge; 2) resources; 3) procedures; and 4) exogenous barriers. Likewise, reliability analyzes of the scales and validity tests were carried out to ensure greater certainty in their use. The specific tests used were the reliability test (Babbie , 1994; George and Mallery , 1995) and the content validity test (Babbie , 1994; Venkatraman and Grant, 1986). Convergent and discriminant validity tests were also applied through factor analysis, and finally a principal components factor analysis was carried out for each export barriers scale.

Aim

Determine if legal export barriers have a relevant influence on Mexican exports from hydro-heated companies.

Materials and methods

Currently, in response to the need to promote foreign trade, Aguascalientes has implemented a series of support programs by the State Government under the motto “Made in Aguascalientes”, which allow both potential exporters and those with experience can position themselves abroad. However, despite these efforts, there has not yet been a study that identifies the reasons why some companies do not export or the limitations they face. For this reason, this research focuses on the analysis of a specific group of export barriers: legal barriers.

For this work, preliminary interviews were carried out with three companies, which highlighted the importance of considering the following aspects in the research survey:

- a. Most of those interviewed agree that strict foreign regulations make it difficult to start or expand their export activity, which does not always make the export of products attractive.
- b. Non-tariff barriers related to product standardization and certification make it difficult to start or expand your export activity.
- c. Political instability in foreign markets hinders the start or expansion of your export activity.

Based on this information, a series of questions have been formulated as part of the study to determine whether these legal barriers are significant in exports, for which the following hypotheses have been formulated:

- Ho: Legal barriers do not have a significant influence on the exports of Mexican companies in Aguascalientes.
- H1: Legal barriers have a significant influence on the exports of Mexican companies in Aguascalientes.

Definition of population

The population was made up of 164 hydrocalid exporting companies, which find their market in the United States and in some cases in Europe.

Sample size

The sample was determined with the following simple random sampling formula:

$$\frac{(p * q) * Z^2 * N}{\varepsilon^2(N - 1) + (p * q)Z^2}$$

Where

N = Represents the population or universe and will be made up of companies in the region with export activity (N = 164).

n = It is the sample size to be determined and will be used to carry out the field work.

P = The proportion of companies in the region that do not export (p = 0.7).

Q = Proportion of companies that export (q = 0.3).

Z = Value associated with a confidence level, obtained from the standard normal table, for research works it varies 90% ≤ Confidence ≤ 99%, in this case a confidence of 90% is considered Z = 1.65

ε = It is the maximum allowable error existing in all research work; Its variation range is 1% ≤ ε ≤ 10%, for the case of the problem it is assumed ε = 9%



Replacing:

$$n = \frac{(0.7 * 0.3) * 1.65^2 * 164}{0.09^2(164 - 1) + (0.7 * 0.3)1.65^2}$$

$$n = 50$$

In conclusion, 50 is the sample size required for field work, which will be analyzed statistically once the survey has been carried out.

Selected sample

The type of sample used is representative by probability, given that a number of exporting companies in the region are selected through random sampling. The randomly chosen samples have a size of 50 companies, for which the following exclusion and inclusion criteria are applied:

- Companies with export capacity.
- Companies that currently export.

Once the sample size is defined by calculating simple random sampling, we can determine that it is representative of the population. Furthermore, the analysis has sufficiently robust statistical power to guarantee credibility in the interpretation of the results.

Instrument used

The survey used is based on the questionnaire developed by Arteaga and Fernández, with the inclusion of additional items derived from previous interviews with the industry. Subsequently, the interviews were sent electronically to those responsible for the companies and those in charge of the export areas. The sample unit consisted of 50 exporting companies.

Data collection techniques and instruments

For the research, a survey was used as a data collection technique, which consists of 35 items that were processed with the Minitab *software*. To obtain responses from the participants, Likert scale questions were applied.

Table 1. Likert scale

5 = Extremely difficult.
4 = Difficult.
3 = Moderately difficult.
2 = A little difficult.
1 = Does not hinder.

Source: self made

Sample Reliability

In the validation process of the measurement instrument used in this study, the Cronbach's alpha test methodology has been applied, which provides information on the reliability of the surveys carried out during the application of the instrument. In this regard, it should be noted that Cronbach's alpha coefficient varies in a range from 0 to 1. The commonly accepted interpretation is that a value equal to or greater than 0.8 indicates high reliability of the instrument for data analysis.

Table 2. Case processing summary

	N	%
Cases	fifty	100
	0	0
	fifty	100

Source: self made

Table 3. Confidence statistics

Cronbach's alpha	# of elements
0.8951	fifty

Source: self made

Data analysis method

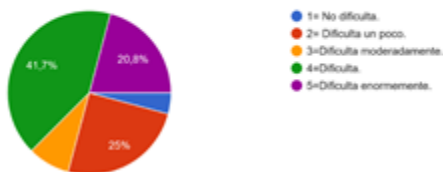
To develop the research and data processing, various tools were used such as Minitab, Google Forms and Microsoft Excel. Data collection was conducted online using Google Forms , which allowed the generation of pie charts for visual analysis. Statistical tools were applied in Minitab, where measures such as Cronbach's alpha coefficient and the chi-square test were calculated for reliability and contrast studies, respectively. The results obtained were interpreted by members of the research team, who have experience and specialized knowledge on the subject.

Results

Below are the results of the surveys applied, which were processed with the Google Forms tool. The document includes graphs with the percentages that represent the most significant findings for each of the questions.

Figure 1. Question 3 graph

¿La falta de personal para planificar la actividad exportadora dificulta el iniciar o ampliar su actividad exportadora?



Source: self made

According to the results obtained from the question asked, it is observed that 41.7% of the people surveyed consider that the lack of personnel to plan the export activity makes it difficult to start or expand their export activity. Furthermore, 25% think that this situation makes it a little difficult, while 20.8% think that it makes it extremely difficult.

Figure 2. Question 4 graph

¿El desconocimiento de las ayudas a la exportación disponibles dificulta el iniciar o ampliar su actividad exportadora?

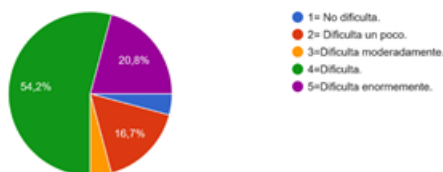


Source: self made

The question posed reveals that 50% of respondents maintain that a lack of knowledge about available export support hinders the start or expansion of their export activities. In contrast, 25% believe that this lack makes it considerably difficult, while 12.5% consider it a moderate obstacle.

Figure 3. Question 7 graph

¿El desconocimiento general de los pasos que conforman la exportación dificulta el iniciar o ampliar su actividad exportadora?

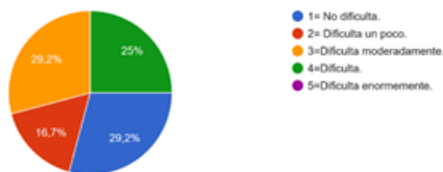


Source: self made

The question posed shows that 54.2% of the participants in the survey believe that the lack of general knowledge about the steps that make up the export process makes it difficult to start or expand their export activity. On the other hand, 20.8% consider that this lack of knowledge makes it extremely difficult, while 16.7% believe that it represents a lesser obstacle.

Figure 4. Question 8 graph

¿El riesgo por la variación de los tipos de cambio de las monedas dificulta el iniciar o ampliar su actividad exportadora?

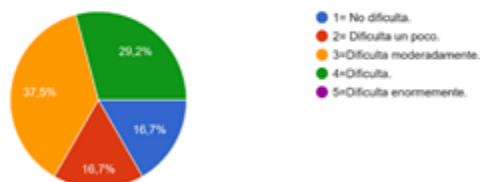


Source: self made

The question asked shows that 29% of the participants in the survey believe that the risk associated with the variation in currency exchange rates moderately hinders the start or expansion of their export activity. On the other hand, 29.2% consider that this risk does not represent a difficulty, while 25% do perceive it as an obstacle.

Figure 5. Question 9 graph

¿El alto valor del tipo de cambio dificulta el iniciar o ampliar su actividad exportadora?

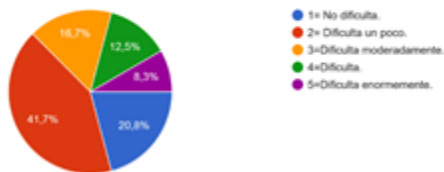


Source: self made

The question asked gives us the result that 37.5% of the individuals surveyed believe that the high value of the exchange rate moderately makes it difficult to start or expand their export activity. Likewise, 29.2% consider that this factor represents a difficulty, while 16.7% conceive it as an obstacle of lesser magnitude.

Figure 6. Question 10 graph

¿La inestabilidad política en los países de destino dificulta el iniciar o ampliar su actividad exportadora?

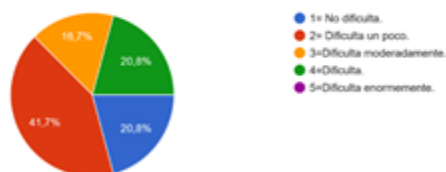


Source: self made

The question asked shows that 41.7% of the people surveyed consider that political instability in the destination countries makes it difficult to start or expand their export activity. On the other hand, 20.8% believe that this instability does not represent a difficulty, while 16.7% consider it a moderate obstacle.

Figure 7. Question 11 graph

¿Las diferencias en las costumbres sobre el uso del producto dificulta el iniciar o ampliar su actividad exportadora?

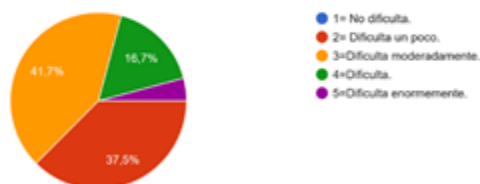


Source: self made

The previous question shows that 41.7% of the people surveyed consider that the differences in customs regarding the use of products make it somewhat difficult to start or expand their export activity, 20.8% think that these differences represent a difficulty and another 20.8% perceive them as a moderate obstacle.

Figure 8. Question 12 graph

¿Las restricciones comerciales dificultan el iniciar o ampliar su actividad exportadora?



Source: self made

The question asked indicates that 41.7% of the people surveyed consider that trade restrictions moderately hinder the start or expansion of their export activity, 37.5% believe that these restrictions represent a difficulty of lesser magnitude, while 16.7% see them as an obstacle.

Figure 9. Question 13 graph

¿Los diferentes hábitos y actitudes de clientes extranjeros dificultan el iniciar o ampliar su actividad exportadora?



Source: self made

The question asked gives us the result that 37.5% of the people surveyed estimate that the different habits and attitudes of foreign clients make it difficult to start or expand their export activity. Furthermore, 33.3% of those surveyed believe that this difficulty is moderate, while 16.7% do not perceive it as an obstacle.

Figure 10. Question 14 graph



Source: self made

The question asked reveals that 33.3% of the people surveyed consider that the identification of business opportunities abroad makes it difficult to start or expand their export activity, 29.2% believe that this difficulty is slight, while 20.8% believe that considered moderate.

Figure 11. Question 15 graph

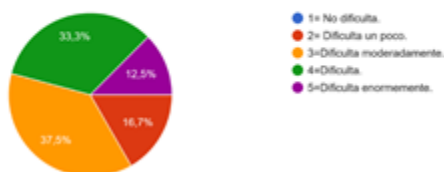


Source: self made

The question asked shows that 41.7% of the people surveyed consider that the absence of an external network of Mexican banks makes it difficult to start or expand their export activity, 29.2% of those surveyed believe that this difficulty is slight, while 20.8% consider it moderate.

Figure 12. Question 16 graph

¿La falta de especialistas en comercio internacional en los bancos dificulta el iniciar o ampliar su actividad exportadora?

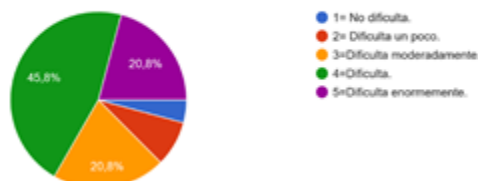


Source: self made

The question asked shows that 37.5% of the people surveyed consider that the lack of international trade specialists in banks moderately hinders the start or expansion of their export activity, 33.3% believe that this difficulty is significant, while 16.7% perceive it as a minor obstacle.

Figure 13. Question 17 graph

¿Los costos de transporte y distribución dificultan el iniciar o ampliar su actividad exportadora?

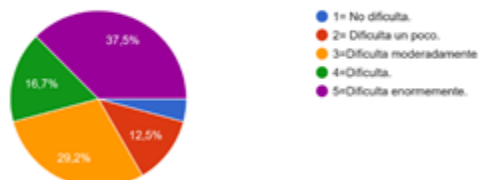


Source: self made

The question asked shows that 45.8% of the people surveyed consider that transportation and distribution costs make it difficult to start or expand their export activity, 20.8% indicate that this difficulty is considerable, while another 20.8% consider it moderate.

Figure 14. Question 18 graph

¿Las complejidades logísticas dificultan el iniciar o ampliar su actividad exportadora?



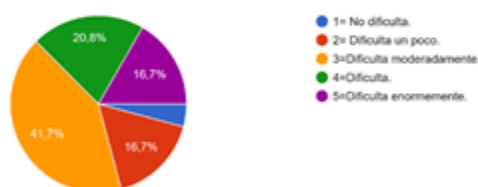
Source: self made

The question asked gives us the result that 37.5% of the people surveyed consider that logistical complexities make it extremely difficult to start or expand their export activity, 29.2% indicate that this difficulty is moderate, while 16.7% perceive it as an obstacle.

In addition to the above, 33.3% believe that barriers related to standardization, product approval, or sanitary, phytosanitary or similar barriers make it difficult to start or expand their export activity. Furthermore, 25% believe that this difficulty is considerable, while 16.6% perceive it as an obstacle of lesser magnitude.

Figure 15. Question 25 graph

¿La tasa de interés e inflación dificulta el iniciar o ampliar su actividad exportadora?

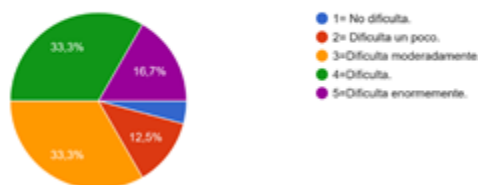


Source: self made

The question asked reveals that 41.7% of the people surveyed consider that the interest and inflation rate moderately hinders the start or expansion of their export activity. Furthermore, 20.8% believe that this difficulty is significant, while 16.7% consider it a considerable obstacle.

Figure 16. Question 26 graph

¿La falta de asesoramiento financiero dificulta el iniciar o ampliar su actividad exportadora?

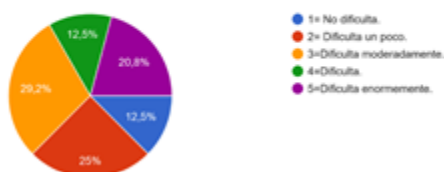


Source: self made

The question asked shows that 33.3% of the people surveyed consider that the lack of financial advice makes it difficult to start or expand their export activity, 33.3% think that this difficulty is moderate, while 16.7% consider it a considerable obstacle. .

Figure 17. Question 27 graph

¿La falta de capacidad de producción de la empresa dificulta el iniciar o ampliar su actividad exportadora?

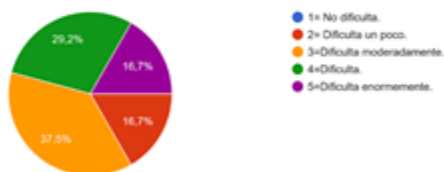


Source: self made

The question reveals that 29.2% of the people surveyed consider that the company's lack of production capacity makes it difficult to start or expand its export activity. Furthermore, 25% believe that this difficulty is slight, while 20.8% consider it a considerable obstacle.

Figure 18. Question 28 graph

¿El alto coste financiero de los medios de pago utilizados en operaciones internacionales dificulta el iniciar o ampliar su actividad exportadora?

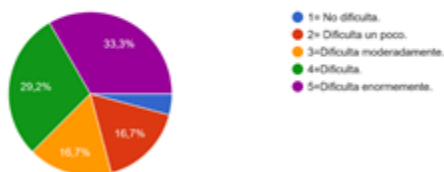


Source: self made

The question asked indicates that 37.5% of the people surveyed consider that the high financial cost of the payment methods used in international operations moderately makes it difficult to start or expand their export activity. Furthermore, 29.2% point out that this difficulty is significant, while 16.7% consider it a considerable obstacle.

Figure 19. Question 29 graph

¿La falta de los recursos necesarios para hacer frente a los retrasos dificulta el iniciar o ampliar su actividad exportadora?

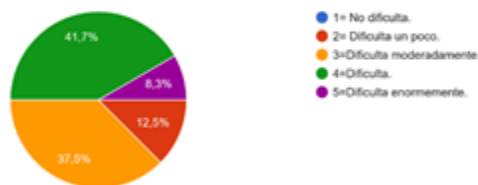


Source: self made

The question shows that 33.3% of the people surveyed consider that the lack of the necessary resources to deal with delays makes it extremely difficult to start or expand their export activity. Furthermore, 29.2% believe that this difficulty is significant, while 16.7% see it as a moderate obstacle.

Figure 20. Question 33 graph

¿La estricta normativa extranjera dificulta el iniciar o ampliar su actividad exportadora?

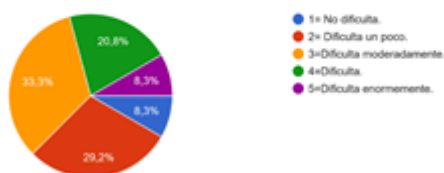


Source: self made

The question asked reflects that 41.7% of the people surveyed consider that strict foreign regulations make it difficult to start or expand their export activity. Furthermore, 37.5% believe that this difficulty is moderate, while 12.5% consider it an obstacle of lesser magnitude.

Figure 21. Question 34 graph

¿La inestabilidad política en los mercados extranjeros dificulta el iniciar o ampliar su actividad exportadora?

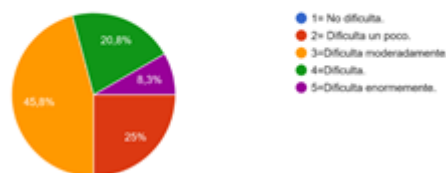


Source: self made

The question shows that 33.3% of the people surveyed consider that political instability in foreign markets moderately makes it difficult to start or expand their export activity. Furthermore, 29.2% of those surveyed believe that this difficulty is of minor magnitude, while 20.8% consider it an obstacle.

Figure 22. Question 35 graph

Las barreras no arancelarias relacionadas con la estandarización y certificación de los productos dificulta el iniciar o ampliar su actividad exportadora?



Source: self made

The question asked reflects that 45.8% of the people surveyed consider that non-tariff barriers related to the standardization and certification of products moderately hinder the start or expansion of their export activity. Furthermore, 25% believe that this difficulty is minor, while 20.8% consider it an obstacle.

Discussion

Considering that there is currently no model that allows all export barriers to be included, in this research Arteaga-Ortiz and Fernández-Ortiz (2010) and Ortega and González (2000) were taken as a reference, who grouped the export barriers export in four groups: knowledge, experience, procedures, resources and exogenous. The classification of external and internal barriers was also considered, as pointed out by Malca Guaylupo and Rubio Donet (2015).

In the category of external barriers, there are political-legal ones with three reagents: political instability, ignorance of laws in the foreign market and bureaucratic requirements. Therefore, the starting point is the self-developed questionnaire based on the information from Leonidou (2004), Hakan (2007), Arteaga-Ortiz and Fernández-Ortiz (2010), Kahiva (2013), Arteaga-Ortiz, Fernández-Ortiz and Clavel-San Emeterio (2014).

The results of the impact of legal barriers show similarity with Mendoza Galván and Quispe Rojas (2017) because they point out that tariff barriers generate limitations in processes, regulations and laws where trade is desired. For his part, Lozano (2017) reaffirms the results of this research by pointing out that non-tariff barriers make export actions difficult.

Likewise, the chi-square test processed using Minitab statistical *software* , version 16, confirms the identification of legal export barriers and their negative impact on exporting companies. Regarding the hypothesis test, the following general hypothesis was proposed: “Legal barriers significantly influence the exports of Mexican companies in Aguascalientes.” In this sense, the significance level was set at $\alpha = 5\%$, which means that there is a probability between 1% and 10% of rejecting the null hypothesis when it is true.

Conclusions

The topic of export barriers covers a period of more than 50 years and has been the subject of study in more than 100 investigations. Due to the breadth of this topic, it has not been possible to establish a universal group of barriers, so this research focused specifically on legal export barriers, which include all government policies and regulations, as well as procedures and paperwork. bureaucratic barriers that, although they are barriers beyond control, can be areas of improvement to streamline the procedures required abroad.

In this regard, it is important to highlight that both the type and quantity of legal barriers can vary depending on the final destination of the export, which represents a greater or lesser level of complexity for companies. This impacts supply chains in terms of transportation, storage, distribution and administrative costs. Therefore, it can be stated that legal export barriers must be considered in the initial phases of the export process or directly in the international purchasing area of companies in Aguascalientes.

Future lines of research

Currently, in our country, it is crucial to promote research focused on international trade to generate topics that promote exports, which will allow us to analyze one of the facets of export limitations in Mexico, specifically the group of legal barriers to export. For future research, therefore, the collaboration of government agencies and the private sector is needed to achieve greater scope and understanding of the topic.

Likewise, the inclusion of new variables related to innovation can be considered, especially in light of the covid-19 pandemic, since this health emergency demonstrated the importance of having updated and cutting-edge supply chains.

Thanks

We appreciate the support of the National Council of Humanities, Science and Technology (Conahcyt) in Mexico for the support received as part of the National System of Researchers (SNI).

References

- Abassi, M., Shakhshian, F., Fayyazi, M. and Rezaie, M. (2012). Identifying the Most Important Export Barriers in Iran Case Study: Auto-Part Industry. *International Journal of Academic Research in Economics and Management Sciences*, 1(1), 63–81.
- Alvarez, R., E. (2004). Sources of export success in small- and medium-sized enterprises: the impact of public programs. *International Business Review (Oxford, England)*, 13(3), 383–400. <https://doi.org/10.1016/j.ibusrev.2004.01.002>
- Antoldi, F., Cerrato, D., & Depperu, D. (2013). SMEs export consortia and the development of intangible resources. *Journal of Small Business and Enterprise Development*, 20(3), 567–583. <https://doi.org/10.1108/jsbed-04-2013-0062>
- Arteaga-Ortiz, J. and Fernández-Ortiz, R. (2010). Why don't we use the same export barrier measurement scale? An empirical analysis in small and medium-sized enterprises: Journal of small business management. *Journal of Small Business Management*, 48(3), 395–420. <https://doi.org/10.1111/j.1540-627x.2010.00300.x>
- Arteaga Ortiz, J., Fernández Ortiz, R., & Clavel San Emeterio, M. (2014). Las pymes españolas en Latinoamérica: barreras a la exportación. *AD-minister*, 24, 53–78. http://www.scielo.org.co/scielo.php?script=sci_arttext&pid=S1692-02792014000100004&lng=en&tlng=es.
- Babbie, E. (1994). *The practice of social research* (7a ed.). Wadsworth Publishing.
- Barrett, N. J. and Wilkinson, I. F. (1985). Export stimulation: A segmentation study of the exporting problems of Australian manufacturing firms. *European Journal of Marketing*, 19(2), 53–72. <https://doi.org/10.1108/eum0000000004750>
- Baurismichmidt, A., Sullivan, D. and Gillespie, K. (1985). Common factors underlying barriers to export: Studies in the U.s. paper industry. *Journal of International Business Studies*, 16(3), 111–123. <https://doi.org/10.1057/palgrave.jibs.8490802>
- Bausch, A., & Krist, M. (2007). The effect of context-related moderators on the internationalization-performance relationship: Evidence from meta-analysis. *Management International Review*, 47(3), 319–347. <https://doi.org/10.1007/s11575-007-0019-z>

- Bilkey, W. J. and Tesar, G. (1977). The export behavior of smaller-sized Wisconsin manufacturing firms. *Journal of International Business Studies*, 8(1), 93–98. <https://doi.org/10.1057/palgrave.jibs.8490783>
- Coff, R. (2003). Bidding wars over R&D-intensive firms: Knowledge, opportunism, and the market for corporate control. *Academy of Management Journal*, 46(1), 74–85. <https://doi.org/10.5465/30040677>
- George, D., & Mallery, P. (1995). *SPSS/PC + Step by Step: A Simple Guide and Reference*. Wadsworth Publishing Company.
- González López, I., Martínez Senra, A. I., Otero Neira, M. D. C., & Gonzalez Vázquez, E. (2014). Gestión del comercio exterior de la empresa Manual teórico y práctico. *EL EXPORTADOR*, 1, 4–10.
- Gripsrud, G. (1990). The determinants of export decisions and attitudes to a distant market: Norwegian fishery exports to Japan. *Journal of International Business Studies*, 21(3), 469–485. <https://doi.org/10.1057/palgrave.jibs.8490829>
- Groke, P. O., & Kreidle, J. R. (1967). Export! Why or why not? Managerial attitude and action for smaller sized business firms. *Business and Society*, 8(1), 7–12. <https://doi.org/10.1177/000765036700800101>
- Hakan, M., Tokol, T. and Harcar, T. (2007). The effects of export barriers on perceived export performance: An empirical research on SMEs in Turkey. *EuroMed Journal of Business*, 2(1), 36–56. <https://doi.org/10.1108/14502190710749947>
- Hsu, C.-C., & Boggs, D. J. (2003). Internationalization and performance: Traditional measures and their decomposition. *Multinational Business Review*, 11(3), 23–50. <https://doi.org/10.1108/1525383x200300015>
- Hutchinson, K., Fleck, E., & Lloyd-Reason, L. (2009). An investigation into the initial barriers to internationalization: Evidence from small UK retailers. *Journal of Small Business and Enterprise Development*, 16(4), 544–568. <https://doi.org/10.1108/14626000911000910>
- Jiménez Castillo, D., Estrella Ramón, A. M., Ruiz Real, J. L., & Sánchez Pérez, M. (2013). Análisis de los efectos moderadores de la inversión en I+D y la experiencia exportadora sobre la relación entre barreras a la exportación e intensidad exportadora bajo distintos niveles de turbulencia ambiental percibida. *Cuadernos de economía y dirección de la empresa*, 16(2), 95–107. <https://doi.org/10.1016/j.cede.2012.06.004>

- Kahiya, E. T. (2013). Export barriers and path to internationalization: A comparison of conventional enterprises and international new ventures. *Journal of International Entrepreneurship*, 11(1), 3–29. <https://doi.org/10.1007/s10843-013-0102-4>
- Kaynak, E. and Kothari, V. (1984). Export behaviour of small manufacturers: a comparative study of American and Canadian firms. *European Management Journal*, 2(2), 41–47. [https://doi.org/10.1016/s0263-2373\(84\)80005-5](https://doi.org/10.1016/s0263-2373(84)80005-5)
- Krishnan, H. A., Tadepalli, R., & Park, D. (2009). R&D intensity, marketing intensity, and organizational performance. *Journal of managerial issues*, 21(2), 232–244. <http://www.jstor.org/stable/40604645>
- Leonidou, L. C. (1995a). Empirical research on export barriers: Review, assessment, and synthesis. *Journal of International Marketing*, 3(1), 29–43. <https://doi.org/10.1177/1069031x9500300103>
- Leonidou, L. C. (1995b). Export barriers: non-exporters' perceptions. *International Marketing Review*, 12(1), 4–25. <https://doi.org/10.1108/02651339510080070>
- Leonidou, L. C., & Katsikeas, C. S. (1996). The export development process: An integrative review of empirical models. *Journal of International Business Studies*, 27(3), 517–551. <https://doi.org/10.1057/palgrave.jibs.8490846>
- Leonidou, L. C. (2004). An analysis of the barriers hindering small business export development. *Journal of Small Business Management*, 42(3), 279–302. <https://doi.org/10.1111/j.1540-627x.2004.00112.x>
- Lozano, A. R. (2017). Las barreras no arancelarias, como dificultad a superar para exportar a Canadá por productos colombianos. *Revista logos ciencia & tecnología*, 8(2). <https://doi.org/10.22335/rfct.v8i2.311>
- Malca Guaylupo, O. y Rubio Donet, J. (2015). Obstáculos a la actividad exportadora de las empresas del Perú. *Journal of Business*, 7(1). <https://doi.org/10.21678/jb.2015.72>
- Mendoza Galván, L y Quispe Rojas, M. (2017). Barreras a la exportación y la relación con el desarrollo del marketing en las empresas peruanas exportadoras de quinua. Universidad San Ignacio de Loyola.
- Morgan, R. E. and Katsikeas, C. S. (1997). Obstacles to export initiation and expansion. *Omega*, 25(6), 677–690. [https://doi.org/10.1016/s0305-0483\(97\)00035-2](https://doi.org/10.1016/s0305-0483(97)00035-2)
- Ortega, E., & González, L. (2000). *La internacionalización a través de la exportación. (España y las empresas de la comunidad de Madrid)* (E. Mundi-prensa, Ed.).

- Pinho, J. C., & Martins, L. (2010). Exporting barriers: Insights from Portuguese small- and medium-sized exporters and non-exporters. *Journal of International Entrepreneurship*, 8(3), 254–272. <https://doi.org/10.1007/s10843-010-0046-x>
- Rabino, S. (1980). An examination of barriers to exporting encountered by small manufacturing companies. *Management International Review*, 20(1), 67–73. <http://www.jstor.org/stable/40245537>
- Schroath, F. W., & Korth, C. M. (1989). Managerial barriers to the internationalization of U.S. property and liability insurers: Theory and perspectives. *The Journal of risk and insurance*, 56(4), 630. <https://doi.org/10.2307/253450>
- Tesfom, G. and Lutz, C. (2006). A classification of export marketing problems of small and medium sized manufacturing firms in developing countries. *International Journal of Emerging Markets*, 1(3), 262–281. <https://doi.org/10.1108/17468800610674480>
- Venkatraman, N., & Grant, J. H. (1986). Construct measurement in organizational strategy research: A critique and proposal. *Academy of Management Review*, 11(1), 71–87. <https://doi.org/10.5465/amr.1986.4282628>
- Westhead, P., Wright, M., & Ucbasaran, D. (2002). International market selection strategies selected by ‘micro’ and ‘small’ firms. *Omega*, 30(1), 51–68. [https://doi.org/10.1016/s0305-0483\(01\)00056-1](https://doi.org/10.1016/s0305-0483(01)00056-1)

Contribution Role	Author(s)
Conceptualization	Julissa Elayne Cosme Castorena
Methodology	Julissa Elayne Cosme Castorena, Rafael Preciado Gutiérrez (same)
Software	DOES NOT APPLY
Validation	Carlos Alberto Santamaría Velasco and Ariann Andrade Alonso (same)
Formal Analysis	Julissa Elayne Cosme Castorena (main), Rafael Preciado Gutiérrez (equal)
Investigation	Carlos Alberto Santamaría Velasco and Ariann Andrade Alonso (support)
Resources	Julissa Elayne Cosme Castorena (main). Rafael Preciado Gutiérrez, Carlos Alberto Santamaría Velasco (support)
Data curation	Julissa Elayne Cosme Castorena (main), Rafael Preciado Gutiérrez, Carlos Alberto Santamaría Velasco and Ariann Andrade Alonso (support)
Writing - Preparation of the original draft	Julissa Elayne Cosme Castorena (main), Rafael Preciado Gutiérrez and Carlos Alberto Santamaría Velasco (support)
Writing - Review and editing	Rafael Preciado Gutiérrez, Carlos Alberto Santamaría Velasco (same)
Display	Julissa Elayne Cosme Castorena (main), Rafael Preciado Gutiérrez, Carlos Alberto Santamaría Velasco and Ariann Andrade Alonso (support)
Supervision	Julissa Elayne Cosme Castorena
Project management	Julissa Elayne Cosme Castorena
Fund acquisition	Julissa Elayne Cosme Castorena, Rafael Preciado Gutiérrez, Carlos Alberto Santamaría Velasco (same)

ANNEX S

Table 1
Summary of Exploratory Factor Analysis

Name of statement/fact		Cronbach's alpha	Dominant statements	factor loadings
Factor 1	Exogenous barriers	0.89	Does the risk due to currency exchange rate variations make it difficult to start or expand your export activity?	0.78
			Does the high value of the exchange rate make it difficult to start or expand your export activity?	0.81
			Does political instability in destination countries make it difficult to start or expand your export activity?	0.92
Factor 2	Legal barriers	0.80	Do strict foreign regulations make it difficult to start or expand your export activity?	0.61
			Does political instability in foreign markets make it difficult to start or expand your export activity?	0.80
			Do non-tariff barriers related to product standardization and certification make it difficult to start or expand your export activity?	0.78
Factor 3	Resource barriers	0.79	Does the interest rate and inflation make it difficult to start or expand your export activity?	0.73
			Does the lack of financial advice make it difficult to start or expand your export activity?	0.72
			Does the company's lack of production capacity make it difficult to start or expand its export activity?	0.84
			Does the high financial cost of payment methods used in international operations make it difficult to start or expand your export activity?	0.73
			Does the lack of the necessary resources to deal with delays make it difficult to start or expand your export activity?	0.74

Factor 4	Cultural barriers	0.77	Do differences in customs regarding the use of products make it difficult to start or expand your export activity?	0.62
			Do trade restrictions make it difficult to start or expand your export activity?	0.73
			Do the different habits and attitudes of foreign clients make it difficult to start or expand your export activity?	0.56
			Does identifying business opportunities abroad make it difficult to start or expand your export activity?	0.87
Factor 5	Private support and logistics barriers	0.77	Does the lack of an external network of Mexican banks make it difficult to start or expand their export activity?	0.75
			Does the lack of international trade specialists in banks make it difficult to start or expand your export activity?	0.67
			Do transportation and distribution costs make it difficult to start or expand your export activity?	0.77
			Do logistical complexities make it difficult to start or expand your export activity?	
Factor 6	Knowledge barriers of destination markets	0.73	Does the lack of personnel to plan the export activity make it difficult to start or expand your export activity?	0.74
			Does ignorance of available export aid make it difficult to start or expand your export activity?	0.63
			Does the general lack of knowledge of the steps involved in exporting make it difficult to start or expand your export activity?	0.54
Factor 7	Customs barriers	0.68	Does the export tariff code make it difficult to start or expand your export activity?	0.64
			Do high tariff and non-tariff barriers make it difficult to start or expand your export activity?	0.59

			Does the lack of the necessary resources to deal with delays make it difficult to start or expand your export activity?	0.66
			Does ensuring that the product being exported is of quality and suitable for human consumption make it difficult to start or expand your export activity?	0.64
			Does the documentation and bureaucracy required for export activity make it difficult to start or expand your export activity?	0.63
			Do barriers related to product standardization and approval or sanitary, phytosanitary or similar barriers make it difficult to start or expand your export activity?	0.65
Factor 8	Market adaptation barriers	0.60	Does the intensity of competition in export markets make it difficult to start or expand your export activity?	0.47
			Do quality assurance requirements make it difficult to start or expand your export activity?	0.44
			Does locating a suitable distributor or the right distribution channels make it difficult to start or expand your export activity?	0.59