



The Export Potential of Food and Beverage SMEs in Nicaragua ¹

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Abstract

Nicaragua's exports grew by 45% between 2019 and 2024, driven in part by small and medium-sized enterprises (SMEs) in the food and beverage sector. However, structural limitations continue to constrain their export potential. This quantitative, empirical-analytical study assesses the export potential of 30 Nicaraguan SMEs through a diagnostic process combining documentary research and fieldwork, including on-site visits to each company. The analysis examines key dimensions such as market audit, export and import requirements, customs formalities, and logistics. The findings reveal a mixed landscape: while many SMEs demonstrate a strong commitment to internationalization, they face strategic, logistical, and commercial barriers that limit their export performance. Progress is evident in meeting pre-export requirements, yet gaps persist in strategic planning, marketing, and market intelligence. Strengthening internal capabilities, as well as logistical and commercial management, in coordination with greater public-private collaboration, will be essential to consolidate the participation of Nicaraguan SMEs in international markets and enhance their contribution to the country's economic development.

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1. Introduction

The export potential of SMEs is constrained by structural factors that increase costs and reduce international competitiveness. Trade barriers, inadequate infrastructure, complex customs procedures, low logistical efficiency, and non-tariff barriers raise the cost of export operations. In addition, technological and financial constraints limit innovation and adaptive capacity. The lack of resources to comply with international standards, combined with restricted access to formal credit, prevents firms from investing in productive improvements and international expansion, thereby affecting SME growth and sustainability in global markets (Ayyagari et al., 2017; Stuart, 2024; World Bank, 2020).

In Central America, export performance has shown significant progress, driven by sustained growth in the total value of exported goods and services over the past decade. Some countries stand out for their high export volumes, particularly in financial and transportation services, while others exhibit greater diversification in products and export destinations. Nevertheless, SMEs continue to face structural challenges that hinder their active participation in international trade (Deza, 2012; Franco-Bedoya & Lee, 2024; CA360, 2025).

Among these limitations are the limited adoption of sustainable practices, restricted access to green financing, and low integration into global value chains, all of which constrain export potential. Notably, only 18.4% of firms—due to various factors—have participated

in sustainability training processes, despite evidence that those which do so improve their performance and international positioning (Monge-González, 2019; Arias-Picado, 2025).

1.1 Background

Between 2019 and 2024, the value of Nicaragua's exports increased by 45%, rising from USD 5.3 billion to USD 7.5 billion. This period includes 2020, a year in which, as occurred globally, Nicaraguan businesses, institutions, and the population faced the effects of the COVID-19 pandemic. During that year, export growth slowed, and exports declined by 4% compared to 2019 (International Trade Centre [INTRACEN], 2025).

At the tariff subheading level, Nicaragua's main export products include fresh and processed food items such as coffee, beef (refrigerated and frozen), peanuts, sugar, cheese, red beans, shrimp, bananas, tobacco, cookies, and various beverages. Notably, 11 of the 20 leading export categories correspond to the food and beverage sector, whether fresh or processed products.

This upward trend in exports reflects, to some extent, the outcome of export promotion and sales activities undertaken by Nicaraguan firms over these years, as well as the impact of trade policy strategies and export promotion measures implemented by the Government of Nicaragua across multiple sectors.

Regarding export destinations, Nicaragua's main trading partners are distributed as follows:

North America accounts for 55% of total exports, followed by Central America with 23%, and the European Union with 9.8%. The remaining 2% is distributed among South American and Asian countries. This distribution reveals a significant degree of export concentration, with the advantages and risks that such concentration may entail (Intracen, 2025).

The Nicaraguan SME sector experienced a 10% economic contraction in 2018 and 2019, largely as a result of the socio-political crisis that affected the country and the region. The economic situation was further exacerbated by the COVID-19 pandemic, intensifying the structural challenges faced by the country. However, following the pandemic period, SMEs in Nicaragua have confronted multiple challenges while simultaneously identifying new opportunities for development (Pelcastre, 2020).

In 2022, Nicaraguan exports grew by 9.8% in value and 3.6% in volume, representing a value increase of USD 350.8 million compared to 2021. Approximately 95% of the 154,000 registered firms in Nicaragua are SMEs, and around 20% of them have the profile to become exporters. The SME export sector has shown annual growth rates ranging between 5% and 10% (Guevara, 2022).

Nicaragua has undertaken significant efforts to strengthen its position in international logistics through initiatives such as the Central American Logistics Corridor, aimed at improving infrastructure and cargo handling efficiency in ports and transport systems.

These initiatives seek to establish an integrated framework for the development of national and regional logistics corridors, enhancing the country's competitiveness in global markets and facilitating international trade (SIECA, 2019).

Nicaragua's trade agreements generate opportunities to strengthen exports by reducing tariffs and facilitating access to new markets, thereby increasing sales and revenue. International competition fosters innovation and continuous quality improvement, encouraging SMEs to optimize their productive and commercial processes. These agreements also allow access to scarce resources and raw materials. Nicaragua currently maintains trade agreements with Mexico, the Dominican Republic, Central America, the United States, Panama, Chile, the European Union, Korea, the United Kingdom, Cuba, Ecuador, and China, significantly expanding its international trade network (Dirección de Comercio Exterior, 2024).

The World Bank has supported more than 850 micros, small, and medium-sized enterprises (MSMEs) in Nicaragua to strengthen their competitiveness and contribute to national economic growth. In parallel, the Multisectoral Program for Economic Reactivation and Social Protection, financed by the Central American Bank for Economic Integration (CABEI), promotes income generation, employment, and social welfare. Within this program, the initiative "Support for Foreign Trade Management" aims to consolidate export processes and improve the competitiveness of firms with export potential,

fostering their sustainable participation in international trade (CABEI, 2020a).

Additionally, CABEI allocated USD 50 million to mitigate financial difficulties experienced by SMEs affected by the COVID-19 pandemic. This measure had a positive impact on approximately 11,000 direct jobs in the country, providing significant relief amid economic and labor challenges generated by the health crisis (CABEI, 2020a).

The Government of Nicaragua has also implemented initiatives to strengthen the structural conditions of enterprises through production financing programs targeting entrepreneurs and small and medium-sized businesses. A total of 2.725 billion cordobas were allocated in the national budget and received by approximately 150,000 enterprises between 2022 and 2025. These credits were directed toward agriculture, livestock, fisheries, aquaculture, industry, commerce, restaurants, hospitality, communications, and services (Céspedes, 2022).

Analyzing the operational context of Nicaraguan enterprises reveals that the path has been challenging for SMEs, both in domestic market operations and in internationalization projects. They continue to face the challenge of strengthening their export potential in order to access international markets through the commercial channels operating in those markets.

1.2 Research Questions

Based on the contextual analysis presented in the preceding section, the following research questions guide this study:

General Research Question

- What is the level of export potential of Nicaraguan SMEs when evaluated in relation to a specific target market of interest?

Specific Research Questions

- What requirements must firms producing processed and packaged food and beverages comply with in order to export from Nicaragua and import into the United States market?
- What is the level of export potential of the sampled food and beverage SMEs originating in Nicaragua and targeting the United States market?
- What is the level of export potential of the firms according to the sector to which they belong?

1.3 Research Objectives

To address the research questions outlined above, this study was conducted with the following objectives:

General Objective

To analyze the level of export potential of Nicaraguan SMEs engaged in the production of processed and packaged food and beverages for retail sale, with a focus on the United States market.

Specific Objectives:

- To determine the requirements that processed and packaged food and beverage firms must fulfill in order to export from Nicaragua and import into the United States market.
- To diagnose the level of export potential of the sampled food and beverage firms originating in Nicaragua and targeting the United States market.
- To assess the level of export potential of firms according to the agrobusiness sector to which they belong.

1.3 Justification

The internationalization of SMEs is a key driver of economic growth in developing countries, as it strengthens productivity, innovation, and employment generation. In Nicaragua, food and beverage SMEs play a fundamental role in the productive structure; however, they face structural constraints that hinder their international integration. Assessing their export potential makes it possible to design strategies that enhance competitiveness and contribute to national economic diversification (Frohman et al., 2016; Fontalvo, De la Hoz, & Mendoza, 2019; World Bank, 2020).

Diagnosing export potential enables a comprehensive understanding of firms' capabilities and gaps in relation to international trade requirements. Factors such as market conditions, regulatory compliance, logistics

management, organizational structure, and financial capacity directly influence export readiness. Studies in Latin America indicate that SMEs must strengthen their internal structures and adapt to international standards to achieve sustainable export performance. Evaluating these factors in the Nicaraguan context provides empirical evidence to inform public policies aimed at reinforcing the national export base (Restrepo et al., 2016; De-La-Hoz & López, 2017; Areandina et al., 2019).

This research is justified by its applied methodological approach, centered on the analysis of real firms, generating strategic information that is valuable for both public and private institutions involved in foreign trade promotion. Such studies support the design of training, innovation, and sustainability programs that facilitate SME integration into global value chains, in line with international development recommendations and with a more inclusive and competitive development model (Frohman et al., 2016; CABI, 2020b; Herrera et al., 2022).

The study is grounded in three key premises: the existence of sufficient demand in the target market to allow profitable sales; the capacity of SMEs to develop efficient logistics management enabling competitive pricing; and the ability to comply with regulatory and technical standards required both in Nicaragua and in the destination country, thereby ensuring product acceptance in international markets.

2. Literature Review

2.1 Theoretical Foundations of Export Potential

The theoretical perspective adopted in this study on export potential integrates principles derived from four major theories in the field of international trade and business.

Firms should allocate their resources toward exporting products in which they hold a comparative advantage over competitors from other countries. This implies identifying areas where the firm demonstrates greater efficiency or possesses specific resources that enable successful international competition. In line with David Ricardo's theory of comparative advantage, export activity should focus on goods from sectors where productivity aligns with internal capabilities and resource endowments (Rosa, 2018).

From the perspective of Porter's Diamond Model, export potential can be analyzed through four interrelated determinants: (1) factor conditions (resources, capabilities, and infrastructure), (2) demand conditions, (3) related and supporting industries, and (4) firm strategy, structure, and rivalry. Evaluating these dimensions facilitates the identification of both opportunities and constraints affecting the export process (Benetti, 2001).

SMEs may also assess the stage of the product life cycle—introduction, growth, maturity, or decline—in which their products are positioned. Applying product life cycle theory enables firms

to better understand their competitive standing in global markets and adjust export strategies accordingly, making informed decisions about timing and target markets (Lavados, 1978; Poveda, 2021).

Internationalization theories further emphasize the importance of commercial relationships and interaction networks among economic actors. Access to foreign markets often depends on continuous organizational interactions between local firms and external networks, through which opportunities emerge either proactively or reactively. SMEs can strengthen their international integration through strategic alliances, business collaboration, and the effective use of established networks (Cardozo, Chavarro, & Ramírez, 2013; Merubia, 2019; Poveda, 2021).

The application of market research and segmentation theory requires systematic analysis to identify and delimit appropriate target markets. SMEs must examine consumer preferences, distribution channels, market trends, and trade barriers in order to adapt their export strategies effectively. Proper segmentation is essential for designing efficient international marketing strategies; its absence may lead to resource misallocation and reduced competitiveness (De La Hoz, González, & Santana, 2016a; Villamil et al., 2024).

Finally, evaluating the financial and logistical capacity of SMEs involves assessing their ability to assume the costs associated with

exporting, including international marketing, transportation, and distribution in the destination market. From this perspective, logistical infrastructure and transport capabilities become decisive factors for ensuring efficient and sustainable export operations (Restrepo et al., 2016; Valencia et al., 2021).

2.2 Export Potential of SMEs

The export potential of small and medium-sized enterprises (SMEs) has been a central topic in international trade research, as it connects economic theory with business practice. Understanding this phenomenon requires analyzing internal factors that determine competitive capacity, including strategic planning, innovation, human resource management, financial management, and logistics (Merubia, 2019; Castañeda, 2024; Escobar & Méndez, 2024).

Having a structured export potential diagnosis and an improvement plan oriented toward internationalization reduces uncertainty and increases the likelihood of export success. Sectoral analysis enables the identification of gaps in commercialization, logistics, organization, and finance, facilitating targeted interventions by trade promotion entities. This approach strengthens strategic decision-making and allows firms to prioritize resources in areas with the greatest impact on international competitiveness (Maldonado, 2009; Escobar & Méndez, 2024; Mondragón, 2024).

Various studies have developed methodologies to measure and classify SME export potential,

integrating analytical instruments that help identify competitive profiles. These approaches enable the differentiation of performance levels and the grouping of firms according to export readiness, thereby supporting the design of tailored improvement strategies and providing relevant information for public policy formulation in export promotion (De-La-Hoz & López, 2017; Bustinza, 2023; Escobar & Méndez, 2024; Mondragón, 2024).

Logistical infrastructure, product quality, and technological upgrading are decisive factors in maintaining presence in international markets. Additionally, strategic planning and technological innovation enhance firms' ability to respond to global environmental changes. Companies with higher levels of process management and operational control achieve stronger international positioning and more sustained export volumes (De La Hoz, González, & Santana, 2016b; Cuaco & Domínguez, 2024; Mondragón, 2024).

Other research has examined the relationship between financial management and export performance through stochastic models, including Monte Carlo simulations and mixed linear frontier models, to evaluate the impact of efficiency, profit margins, and financial leverage on international competitiveness. Findings reveal weaknesses in the efficient use of resources and highlight the need for technological reconversion strategies and access to soft financing to increase productivity and export sustainability (Restrepo et al., 2016; Valencia et al., 2021).

In the Latin American context, empirical studies confirm that SMEs often exhibit medium or low levels of competitiveness, and that internal factors—particularly production and operational management—play a decisive role in export performance. Moreover, although firm size does not show a direct relationship with export potential, foreign trade operations and internal management capabilities emerge as the most significant determinants (Ibarra, González Lourdes, & Demuner, 2017; Escobar & Méndez, 2024; Mondragón, 2024).

Productivity, administrative management, and product quality are consistently identified as key factors associated with export success. SMEs that implement continuous improvement processes, technological innovation, and differentiation strategies are better positioned to sustain competitive advantages amid volatility in international markets. Furthermore, international certifications and producer associations contribute to strengthening sectoral export positioning (Castañeda, 2024).

A positive and statistically significant correlation has been identified between business competitiveness and export potential. Factors such as human resource management, innovation capacity, quality control, and logistics directly influence export performance. In this context, public policies that promote sectoral sustainability and reduce logistical costs are essential to enhance overall competitiveness (Bustanza, 2023). Technological innovation, product quality, and workforce training constitute fundamental

pillars of SME competitiveness. Nevertheless, logistical constraints, transportation over costs, and limited governmental support restrict export potential. Firms that invest in technological upgrading and quality certifications improve their international positioning and maintain stable commercial relationships in foreign markets (Montealegre, Aguilar, & Montealegre, 2019).

2.3. Export Processes

Compliance with export processes is essential for SME competitiveness, as it ensures administrative efficiency, traceability, and international credibility. Firms that properly manage procedures, permits, certifications, and regulatory requirements reduce operational time and costs, thereby strengthening their sustainability and performance in foreign markets (Martínez, 2009; Mesa & Torres, 2019). Conversely, firms lacking knowledge of regulatory procedures face delays and risks that negatively affect profitability. The export process requires a strategic vision and an organizational culture oriented toward compliance, where all functional areas assume responsibility. Integrated management enhances institutional credibility and increases competitiveness, particularly in sectors where certification and punctual delivery are critical determinants (Gaviria, 2021).

The commercial dimension constitutes the strategic foundation of SME internationalization, linking market management with product

adaptation and customer value creation. Firms that develop international marketing strategies, brand positioning, and differentiation mechanisms are more likely to maintain stable participation in global markets. Compliance with presentation, labeling, and commercial communication standards strengthens importer confidence and facilitates expansion into new market segments. Export training and market intelligence capabilities enable firms to anticipate demand changes and adjust pricing and promotional strategies accordingly. Strengthening commercial capabilities and professionalizing export sales teams directly increases export potential and supports sustainable competitive advantages (Manrique et al., 2019; Mesa & Torres, 2019).

International logistics is a critical factor in export competitiveness, as it ensures efficient delivery and cost optimization. Effective management of transportation, warehousing, traceability, and documentation reduces operational risks and enhances reliability. However, infrastructure gaps, technological limitations, and high transportation costs constrain expansion capacity. Strengthening coordination with suppliers, logistics operators, and customs brokers—supported by digital tools and control systems—contributes to operational efficiency and builds trust in international markets (Fonseca-Feris & Fleitas-Álvarez, 2020).

From an organizational perspective, SME export success depends on internal structure, leadership, and knowledge management. Firms

with flexible organizational structures, clearly defined roles, and standardized processes are better positioned to respond to international market demands. Professional management, continuous training, and an organizational culture oriented toward innovation and evidence-based decision-making enhance competitiveness, supporting adaptation, sustainability, and expansion in global markets (Martínez, 2009; Mesa & Torres, 2019; Gaviria, 2021).

The financial component is decisive for the continuity and success of export activities. SMEs frequently face credit constraints, high financial costs, and limited access to government support instruments, restricting their ability to invest in innovation, international promotion, and logistics (Fonseca-Feris & Fleitas-Álvarez, 2020; Gaviria, 2021). Effective export financial management requires budget planning, cash flow control, and profitability analysis.

The absence of financial literacy limits strategic decision-making and long-term sustainability. In contrast, firms that strengthen their capital structure, diversify financing sources, and apply financial performance indicators improve international competitiveness and their capacity to withstand fluctuations in the global economic environment (Mesa & Torres, 2019).

2.4 Conceptual Framework

Based on the theoretical perspectives discussed above, this study conceptualizes export potential as a multidimensional construct

determined by six interrelated components of the export process: market audit, regulatory compliance (pre-export and pre-import), customs formalities, logistics management, and organizational-financial capacity.

Drawing from comparative advantage theory, Porter's Diamond Model, and internationalization network theory, export potential is understood not merely as regulatory compliance, but as the firm's integrated capacity to align internal capabilities with external market requirements.

Accordingly, the Export Potential Index operationalizes this framework by measuring the degree to which SMEs achieve structural alignment across these dimensions, providing an applied empirical representation of theoretical export readiness conditions.

3. Methodological Aspects

3.1 Research Design and Approach

This study follows a quantitative research approach, as it seeks to measure the level of export competitiveness of Nicaraguan small and medium-sized enterprises (SMEs) in the processed food and beverage sector through the application of a structured measurement instrument. The quantitative approach is characterized by the collection of numerical data, statistical analysis, and objective interpretation of results, aiming to describe or explain phenomena based on measurable and verifiable indicators (Hernández-Sampieri & Mendoza-Torres, 2018). In this context, the study is oriented

toward identifying and quantifying the level of export potential of participating firms through a structured set of indicators.

The adopted methodological perspective is empirical-analytical, as it relies on the systematic observation and measurement of data obtained through a questionnaire designed to assess export competitiveness on a scale from 1 to 100. The instrument evaluates multiple categories associated with the export process. Each dimension generates specific scores reflecting the degree of progress achieved by firms in their export development process, providing an objective basis for comparative analysis and pattern identification (Hernández-Sampieri & Mendoza-Torres, 2018).

The research design is non-experimental, cross-sectional, and descriptive in scope. It is non-experimental because independent variables are not manipulated; instead, phenomena are observed in their natural context. It is cross-sectional because data were collected at a single point in time, providing a "snapshot" of the current level of export potential among the analyzed firms. Finally, the study is descriptive because it aims to characterize the export potential level of SMEs without establishing causal relationships (Creswell, 2009; Hernández-Sampieri & Mendoza-Torres, 2018).

The independent variable is the export process, defined as the set of commercial, logistical, administrative, and financial activities that a firm must undertake to place its products in international markets, complying with regulatory and technical requirements in

both the country of origin and the destination country. Its indicators include market audit, pre-export requirements, pre-import requirements, customs formalities, and accounting and financial aspects (Banco Nacional de Comercio Exterior, 2005; MEFCCA, 2022; Rosado & Trujillo, 2024).

The dependent variable is the level of export potential, conceptually defined as the extent to which a firm is capable of sustaining and improving its export performance through compliance with export process requirements. Operationally, it corresponds to the score obtained in the export potential assessment questionnaire, expressed on a scale from 1 to 100. This score reflects the firm's performance across key export dimensions, including market audit, pre-export requirements, pre-import requirements, customs formalities, accounting and finance. A higher value on this scale represents a greater level of export potential.

3.2 Sample Characteristics

The sample selection was based on a non-probabilistic purposive (criterion-based) sampling strategy, recommended when the objective of the research is not statistical generalization but analytical depth in units of study possessing specific and relevant characteristics for the phenomenon under investigation. This sampling method is particularly appropriate in applied, exploratory, and descriptive research, where researchers deliberately select cases that can provide the greatest informational value (Hernández-Sampieri & Mendoza-Torres, 2023).

The final sample comprised 30 firms, selected from a universe of 150 enterprises engaged in export efforts across priority sectors, including Processed Food and Beverages, Coffee and Cocoa, Handicrafts, Textiles, and Leather-Footwear. The Processed Food and Beverage sector represented 30% of the sampling frame (50 firms). From this group, 30 companies were selected based on the following criteria: (1) active sales in the domestic market through distributors; (2) presence in retail outlets such as supermarkets, minimarkets, and specialized stores; and (3) implementation of in-person and online promotional activities.

The firms produce a diverse portfolio of goods, including dehydrated meat, fruit wines and flavored liquors, retail-packaged honey, salted dried shrimp, cheese and cream, packaged pitahaya pulp, fried plantain snacks, processed chicken meats, canned vegetables, corn-, wheat-, and vegetable-based snacks, honey-derived products, tuber snacks, traditional baked goods, hot sauces, flavored corn liquor, salad dressings, carbonated beverages, and other honey-based products.

Of the 30 firms analyzed, 73% (22 firms) manufacture pre-packaged food products for retail sale, including dairy products, snacks, dried shrimp, canned vegetables, and honey. The remaining 27% (8 firms) produce beverages, primarily fruit wines and fruit-flavored liquors, as well as coffee-, cocoa-, and coconut-based beverages.

Geographically, firms are concentrated primarily in Managua (33%), followed by Rivas (20%) and Estelí (13%), with the remainder

distributed across Masaya, León, Jinotega, Granada, Chinandega, Madriz, Chontales, and the South Caribbean Autonomous Region. No clear geographic clustering by product type was observed, as both food and beverage manufacturers are dispersed across departments. Notably, four honey-producing firms are located in Estelí, Catarina, El Sauce, and Ometepe.

Regarding ownership and leadership structure, 47% of firms are led by female owners, while the remaining 53% are led by male owners, reflecting a relatively balanced gender distribution in enterprise leadership.

3.3 Data Collection and Analysis Process

The determination of export requirements for the selected target market was conducted through online documentary research, identifying the regulatory, technical, and procedural conditions that firms must fulfill to export their products. Subsequently, on-site visits were carried out at each of the 30 firms, including facility tours and semi-structured interviews with personnel possessing the necessary knowledge to respond to export-related operational, commercial, and regulatory aspects.

To ensure the content validity of the export potential assessment instrument, a structured expert judgment process was implemented. Expert validation is defined as a systematic procedure through which specialists evaluate the relevance, clarity, and representativeness of

measurement items in relation to the construct under study (Romero, Díaz, & Faouzi, 2023). The instrument was reviewed by five experts with academic and professional experience in International Business and export diagnostics. The selection followed purposive criteria, prioritizing individuals with demonstrated expertise in:

(a) foreign trade and internationalization processes; (b) export potential assessment and diagnostics; and (c) evaluation of instruments or professional experience in academic or applied assessment contexts.

Data collection was implemented using a structured Google Sheets-based form (Appendix 1). The instrument was organized into four operational sheets: Response options; Scoring criteria for each response; Section-weighted results; Final export potential index with sectional breakdowns.

The results from all firms were consolidated into a unified database for comparative and descriptive statistical analysis.

The equal weighting scheme (1/6 per dimension) was adopted to ensure structural balance across the six core components of the export process. Given that export readiness depends simultaneously on regulatory compliance, market strategy, logistics management, and organizational capacity, assigning equal weights prevents overrepresentation of any single dimension and maintains analytical neutrality in the composite index construction.

Additionally, the absence of prior empirical evidence suggesting differential impact among the six dimensions justified the use of a non-hierarchical weighting approach. This methodological decision aligns with composite index construction practices in exploratory and diagnostic research contexts (see Table 1).

Table 1. Export potential evaluation results: presentation example

FDH4. Export Evaluation		
A	Market analysis	85%
B	Pre-export requirements	95%
C	Destination country import requirements	98%
D	Customs compliance requirements	100%
E	Logistics	88%

Source: Authors' estimates.

Market Audit: Includes items assessing export experience, export product mix, buyer persona definition, customer journey mapping, commercialization matrix, potential client profiles, competitive analysis, target market identification, and export offer configuration.

Pre-Export Requirements (Nicaragua): Includes fiscal registration, exporter registration before the Single Window for Foreign Trade (VUCEN), customs authority registration, sanitary licenses, tariff classification codes, and product codes.

Pre-Import Requirements (United States): Includes importer registration, sanitary registrations, tariff classification codes,

applicable duties, and compliance with destination market regulatory standards.

Customs Formalities: Includes export invoice, packing list, transport documentation, service payments, and financial guarantee requirements.

Logistical Requirements: Includes technical product specifications, packaging and labeling information, container configuration, logistical cost structures, and equivalent pricing estimates per shipment. **Organizational and Financial Structure:** Includes operational costs of the export unit, office expenses, capital investments, export personnel, available export supply, research and development initiatives, and working capital requirements.

Each item is assessed according to four levels of progress or compliance, each with its own weighting, as illustrated in Table 2.

Table 2. Weighting example for questions in the data collection tool

Prospective Clients Record				
a	Has no client information	0.00	30.00%	0
b	In process of contact	0.00	50.00%	0
c	Has contacted clients	1.00	80.00%	0.8
d	Has already received clients' response	0.00	100.00%	0

Source: Authors' estimates.

Each item within these dimensions was evaluated according to four levels of compliance or progress, each assigned a specific weighting factor (see Table 2). Sectional results were calculated by aggregating weighted item scores within each dimension (see Table 3), ultimately generating a composite Export Potential Index

on a scale from 1 to 100. This scoring system enables standardized comparison across firms and sectors, providing an objective measurement framework for export readiness assessment.

Table 3. Example of weighted results calculation for each section.

	Market Audit	Response	Weighting	Result
1	Export readiness	0.5	12.00%	6.00%
2	Product mix for export	0.8	12.00%	9.60%
3	Product sheet for each exportable product	1	10.00%	10.00%
4	Target Market Evaluation	1	10.00%	10.00%
5	Buyer persona sheet	1	8.00%	8.00%
6	Journey map sheet	1	8.00%	8.00%
7	Commercialization matrix	1	8.00%	8.00%
8	Prospective Clients Record	0.8	8.00%	6.40%
9	Competitors and their products sheet	0.8	8.00%	6.40%
10	Assembled market sheet	0.8	8.00%	6.40%
11	Export offer parameters	0.8	8.00%	6.40%
		100.00%	100.00%	85.20%

Source: Authors' estimates.

3.4 Instrument Reliability and Validity

To assess the internal consistency of the Export Potential Index, Cronbach's alpha coefficient was calculated across the six evaluated dimensions. The overall alpha value obtained was above 0.80, indicating strong internal reliability according to conventional methodological standards ($\alpha \geq 0.70$ acceptable; $\alpha \geq 0.80$ good reliability). This result confirms that the items included in the instrument exhibit a high level of coherence in measuring the construct of export potential.

In addition, content validity was ensured through expert judgment, involving five specialists in international trade and export diagnostics. The structured validation process evaluated the clarity, relevance, and representativeness of each item, strengthening the construct validity of the instrument.

Given the quantitative, cross-sectional nature of the study, internal validity was supported through standardized data collection procedures and uniform application of the scoring methodology across all firms. The structured index design and statistical reliability assessment enhance the methodological robustness and replicability of the study.

4 Results

4.1 Requirements for Nicaraguan Food and Beverage Firms Exporting to the United States

The aspects evaluated under the market audit dimension include prior experience in direct exports, definition of an exportable product mix, and availability of updated commercial product sheets. It is also considered essential to maintain updated assessments of target market conditions, buyer persona profiles, and customer journey maps. Additionally, firms must maintain updated profiles of potential clients, competitors, distribution channels, and clearly defined export offer parameters.

Regarding pre-export requirements in Nicaragua, firms must hold a valid Taxpayer Identification Number, register as exporters before VUCEN and the General Customs Directorate (DGA), and obtain sanitary licenses and product registrations. Additionally, products must be classified under the Central American Tariff System (SAC), and a certificate of origin is required to access preferential tariff treatment.

Concerning import requirements into the

United States, firms must comply with sanitary and manufacturing facility registrations before the competent authority, adhere to U.S. labeling regulations, determine applicable customs duties and taxes, ensure importer registration with U.S. fiscal authorities, and establish a customs bond or financial guarantee to secure import operation.

In terms of customs formalities, exporters must prepare invoices, packing lists, transport documents, and determine applicable service costs. Within the logistics dimension, firms are required to maintain updated product specifications, compliant packaging and

labeling documentation, defined shipping routes, registered customs brokers and freight forwarders, cost quotations, and structured logistical procedures to ensure operational efficiency and regulatory compliance in international trade operations.

Finally, within the organizational and financial dimension, firms must determine export unit operating costs, staff profiles, available export capacity, projected growth budgets, and working capital requirements necessary to sustain export activities over time.

Table 4. Export requirements for food and beverages from Nicaragua and their importation into the United States.

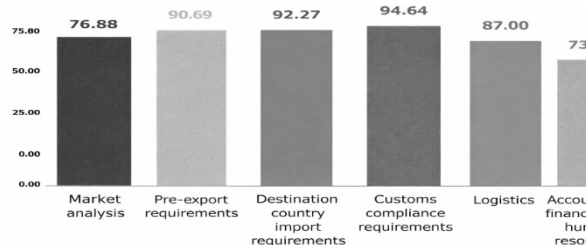
Market Audit	Pre-Export Requirements	Pre-Import Requirements	Customs Clearance Requirements	Logistics	Organization
Export experience	Taxpayer Identification Number (RUC)	Sanitary <u>registration</u>	Export documents: invoice, packing list, transport document	Product technical specifications	Export unit operating cost budgets
Product commercial sheet	Exporter registration (VUCEN)	Manufacturing facility registration	Company and product licenses and registrations	Product packaging specifications	Administrative, logistics, and export sales staff profile
Target market study	Exporter registration (DGA)	Product labeling compliance	Export service payments	Product packing specifications	Available export supply capacity
Buyer persona	Valid sanitary license	Import tariff duties	Import documents: invoice, packing list, transport document	Container technical specifications	Research and development project budgets
Customer journey map	Sanitary registration of products	Taxes (VAT and excise)	Company and product export licenses and registrations	Registered customs brokers	Technological infrastructure budgets
Potential client profiles	Export tariff classification codes	Certificate of origin	Import service payments	Registered freight forwarders	New product development budgets
Competitor profiles	Certificate of origin	Importer registration		Export routes	Working capital
Distribution channels		Financial guarantee bond		Equivalent pricing	

Source: Authors' estimates.

4.2 Export Potential Level of Firms

The average export potential score of 86.42 indicates strong technical and regulatory preparedness among Nicaraguan food and beverage firms targeting the United States. High performance in customs formalities (95.97), pre-import (92.53), and pre-export requirements (91.04) reflects solid compliance capacity. However, weaker results in market audit (78.98) and organizational-financial management (73.53) may limit sustainability, while logistics improvements could further enhance competitiveness.

Figure 1. Average Export Potential of Sampled Firms

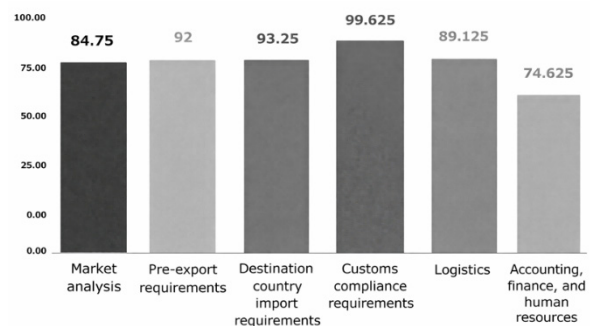


Source: Authors' estimates.

When disaggregating the results for food-producing firms, a high level of export preparedness is also observed, particularly in regulatory compliance, certifications, and traceability systems. Scores above 90% in customs, export, and import requirements confirm strong technical capabilities for accessing the U.S. market. Nevertheless, structural weaknesses remain in market audit (76.88) and in financial and human resource management (73.14). Although logistics

performance (87.00) is relatively strong, improvements in cost optimization and time efficiency are recommended. Strengthening strategic management, financial planning, and market research capacity would enhance long-term export sustainability.

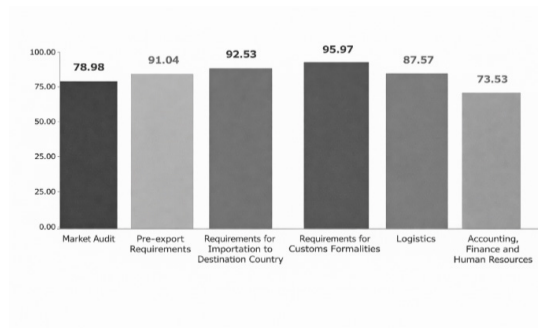
Figure 2. Average Export Potential – Food Firms)



Source: Authors' estimates.

The beverage sector demonstrates a high level of export readiness, supported by efficient operations and strong compliance with sanitary and regulatory standards. Firms perform well in customs formalities, ensuring legal conformity in the U.S. market. However, improvement opportunities remain in logistics, market audit, and organizational management. Although logistics performance (89.12) is favorable, greater efficiency in transportation costs and delivery timelines could enhance performance. Lower scores in market audit (84.75) and financial and human resource management (74.62) suggest limitations in planning, consumer analysis, and export professionalization, affecting long-term competitiveness.

Figure 3. Average Export Potential – Beverage Firms



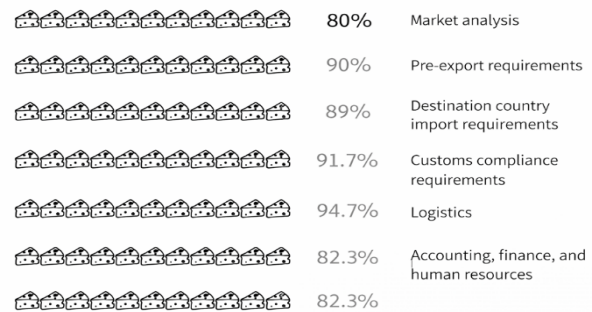
Source: Authors' estimates.

4.3 Export Potential by Sector

As shown in Figure 4, the cheese-producing sector exhibits a high level of export preparedness, with average scores above 80 across all dimensions. Strong performance in logistics (94.7) and customs formalities (91.7) reflects effective management of documentation and operational procedures.

Nevertheless, opportunities remain to optimize packaging, labeling, and customs-related costs. In pre-export (90.3) and pre-import requirements (89), limitations are mainly associated with VUCEN registration and destination market compliance. The market audit score (80) suggests weaknesses in diversification and commercial strategy, while accounting and finance (82.3) indicate ongoing challenges in planning and innovation. Strategic management capabilities remain central to sustained competitiveness.

Figure 4. Export Potential Level – Cheese Producers



Source: Authors' estimates.

As illustrated in Figure 5, firms classified as other food manufacturers also exhibit high export readiness, maintaining average scores above 80 across dimensions. Their strengths are concentrated in regulatory compliance and customs management. Nevertheless, improvements are needed in market intelligence, product differentiation strategies, and structured financial planning to enhance sustainable export growth.

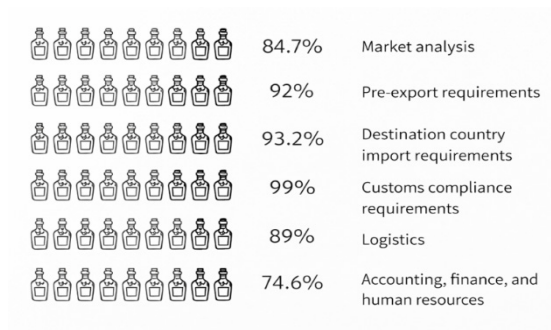
Figure 5. Export Potential Level – Other Food Manufacturers



Source: Authors' estimates.

Manufacturers of fruit wines and flavored liquors display a relatively uneven export performance profile. In the market audit dimension (84.75), firms have initiated export activities but have not fully consolidated strategic tools such as buyer personas and product documentation. Strong results in pre-export (92) and pre-import requirements (93.25) reflect solid regulatory progress, although further reinforcement of registrations before VUCEN, DGA, and U.S. authorities remains necessary. Customs formalities (99.63) represent the strongest dimension, indicating high procedural competence. Logistics performance (89.13) is favorable, yet accounting, finance, and human resources (74.63) reveal planning and investment constraints limiting sustainable export development.

Figure 6. Export Potential Level – Wine and Flavored Liquor Producers



Source: Authors' estimates.

As shown in Figure 7, the snack manufacturing sector exhibits high export preparedness, particularly in customs formalities (97.57), pre-import (95.5), and pre-export requirements (91.86), reflecting strong regulatory compliance. However, market audit performance (79.86)

indicates limited direct export experience and ongoing development of strategic tools. Accounting, finance, and human resources (74.57) reveal weaknesses in investment planning and financial evaluation. Although logistics (85) performs adequately, stronger operational planning is needed to sustain export capacity.

Finally, as presented in Figure 8, honey-producing firms demonstrate a strong level of export competitiveness, although certain areas require improvement. In market audit (80), firms face commercial strategy limitations, as none currently export directly; most continue developing product documentation, buyer persona profiles, and customer journey mapping.

In pre-export requirements (95), firms show strong compliance, although some are still completing registration processes before VUCEN. In the import dimension, progress is achieved through collaboration agreements with importers to meet financial guarantee requirements. Customs formalities (100) represent their strongest dimension, reflecting full legal and documentary compliance.

In logistics (91), some challenges remain related to freight agents and export route consolidation. The principal weakness is observed in accounting, finance, and human resources (76.5), where improvements in planning, investment strategies, and talent development are necessary to sustain export growth.

Figure 8. Export Potential Level – Honey Producers



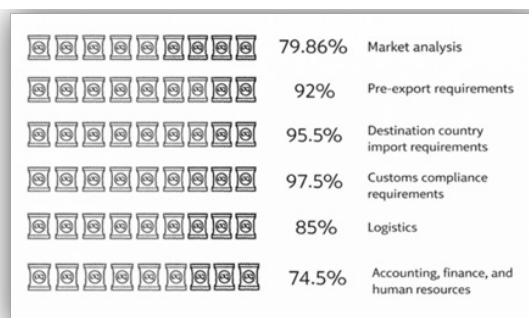
Source: Authors' estimates.

4.4 Statistical Comparison Across Sectors

To determine whether differences in export potential scores across sectors were statistically significant, a one-way ANOVA was conducted using the Export Potential Index as the dependent variable and sector classification as the grouping variable.

The results indicate that differences in mean export potential scores across sectors are not statistically significant at the 5% level ($F = 1.43$, $p = 0.259$). Although descriptive variations are observed among sectors such as honey, beverages, snacks, cheese, and other manufacturing firms, the statistical evidence suggests that export readiness gaps are structurally similar across sectors. This finding reinforces the interpretation that limitations in market audit and organizational-financial management represent transversal challenges within the Nicaraguan SME export ecosystem rather than sector-specific weaknesses.

Figure 7. Export Potential Level – Snack Producers



Source: Authors' estimates.

4.5 Discussion of Findings

The findings of this study align with prior research suggesting that SME export potential is structurally constrained by internal organizational and financial limitations rather than solely by regulatory compliance (Restrepo et al., 2016; Escobar & Méndez, 2024).

While firms exhibit strong performance in customs formalities and regulatory requirements, weaker results in market audit and organizational-financial management confirm the multidimensional nature of export readiness emphasized in competitiveness literature. This pattern supports the argument that compliance-based readiness does not automatically translate into strategic export capacity.

Furthermore, the absence of statistically significant differences across sectors reinforces the systemic character of export constraints in emerging economies, as suggested by internationalization theories. Rather than sector-specific deficiencies, the evidence points

to transversal capability gaps affecting SME international integration.

5. Conclusions

This study contributes to the export readiness literature by providing empirical evidence from an emerging economy context, demonstrating that export potential constitutes a systemic and multidimensional construct. The results indicate that regulatory compliance, while necessary, is not sufficient to ensure sustained international competitiveness. Instead, structural coherence across market intelligence, logistics management, organizational capacity, and financial planning emerges as a central determinant of long-term export viability.

Beyond its applied diagnostic contribution, the study offers empirical support for theoretical perspectives that conceptualize export readiness as an integrated capability rather than a purely procedural condition. The findings suggest that compliance-based readiness does not automatically translate into strategic export capacity; rather, competitiveness depends on the alignment of internal resources with external market requirements.

Furthermore, the absence of statistically significant differences across sectors reinforces the systemic nature of export constraints within the analyzed SME ecosystem. Although descriptive variations were observed among honey, snack, cheese, beverage, and other manufacturing firms, the statistical evidence indicates that structural capability gaps tend

to be transversal rather than sector-specific. This result supports integrated competitiveness frameworks in SME internationalization research.

The assessment of food and beverage SMEs in Nicaragua reveals a mixed yet promising scenario. While firms demonstrate high levels of technical and regulatory preparedness, limitations persist in strategic planning, market intelligence development, and organizational-financial structuring. These dimensions appear to represent the principal constraints affecting the consolidation of sustainable export performance.

Although substantial progress has been achieved in meeting pre-export and regulatory requirements, the evidence suggests that export readiness extends beyond formal compliance. Sustainable international integration appears to depend on enhanced analytical capabilities, improved commercial strategy formulation, and greater efficiency in logistical and cost management structures. Overall, the Export Potential Index developed in this study provides an evidence-based analytical framework for understanding SME internationalization challenges in emerging economies. The findings imply that strengthening internal capabilities and improving coordination between institutional support mechanisms and firm-level strategy may enhance the long-term sustainability of export participation. In this sense, the study contributes both empirically and conceptually to the understanding of export potential as a multidimensional and structurally conditioned phenomenon.

6. References

- Areandina, U. et al. (2019) Pymes barrio El Restrepo, Bogotá, *Fundación Universitaria del área Andina [Areandina]*. <https://digitk.areandina.edu.co/server/api/core/bitstreams/385b9a1f-ae18-4ce8-94f8-23d1f2da4198/content> (Consultado: el 12 de octubre de 2025).
- Arias-Picado, O. (2025) Sostenibilidad como Estrategia de Expansión: Claves para la Internacionalización, *Verde de mipymes en Centroamérica*, 5(2). <https://revistas.ulacit.ac.cr/index.php/rhombus/article/view/323/264> (Consultado: el 11 de octubre de 2025).
- Ayyagari, M., Demirgüç-Kunt, A. y Maksimovic, V. (2017) *SME Finance*. <http://econ.worldbank.org>.
- Banco Nacional de Comercio Exterior (2005) *Guía básica del exportador*. Bancomext. Available at: <https://www.gob.mx/cms/uploads/attachment/file/63793/GuiaBasicaDelExportador.pdf> (Accessed: 24 October 2025).
- BCIE (2020a) *BCIE aprueba US\$300.00 millones al Programa Multisectorial para la Reactivación Económica y Protección Social de la República de Nicaragua*, BCIE. <https://www.bcie.org/novedades/noticias/articulo/bcie-destina-us30000-millones-al-programa-multisectorial-para-la-reactivacion-economica-y-proteccion-social-de-la-republica-de-nicaragua>.
- BCIE (2020b) *BCIE: US\$50.0 millones para MIPYMES afectadas por la pandemia COVID-19 en Nicaragua*, Banco Centroamericano de Integración Económica. <https://www.bcie.org/novedades/eventos/evento/bcie-us500-millones-para-mipymes-afectadas-por-la-pandemia-covid-19-en-nicaragua#:~:text=Solitudes%20de%20Informaci%C3%B3n-,BCIE%3A%20US%2450.0%20millones%20para%20MIPYMES%20afectadas%20por,pandemia%20COVID%2D19%20en%20Nicaragua&text=A%20trav%C3%A9s%20de%20distintas%20instituciones,Managua%2C%2021%20de%20agosto%202020>.
- Benetti, R. (2001) El modelo de diamante de Porter como herramienta de interpretación de la constitución de una ventaja competitiva para las empresas de un país débil, *Studium Veritatis*, 2(2–3), pp. 105–131. Available at: <https://doi.org/10.35626/sv.2-3.2001.229>.
- Bustanza, X. (2023) *Competitividad y potencial exportador de las empresas exportadoras de uva*, ICA, 2022. Universidad San Ignacio de Loyola. <https://repositorio.usil.edu.pe/server/api/core/bitstreams/8053d6d0-c278-4375-9eb5-67bb367cf06b/content> (Accessed: October 12, 2025).
- Cardozo, P.P., Chavarro, A. y Ramírez, C.A. (2013) Teorías de internacionalización, *Panorama*, 1(3). Available at: <https://doi.org/10.15765/pnrm.v1i3.264>.
- Castañeda, G. (2024) *La competitividad empresarial y su relación con el potencial exportador de las asociaciones de café de Lonya grande*, 2022. Universidad San Ignacio de Loyola. Available at: <https://repositorio.usil.edu.pe/server/api/core/bitstreams/529ab9b0-576e-4dc2->

- aeab-b4b94e42d028/content (Accessed: October 12, 2025).
- Céspedes, N. (2022) Gobierno de Nicaragua presenta programa Adelante, Notimefcca. Available at: <https://www.economiafamiliar.gob.ni/websitemefcca-mvc/noticia-gobierno-nicaragua-presenta-programa-adelante/643>.
- Creswell, J. (2009) *Diseño de investigación. Cualitativo, Cuantitativo y Mixto*. Third. Edited by SAGE. Available at: <https://institutorambell.blogspot.com/2021/02/disenodeinvestigacion.html> (Accessed: October 24, 2025).
- Cuaco, J. y Domínguez, M. (2024) *Competitividad empresarial y potencial exportador de las empresas agroexportadoras de espárragos frescos, la Libertad, 2023*. Universidad San Ignacio de Loyola. Available at: <https://repositorio.usil.edu.pe/server/api/core/bitstreams/339d93f1-c37c-440b-8af0-79394a410df9/content> (Accessed: October 12, 2025).
- De-La-Hoz, E. y López, L. (2017) Aplicación de Técnicas de Análisis de Conglomerados y Redes Neuronales Artificiales en la Evaluación del Potencial Exportador de una Empresa, *Información Tecnológica*, 28(4), pp. 67–74. Available at: <https://doi.org/10.4067/S0718-07642017000400009>.
- Escobar, M. y Méndez, A. (2024) Diagnóstico situacional para potenciar la internacionalización de las mipymes, *Revista CEA*. <https://doi.org/10.22430/24223182.2798>.
- Fonseca-Feris, R. y Fleitas-Álvarez, V.C. (2020) Small and medium-size companies in Paraguay. Limitations for its internationalization, *Revista Internacional de Investigación en Ciencias Sociales*, 16(2), pp. 294–311. Available at: <https://doi.org/10.18004/riics.2020.december.294>.
- Fontalvo, T., De la Hoz, E. y Mendoza, A. (2019) Los Procesos Logísticos y La Administración de la Cadena de Suministro, *Saber, Ciencia y Libertad*, 14(2), pp. 102–112. Available at: <https://doi.org/10.18041/2382-3240/saber.2019v14n2.5880>.
- Frohman, A. et al. (2016) *Internacionalización de las pymes, Cepal*. <https://www.cepal.org/es/publicaciones/40737-internacionalizacion-pymes-innovacion-exportar>.
- Gaviria, S. (2021) *Factibilidad del Diseño y Creación de un Simulador para Establecer Paso a Paso, los Tiempos Logísticos de una Exportación*. Universidad EAFIT. Available at: <https://repositorio.utp.edu.co/server/api/core/bitstreams/262b16b8-59a1-4170-bb52-574efed607cc/content> (Accessed: October 12, 2025).
- Guevara, G. (2022) *Pymes de Nicaragua siguen transformando la economía del país, NOTIMEFCCA*. Available at: <https://www.economiafamiliar.gob.ni/websitemefcca-mvc/noticia-pymes-nicaragua-siguen-transformando-economia-pais/679>.
- Hernández-Sampieri, R. y Mendoza-Torres, C. (2018) *Metodología de la investigación. Las rutas cuantitativa, cualitativa y mixta*. Mc Graw Hill. México: Mc Graw Hill.
- Herrera, P., Huepe, M. y Truco, D. (2022) *Educación y desarrollo de competencias digitales en América Latina y el Caribe.*

- CEPAL. Available at: <https://bit.ly/m/CEPAL>.
- Hoz, D. La (2017) Aplicación de Técnicas de Análisis de Conglomerados y Redes Neuronales Artificiales en la Evaluación del Potencial Exportador de una Empresa, 28(4), pp. 67–74. Available at: <https://doi.org/10.4067/S0718-07642017000400009>.
- Ibarra, M., González Lourdes y Demuner, M. (2017) Competitividad empresarial de las pequeñas y medianas empresas manufactureras de Baja California, *Estudios Fronterizos*, 18(35), pp. 107–130. Available at: <https://doi.org/10.21670/ref.2017.35.a06>.
- Intracen (2025) *Lista de los mercados importadores para un producto exportado por Nicaragua Metadata Producto: TOTAL Todos los productos, Trade Map*. Available at: https://www.trademap.org/Country_SelProductCountry_OTAL%7c%7c%7c2%7c1%7c1%7c2%7c2%7c1%7c2%7c1%7c1%7c1
- De La Hoz, E., González, Á.L. y Santana, A. (2016a) Metodología de Medición del Potencial Exportador de las Organizaciones Empresariales, *Información Tecnológica*, 27(6), pp. 11–18. Available at: <https://doi.org/10.4067/S0718-07642016000600003>.
- De La Hoz, E., González, Á.L. y Santana, A. (2016b) Metodología de medición del potencial exportador de las organizaciones empresariales, *Información Tecnológica*, 27(6), pp. 11–18. Available at: <https://doi.org/10.4067/S0718-07642016000600003>.
- Lavados, H. (1978) Teorías del comercio internacional, Modelos y algunas evidencias empíricas: Una revisión bibliográfica, *Estudios de Economía*, 5(2), p. 44.
- Maldonado, A. (2009) Las cadenas de suministro global un reto para México, *Comercio Exterior*, p. 133. <http://revistas.bancomext.gob.mx/rce/magazines/123/6/RCE6.pdf>.
- Manrique Nugent, M.A.L. et al. (2019) Supply chain management: A look from the theoretical perspective, *Revista Venezolana de Gerencia*, 24(88). Available at: <https://www.redalyc.org/journal/290/29062051009/>.
- Martínez, P. (2009) Proceso del desarrollo exportador de la PYME colombiana Internationalization process of Colombian SMEs.
- MEFCCA (2022) *Guía del exportador e importador*. <https://www.economiafamiliar.gob.ni/backend/vistas/doc/cartilla/documento3090384.pdf>.
- Merubia, M. (2019) *Teorías de la internacionalización de empresas, Illustro*. <https://revistas.ucsp.edu.pe/index.php/illustro/article/view/220/433> (Accessed: October 24, 2025).
- Mesa, F. y Torres, R. (2019) Exporting industrial SMEs in Colombia: An analysis of their real activity, *Lecturas de Economía*, (90), pp. 127–157. Available at: <https://doi.org/10.17533/udea.le.n90a05>.
- Mondragón, V. (2024) El diagnóstico del potencial de exportación, *El diario del exportador*. <https://www.diariodelexportador.com/2018/05/el-diagnostico-del-potencial-de.html>.
- Monge-González, R. (2019) *Innovar para la exportación en las pymes de*

- Centroamérica y la República Dominicana*
The Government of the Republic of Korea.
www.cepal.org/apps.
- Montealegre, P., Aguilar, J. y Montealegre, M. (2019) La competitividad de las pymes en el sector agrícola y su potencial exportador, *Revista Vía Innova*, 6(3), pp. 31–40. Available at: <https://dialnet.unirioja.es/servlet/articulo?codigo=8742393> (Consultado: el 27 de diciembre de 2024).
- Pelcastre, J. (2020) *El COVID-19 acelera la depresión económica en Nicaragua*, *Dialogo Américas*. <https://dialogo-americas.com/es/articles/el-covid-19-acelera-la-depresion-economica-en-nicaragua/>.
- Poveda, Y. (2021) *Teorías del comercio internacional*. <https://repositorio.usam.ac.cr/xmlui/bitstream/handle/11506/1673/LEC%20FIN%200007%202021.pdf?sequence=1&isAllowed=y>
- Restrepo, J. et al. (2016) Una aproximación financiera al potencial exportador mediante un Dupont estocástico1, *Revista de Ciencias Económicas*, XV (1), pp. 41–56. Available at: <https://www.redalyc.org/journal/909/90949035004/html/>.
- Rosado, C. y Trujillo, M. (2024) *Manual de exportación de bienes*. ProChile. (Accessed: October 24, 2025).
- Rosa, H. (2018) *El Modelo Ricardiano de ventaja comparativa y el comercio contemporáneo*, La biblioteca, biblio sistemática e información, pp. 29–46.
- Stuart, J. (2024) *Export Competitiveness, Export Diversification, Deindustrialization in Sub-Saharan Africa* 29022024, Tralac Blog. <https://www.tralac.org/blog/article/16361-export-competitiveness-export-diversification-and-deindustrialisation-in-sub-saharan-africa.html> (Accessed: October 11, 2025).
- Valencia, M. et al. (2021) Eficiencia financiera y desempeño exportador: una aproximación empírica”, *Semestre Económico*, 24(56), pp. 77–103. Available at: <https://doi.org/10.22395/seec.v24n56a3>.
- Villamil, E. et al. (2024) Revisión de los modelos de la segmentación de mercado y su importancia en las Pymes, *BIOTECH AND ENGINEERING*, 4(2). Available at: <https://doi.org/10.52248/eb.vol4iss2.176>.
- World Bank (2020a) El Banco Mundial en Nicaragua, World Bank. Available at: <https://www.bancomundial.org/es/country/nicaragua/overview>.
- World Bank (2020b) Small and Medium Enterprises (SMEs) Finance. Washington, DC: World Bank. Available at: <https://www.worldbank.org/en/topic/sme/finance> (Accessed: 11 October 2025).
- Appendix 1. Questionnaire for Companies**
Click the link to find the questionnaire on Google Drive