

Design of Sustainable Logistics Strategies for Nostalgic Products Using ABC and Correlation Analysis

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Abstract– *This study aims to design purchasing combinations that optimize inventory efficiency while improving sustainability perception in terms of authenticity, accessibility. A mixed-method approach was employed. Quantitative data correspond to one year of import operations of nostalgic products by a Miami-based company sourcing from two suppliers in Honduras and were analyzed using ABC classification and correlation analysis. The qualitative phase consisted of a content analysis of migration dynamics, nostalgic consumption patterns, and logistical practices, which supported the development of a SWOT analysis and the formulation of a strategic logistics framework. The results of the ABC analysis identified three key type A products (X1, X2, X9), two type B products (X19, X24), and three type C products with a substitute function (X20, X23, X11), as well as two hook products (X21, X22) that reinforce mixed sales strategies. These interactions enabled the identification of sustainable logistics strategies focused on inventory diversification, reverse logistics, lateral transshipments, and pallet recycling. The findings provide practical implications for suppliers and distributors, who can leverage substitute and hook products to improve portfolio management and implement smarter inventory rotation strategies. The originality of this work lies in demonstrating how the strategic combination of substitute and hook products can generate flexible and effective logistics solutions aligned with real end-consumer perceptions.*

Keywords– Sustainability, nostalgia, innovation, logistics, marketing.

I. INTRODUCTION

Nostalgic products have experienced remarkable growth over the last decade, driven by migration flows from countries such as Honduras, El Salvador, and Guatemala to the United States. Due to growing concerns about the environmental and social impact of economic activities, sustainability has become a fundamental pillar for businesses and supply chains [1-3]. Pressure on natural resources, the need to reduce the carbon footprint, and minimize waste [3] are challenges that require the adoption of sustainable strategies throughout the logistics network [4]. Sustainable logistics seeks to optimize operational efficiency while minimizing negative impacts on the environment and society [5]. Therefore, export logistics generates a significant environmental impact due to transcontinental transportation and the use of packaging [6]. This requires sustainable strategies that respond to consumer expectations for eco-friendly practices. So the main question of this research is in what ways can the design of purchasing combinations contribute to improved logistical efficiency and

enhanced consumer perception regarding authenticity, accessibility, and sustainability?

The success of sustainability initiatives in the supply chain depends not only on companies' production and distribution decisions, but also, significantly, on consumer acceptance and participation [7,8]. Consumer demand for products with sustainable attributes, such as organic foods, eco-friendly packaging, or products that promote the circular economy [3], acts as a powerful driver for companies to implement sustainable practices [1]. Thus, an understanding of the factors that influence consumer behavior towards sustainability is essential for designing logistics strategies that are both sustainable and economically viable [8, 9]. Their perceptions of product sustainability and its characteristics [10], the influence of psychographic factors such as personality, and the effectiveness of different distribution channels for sustainable products [11]. Theoretical approaches, such as the Theory of Planned Behavior (TPB) [1], and varied methodologies, including surveys, qualitative studies [8], and advanced quantitative analysis, are also used to explore the complexity of sustainable purchasing decisions [3]. This manuscript analyzes a Honduran family business dedicated to the export of nostalgic beverages, primarily soft drinks, given the importance of this product in national exports. Nostalgic beverages are classified using ABC analysis and sustainable logistics strategies aligned with consumer preference trends are proposed [12].

Sustainable logistics is an area of practical research that seeks to combine economic growth, environmental and social issues in value chain operations [4]. In a world where sustainability has become an urgent issue to address, their logistics operations are becoming respectful with people and the planet [13]. This includes reducing environmental impact, using fewer natural resources, generating less waste, and making better use of energy [14]. These practices are present at all stages of the supply chain, from raw material sourcing to production [4], and also include the efficient use of transportation, warehouse management, and the design of distribution networks to minimize environmental impact [11]. Information technologies, communication systems, and technological innovations help us improve logistics efficiency and sustainability [13]. Inventory turnover is a necessary point to control, due to the costs involved, which is why a sustainable dual-channel inventory model, which integrates

trapezoidal diffuse demand and energy consumption, optimizes the seller-buyer supply chain under space and carbon emission constraints, considering uncertainty in demand and energy consumption, is crucial for minimizing costs and emissions, offering a viable strategy for the sustainable management of online and offline orders, applicable to the efficient distribution of nostalgic products with cultural or emotional value [5].

There are by-products used for export, which are related to plastics, so by managing the correct inventory and reducing their consumption, emissions (equivalent to 56 cars per year) and the risk of marine pollution can be reduced [15]. The transition to a circular business model in the manufacturing industry requires multiple iterations and faces significant operational, logistical, and relational barriers, demonstrating that this change is much more complex than is usually suggested in business discourse [16]. From a post-positivist epistemological perspective, models are also explored to statistically validate the relationships between nostalgia, cultural identity, and purchasing behavior [17].

Exploring existing knowledge in two interconnected areas: sustainable logistics and supply chains, as well as consumer behavior toward sustainability [18-20]. Nostalgic beverages evoke cultural memories, generating emotional attachment and loyalty among consumers, especially in-migrant communities [21]. Nostalgic beverages have strategic segments, connecting consumer emotional values with sustainable practices, generating a competitive advantage in global markets [8]. The objective of this work is to design purchasing combination strategies that optimize logistical efficiency while enhancing consumer perception in terms of authenticity, accessibility, and sustainability. This this analysis is not solely to describe sales behavior, but to identify patterns of dependency, concentration, and substitution that enable the assessment of the logistical system's exposure to disruption risks. In this context, ABC classification and correlation analysis are employed as operational diagnostic tools aimed at detecting vulnerabilities in the product portfolio structure and identifying opportunities to strengthen supply continuity.

In this context, supply chains that rely on a limited number of high-turnover products face significant risks of disruption, loss of consumer trust, and financial deterioration when supply failures, regulatory changes, or external events occur. In exporting companies of nostalgic products, where demand is strongly linked to portfolio continuity and perceptions of authenticity, these vulnerabilities can be amplified. Therefore, this study analyzes how the design of purchasing combinations based on core products, substitute products, and hook products can strengthen logistical resilience, improve inventory management, and contribute to operational sustainability, while simultaneously maintaining consumer trust and supply chain stability.

II. METHODOLOGY

An analysis is carried out using a mixed, hermeneutic documentary approach aimed at interpreting the meanings of consumer nostalgia, sustainability preferences, and sustainable logistics in academic literature. It is relevant to review and analyze strategies or models that explore the influence of personality [22].

A. Quantitative Analysis

For the quantitative analysis, and after describing various strategies from the literature that combine qualitative and quantitative approaches, a real situation is examined by studying sales and logistics data from a Honduran company that exports nostalgic products, according to its 2024 annual report. ABC analysis is used to evaluate sustainable strategies, focusing on product management within the supply chain. From this variety of nostalgic products exported by the company, the 2024 beverage sales data, in units packaged by boxes, representing thirty-one different products in various presentations, will be used. These are coded with variables starting from X1 and continuing sequentially up to X31, see Table 1.

Table 1. Products with codes and descriptions

Code	Product
X1	Soda A Small
X2	Soda A Large
X3	Soda B Small
X4	Soda B Large
X5	Soda B Medium
X6	Fruit Drink 3 Small
X7	Energy Drink 1 Small
X8	Energy Drink 2 Medium
X9	Fruit Drink 1 Extra Large
X10	Fruit Drink 2 Extra Large
X11	Soda A Extra Large
X12	Fruit Drink 1 Medium Large
X13	Fruit Drink 2 Medium Large
X14	Fruit Drink 5 Extra Large
X15	Fruit Drink 5 Medium Large
X16	Energy Drink 2 Small
X17	Energy Drink 2 Medium
X18	Condiment Soda
X19	Fruit Drink 1 Small
X20	Fruit Drink 2 Small
X21	Fruit Drink 1 Medium
X22	Fruit Drink 2 Medium
X23	Fruit Drink 3 Extra Large

X24	Soda B Extra Large
X25	Fruit Drink 4 Extra Large
X26	Fruit Drink 6 Medium
X27	Soda B1 Small
X28	Soda B2 Medium
X29	Fruit Drink 4 Small
X30	Fruit Drink 4 Medium
X31	Ginger Flavored Soda Small

A quantitative analysis of the units purchased per product is conducted and presented in two types of graphs: a correlation matrix heatmap and a Pareto diagram. The correlation matrix displays the relationships between variables, with each cell representing the correlation between two variables.

B. Qualitative Analysis

To perform a qualitative analysis, a document review was conducted, which contains analyses of academic articles, books, and official documents indexed mainly in WoS and Scopus, following indirect qualitative strategies.

For Scopus, the following search engine was used:

TITLE-ABS-KEY (sustainable AND logistic AND strategy AND product AND consumer) AND PUBYEAR > 2019 AND PUBYEAR < 2026 AND (LIMIT-TO (OA, "all")) AND (LIMIT-TO (PUBSTAGE, "final"))) AND (LIMIT-TO (EXACTKEYWORD , "Sustainability") OR LIMIT-TO (EXACTKEYWORD , 'Logistics') OR LIMIT-TO (EXACTKEYWORD , "Supply Chains") OR LIMIT-TO (EXACTKEYWORD , "Sustainable Development") OR LIMIT-TO (EXACTKEYWORD , "Commerce") OR LIMIT-TO (EXACTKEYWORD , "Recycling") OR LIMIT-TO (EXACTKEYWORD , "Electronic Commerce") OR LIMIT-TO (EXACTKEYWORD , "Consumer Behavior")

For WoS, use:

(TS=(Sustainable Logistics Strategy) AND TS=(product) AND TS=(consumer)) AND (OA==("OPEN ACCESS") AND PY==("2020" OR "2021" OR "2022" OR "2023" OR "2024" OR "2025") AND DT==("ARTICLE") AND LA==("ENGLISH" OR "SPANISH") AND SJ==("BUSINESS ECONOMICS" OR "TRANSPORTATION"))

In a market full of information and high competition, brands face challenges in creating authentic connections with

their customers, leading them to seek more creative ways to stand out and generate emotional bonds. One very interesting strategy is to appeal to nostalgia, which brings back positive memories and fosters loyalty, especially among Generation Z and Millennials.

Finally, a SWOT matrix analysis is conducted to relate documentary concepts with the findings from the ABC analysis, identifying strengths: emotional value, differentiation, brand recognition, adaptability, and sustainability; weaknesses: dependence on niche markets, reconversion costs, perceived obsolescence, limited production; opportunities: demand for sustainability, nostalgic trends, strategic collaborations, government incentives; threats: competition, regulations, market saturation, macroeconomic changes. The generated graphs are created using RStudio Team (2020), and tables are created in Excel.

III. RESULTS

A. Quantitative Analysis

The ABC analysis applied to export data reveals a high concentration of commercial activity in a limited number of type A products, indicating a structural dependency of the business on these items. The metric used for ABC are boxes exported. Although such concentration may be interpreted as a commercial strength, it also represents a significant operational risk, as any disruption in the availability of these products can lead to stockouts, revenue losses, and erosion of customer trust. In this regard, ABC classification not only serves as a tool for inventory prioritization but also functions as a diagnostic mechanism to identify logistical vulnerabilities and opportunities for risk mitigation through portfolio diversification.

For quantitative analysis and according to data from the export report, the three main products shipped in the box and classified as type A are: X1, X2, and X9, as shown in Figure 1. These are key products for considering sustainable strategies. Likewise, among type B products, there are two incidental products: X19 and X24. These are relevant for measuring and predicting their future behavior. The rest of the products are classified as type C. Although they are not main products, it is worth considering the possibility of substituting or supplementing the demand for type A products in the event of any inconvenience that limits their marketing or simply limits their purchase, thereby contributing to sustainable logistics.

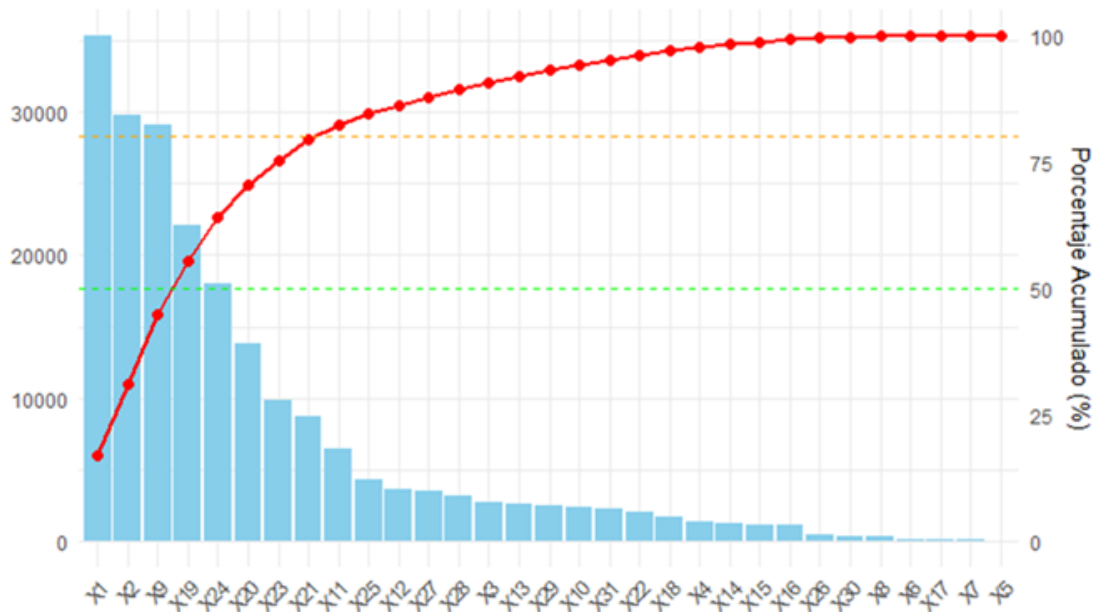


Figure 1. ABC product analysis y axis is boxes exported and x axis is product codification.

Based on the data obtained from the company analyzed, there is evidence of a strong dependence of the business on the turnover of type A product inventory. While this represents a strategic advantage, it could also become a potential threat if there is insufficient inventory, whether due to poor management, low market supply, political situations, or natural disasters. This could lead to a significant decrease in the company's overall sales. In this regard, it is proposed to analyze whether products classified as type B, or even type C, have any impact that would allow for the development of sustainable logistics strategies. Therefore, the ABC analysis reflects key opportunities to optimize the logistics management of the Honduran nostalgic beverage company, prioritizing high-turnover products (category A: X1, X2, X9), identifying strategic products (category B: X19, X24), thus promoting further analysis to determine whether there are substitute or hook products among them. That is why a correlation analysis is carried out to determine what is happening between A and B, as well as those that are not among the best sellers, and to understand the reasons behind their marketing. This would also allow for the design of sales techniques aimed at meeting needs according to the availability of these products, as well as the types of strategies that apply.

Figure 2 presents a heatmap correlation matrix. This matrix shows the different coefficients that measure the strength and direction of the linear relationship between each pair of variables. Based on these coefficients, it is possible to identify and highlight the causes and effects of the relationships between all products, as well as their link to the main sales of products classified as A, B, and C. Based on this correlation matrix, it is possible to perform various cause-and-

effect analyses, as well as obtain explanations for the coexistence of certain products. By examining the relationships with the strongest coefficients, patterns can be identified that can be strategically exploited. The categories defined as A and B were mainly analyzed with respect to category C, with the following results: X1 (A) and X21 (C) show a correlation, which means that when X1 is sold, it is possible that X21 will also be sold, so X21, considered a strong nostalgic product, is determined to be a hook product for mixed sales. X2 (A) with X23 (C) and X24 (B) show a similar analysis to the previous one. X24 is product B, which functions as a mixed sale, but X23 is C and does not have a nostalgic characteristic, so it functions as a substitute product. X24 (B) with X11 (C) have a high correlation, considering that X11 is also a substitute product. X11 (C) and X20 (C) have a strong correlation, and since X11 was considered a substitute, it would also be worth considering X20 as an alternative substitute for X24 (B). X22 (C) has nostalgic value and does not appear in the top ten products ranked by the correlation matrix, but for this study it will also be considered a hook product. This information is key to designing marketing strategies that consider alternative products in situations of scarcity or commercial risk.

Overall, analysis of these correlations shows that the company's commercial activity depends largely on the interaction between hook products, substitutes, and those that emerge to meet different demands (see Table 2). Therefore, various strategies that the company has applied empirically are identified, but which, under a Kantian a posteriori study, could be systematized and become positivist-oriented strategies for efficient inventory control and management.

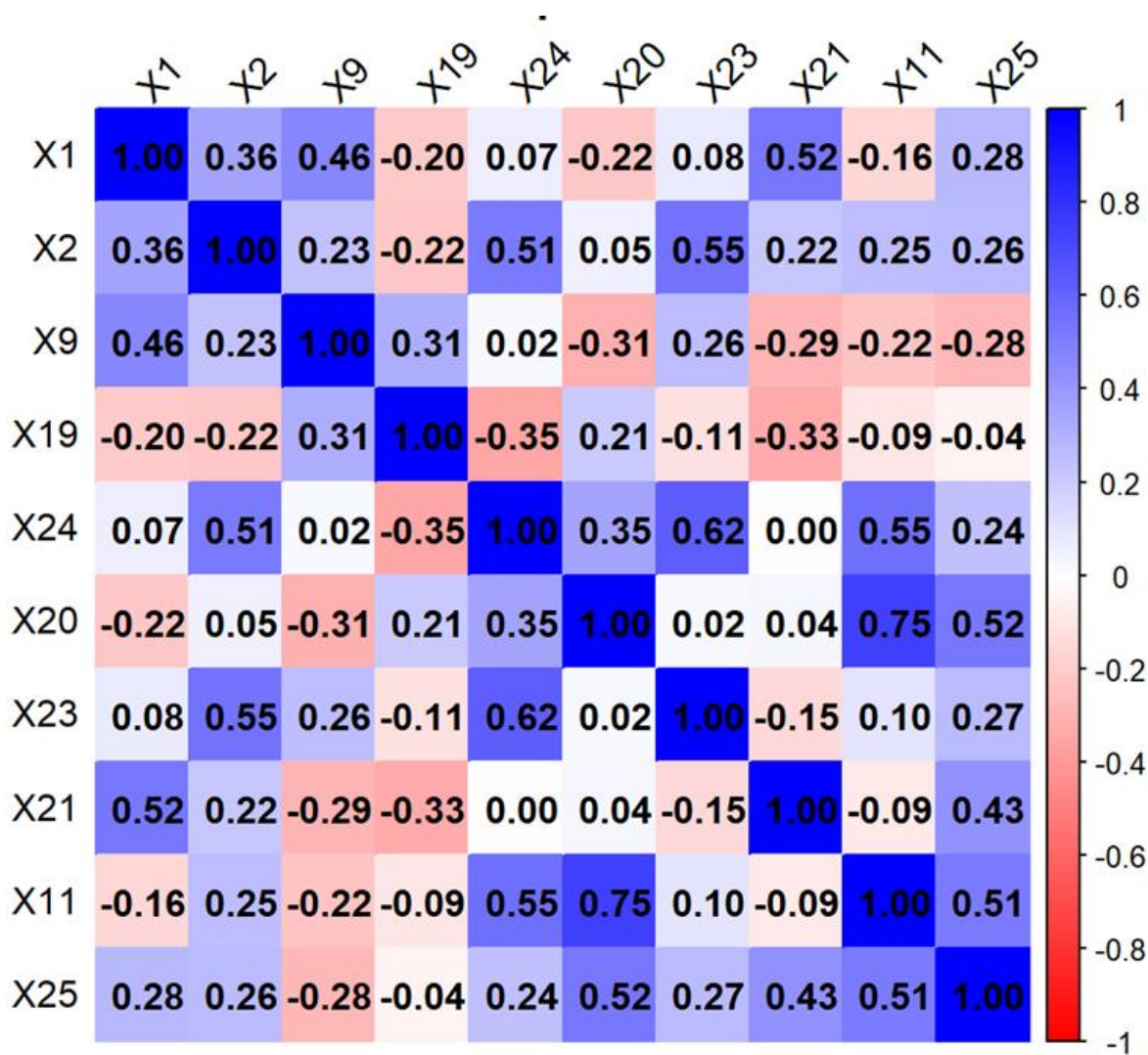


Figure 2. Correlation matrix of the top 10 products. It shows two decimals for each coefficient of correlation.

B. Qualitative Analysis

Inventory optimization through lateral transshipments and the strategic selection of nearby suppliers improve sustainability in the face of unpredictable demands [23]. Reverse logistics and returns require efficient policies to avoid unsustainable practices such as product destruction [24]. Finally, nostalgia fosters loyalty among Generations Z and Millennials, but green marketing claims must be authentic[25]. Some of the strategies to consider, mainly for products that are accepted by consumers as A and B, could be based on platooning pilots on key routes, reducing emissions. Another strategy could be to design a pallet recycling program, prioritizing local partnerships. Another important point in inventory would be to use side transshipments and select nearby sustainable suppliers. In addition, reverse logistics systems could be developed to reincorporate returns and avoid waste. For products, authentic, culturally segmented nostalgic

marketing campaigns could be adopted that highlight sustainable practices such as recycled glass.

Consumers play a very important role in the shift toward more sustainable economic systems [1]. Their purchasing decisions, attitudes, and perceptions directly influence the demand for sustainable products [8]. The consumption of organic foods, for example, examines the relationship between an individual's personality and their choice of these products [22]. The Big Five personality traits model—openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism—has been used to explore this relationship [22]. Although demographic research has shown conflicting results on its impact on sustainable purchasing decisions, some studies suggest that younger, highly educated consumers may be better informed and show a greater preference for green/organic products. The Theory of Planned Behavior (TPB) has been a fundamental theoretical framework for understanding sustainable purchasing intentions [1]. An

extended version of the TPB investigates intrinsic drivers such as consumer knowledge, green consumption values, and emotions, some of which, such as guilt and pride, have been identified as relevant, either with a direct or indirect effect on ethically conscious consumption behavior [1]. Consumer perception of product quality and attributes is also crucial [8], for example perception of packaging sustainability is another key factor influencing consumer decisions [10]. Consumers consider properties such as recyclability, biodegradability, and reusability [10]. Communication and awareness campaigns can affect consumer purchasing behaviors toward sustainable products [4]. However, not all motivations for purchasing products with sustainable attributes are driven solely by environmental or social ethics. Consumer expectations regarding convenience, such as access to a wide range of products on demand and liberal return policies, impact logistics operations and can lead to inefficiencies and unsustainable practices such as excess stock and product destruction [24].

It highlights some important engineering and transportation technology development strategies for improving multimodal transportation systems and optimizing logistics operations, setting broader goals for environmental sustainability and digital transformation in the transportation sector.[23]. Strategies such as truck movements in closed formations are studied, which significantly reduce fuel consumption, with a view to improving the fleets involved in maritime container transport. However, the potential for these benefits depends on the process of developing and implementing optimization plans that address the specific challenges of container logistics, particularly in the integration of truck platooning plans [25, 26]. Therefore, due to increasing concerns about environmental pollution and the need to reduce greenhouse gas emissions, sustainable transport strategies in the supply chain have become essential [27].

Table 2. Most Important Products for Strategy Analysis.

Product	Description	characteristic	Category A,B,C
X1	Small Soda A		A
X2	Large Soda A		A
X9	Extra Large Fruit Soda 1		A
X19	Small Fruit Soda 1		B
X24	Extra Large Soda B		B
X20	Small Fruit Soda 2	Substitute	C
X23	Extra Large Fruit Soda 3	Substitute	C
X21	Medium Fruit Soda 1	Hook	C
X11	Extra Large Soda A	Substitute	C
X25	Extra Large Fruit Soda 4	Substitute	C
X22	Medium Fruit Soda 2	Hook	C

One of the key points for product trading is the optimization of centralized inventory systems using lateral transshipments, which consists of redistributing stock between locations of the same hierarchical level within a distribution network, addressing supply chain disruptions resulting from unpredictable demand [23]. The strategic selection of suppliers is a fundamental challenge in supply chain design, especially in a dynamic global market where maintaining competitiveness and sustainability is essential. The location of suppliers is a very important aspect for a sustainable supply chain, in a world of e-commerce that involves reverse logistics [19]. Flexible return policies can generate large amounts of returned products or unsold inventory, which can pose a challenge to sustainability [24].

A mixed documentary and quantitative analysis is carried out, reflected in a SWOT analysis (see Table 3), which identifies the internal and external factors that influence the organization's strategy, with a focus on products A (X1, X2, X9), B (X19, X24), and C (X20, X23, X21, X11, X24, X22). The strategies derived from the combination of these factors are described in Table 4. This analysis is based on market data, consumer trends, and internal evaluations of the organization. Other supply chain inputs are related to wooden pallets, which are therefore taking on an increasingly vital role, being fundamental to the global transport of goods. Wooden pallets are the most widely used type of packaging in European countries, and their widespread use in the distribution and transport of goods means that the environmental impact of each pallet, although small

individually, is significantly amplified due to the scale of operations. Pallet management can have a significant impact on both emissions and the costs associated with these activities [28]. In Honduras, this type of packaging is also used for exports as detailed in the SENASA wooden pallet regulations.

Consumers should align logistics with nostalgia to foster loyalty and sustainability perception. Identifying low-turnover products facilitates actions like promotions or recycling, optimizing storage and reducing waste, which enhances operational efficiency and supports the circular economy.

Table 3. SWOT Matrix

Internal Factors	External Factors
Strengths S1: Unique emotional value (A, B) S2: Market differentiation S3: Brand recognition (A) S4: Adaptability to sustainability (A, B)	Opportunities O1: Demand for sustainability O2: Nostalgia trend O3: Strategic collaborations O4: Government incentives
Weaknesses W1: Dependence on specific niches W2: Sustainability conversion costs (for C) W3: Potentially obsolete products W4: Limited production (B, C)	Threats T1: Competition from modern sustainable brands T2: Strict environmental regulations T3: Market saturation T4: Macroeconomic changes

Table 4. Strategies Proposed from the SWOT Analysis

Category	Strategy (E)
S+W (Strengths + Weaknesses)	E1: (S1+S3+W1) Authentic nostalgic marketing campaigns for products A and B, culturally segmented, highlighting traditional flavors in recycled glass to expand niches. E2: (S2+W2) Pallet recycling program with local partnerships for products A, B, and C, reducing sustainability costs and communicating positive environmental impact.
	E3: (S3+T1) Platoon transportation for products A (X1, X2, X9) on key routes, reducing emissions and communicating sustainability commitment to differentiate from modern brands.
F+AS+T (Strengths + Threats)	E4: (O1+W2) Lateral transshipments and nearby suppliers for products B (X19, X24) and C (X20, X23, X21, X11, X25, X22), optimizing inventories and reducing sustainability costs.
O+W (Opportunities + Weaknesses)	E5: (O2+T1) Advanced reverse logistics systems for products A and B, reintegrating returns and communicating a sustainable product lifecycle to counter regulations and competition. E6: (O1+T2+T3) Authentic green marketing campaigns for products, emphasizing recycled glass and local practices to attract Gen Z and Millennials and mitigate market saturation.

O+T (Opportunities + Threats)	E1: (S1+S3+W1) Authentic nostalgic marketing campaigns for products A and B, culturally segmented, highlighting traditional flavors in recycled glass to expand niches. E2: (S2+W2) Pallet recycling program with local partnerships for products A, B, and C, reducing sustainability costs and communicating positive environmental impact.
	E3: (S3+T1) Platoon transportation for products A (X1, X2, X9) on key routes, reducing emissions and communicating sustainability commitment to differentiate from modern brands.

IV. DISCUSSION

The results allow portfolio management to be interpreted not merely as a commercial practice, but as a mechanism for logistical risk control and operational continuity assurance. The identification of substitute and hook products derived from the correlation matrix indicates that the company possesses inventory combinations capable of compensating for potential constraints affecting high-turnover products. This configuration reduces exposure to supply disruptions and strengthens the reliability of the logistical system.

This study differs from existing literature by integrating ABC analysis, correlation matrix, and a qualitative approach from the consumer perspective for the specific case of nostalgic products in Central American supply chains. The ABC analysis classified products into Type A (X1, X2, X9), B (X19, X24), substitutes (X20, X23, X11), and hooks (X21, X22), prioritizing inventories and sustainable practices such as pallet recycling and reverse logistics. Dependence on Type A products exposes risks to external factors, suggesting diversification with B and C products [5, 23]. The correlation matrix heatmap (Figure 3) revealed strategic relationships: X1 (A) and X21 (C) show positive correlation, with X21 as a nostalgic hook; X2 (A) correlates with X23 (C, substitute) and X24 (B, mixed sales); X24 (B) and X11 (C, substitute) have high correlation; and X11 (C) with X20 (C) suggests X20 as an alternative substitute. X22 (C) is a nostalgic hook. These relationships inform marketing strategies to mitigate shortage risks [26].

The documentary analysis is not used to assume the existence of external problems within the company, but rather to provide an interpretative framework that enables the evaluation of the case study results against recognized standards of sustainability, logistics, and risk management. This integration allows for an assessment of the extent to which the patterns observed in the company's data may give rise to scenarios of regulatory pressure, sustainability requirements, or increasing consumer expectations.

While previous work on sustainable logistics focuses on generic industries or high-tech sectors, this manuscript provides an applied and contextualized view of ethnic-emotional trade, addressing products with cultural and symbolic value for migrant communities. Nostalgia drives loyalty in migrant communities but requires authenticity in

green marketing to avoid skepticism [25]. Recycled packaging and authentic campaigns align young consumers' preferences with sustainability (Frommeyer et al., 2024). The Theory of Planned Behavior, integrated with ABC analysis, highlights the role of emotional values in sustainable purchases [1]. Strategies like lateral transshipments and reverse logistics optimize inventories and reduce waste [4,16]. However, reliance on data from a single company limits generalizability, suggesting future comparative studies. Unlike previous studies focused on sustainability from the productive or environmental side, this work highlights how the combination of substitute and hook products can generate more flexible and effective logistics strategies, aligned with the real perceptions of the end consumer. It also offers a sustainable strategy for nostalgic products, an aspect that has been little explored in current literature and proposes a replicable model for other emerging cultural markets.

IV. CONCLUSION

The study concludes that a sustainable logistics strategy based on ABC analysis, documentary information, and SWOT analysis can optimize the supply chain of nostalgic products by classifying them into priority categories, substitutes, and loyalty-generating products. Strategies such as recycled pallets, reverse logistics, lateral transshipments, and partnerships with local producers improve sustainability, accessibility, and competitiveness, especially among Gen Z and Millennial consumers driven by nostalgia. Although the study is limited by its theoretical nature and focus on a single Honduran company, it highlights the potential of integrating sustainability, emotional value, and consumer behavior into logistics management while opening new research opportunities in sustainable supply chain strategies [29-30]. Nevertheless, these limitations do not undermine the value of the study, as its objective is not to generalize results but to demonstrate how relatively simple analytical tools can be used to anticipate risks, strengthen inventory reliability, and support strategic decision-making in real operational contexts.

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