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Export Potential Analysis of Vietnamese Bottled Coconut Water by Incorporating Criteria Weights of MCDM into the Gravity of Trade Model

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Abstract: Vietnam, an emerging economy, leads the Southeast Asian region in terms of the growth rate of coconut production; yet, its sustainability is questionable because Vietnam lacks a credible strategy to reap the benefits of its export potential. While the literature is rich with studies on coconut-related export competitiveness and readiness, it seems that studies focused on a single set of factors, and very few studies take Vietnam as a case study for analysis. Studies we found use aggregate data for econometric analysis. On the contrary, this study attempts to address the literature's gaps by proposing a comprehensive view of key factors identifying the export potential of bottled coconut water. It also adds to our comprehension of how large- and small-scale manufacturers prioritize factors differently. To answer the research questions, we collect qualitative and quantitative data for analysis. We use AHP and M-CRITIC-RP methods for ranking the factors. This study also incorporates the criteria weights into the gravity of the trade model to identify export potential to target markets. Our findings can draw researchers' and policymakers' attention to the importance of considering how firms and manufacturers prioritize key factors in export readiness, and thereby impact export potential and target markets.

Keywords: AHP; alternatives ranking; bottled coconut water; criteria weights; export readiness; group criteria weights; Vietnam; M-CRITIC-RP; MCDM

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1. Introduction

In today's competitive environment, the ranking of critical factors necessary for successful export performance in an industry brings significant insights into strategy formulation [1]. Each aspect or criterion provides different information and gives only a partial view of the overall evaluation of the firm's performance. Prioritizing the importance of critical factors necessary for successful export performance is one of the critical problems that arise in expansion strategy formulation and is solved by Multi-Criteria Decision Making (MCDM) methods.

In recent times, both researchers and practitioners have shown considerable interest in coconut water derivatives [2]. Brazil was the top coconut-producing country until 2010, but now Asian producers are ahead of Brazil in terms of annual production. Currently, 90% of the global supply of coconut products comes from Asia [3]. Despite the stiff competition from products derived from other fruits and vegetables, coconut promises to continue to be a profitable venture in the future. As dairy-free diets continue to prevail, coconut milk has become a popular alternative to soy, prompting global coffee companies like Starbucks to debut coconut milk as part of their offerings. Coconut water has benefited too from this shift in consumption trends. Fresh coconut water is well known as a natural isotonic with

high proteins, vitamins, and calcium. It is valued by customers who highly appreciate the healthiness, cleanliness, and friendliness of the environment [4].

Together with traditional coconut industrial products (e.g., coconut oil, coconut copra, and coconut milk), coconut water production has grown to a 1 billion USD industry in Vietnam only after its first introduction as a packaged drink in America in the year 2004 [5], and it continues to sustain this volume until today [6]. Although the coconut plantation area in Vietnam is ranked within the top five largest agricultural areas in the world, and despite having had steady growth over the past ten years, it only occupies a modest role in the common agricultural structure in Vietnam and lacks proper concern for a national strategy. The Vietnamese government, at both the local and central levels, have not paid strong attention to collecting, upgrading, and analyzing data on the coconut industry. As a result, no official online database exists to accumulate data on exports of coconut products from different areas, leaving local newspapers and TV programs like Technical Guidelines for Farmers (VTV2), Agricultural Weather (VTV1), and Farmer's Life (Good Morning News-VTV1) to be one key source of information. Only the Coconut Association of Ben Tre province—one of the largest coconut areas on the Mekong Delta River and accounts for 30% of the coconut agricultural area—has taken the coconut industry into strong consideration as the province's main industry and kept updating data on its coconut activities [7].

Coconut water manufacturers in Vietnam are faced with a new strategic possibility. They could profit more by adding value to their high-quality raw coconut water in the form of bottled coconut water for end-consumers. Vietnamese manufacturers had realized that, rather than exporting raw coconut water to other countries (e.g., Thailand imported 420,500 L (3.73% of total production) of coconut water from Vietnam in the year 2018 [7] to be branded as self-sourced there, it would be economically more feasible to compete in the end-consumer product sphere, that is, in the bottled coconut water market. The Southeast Asian (SEA) market will not be an appealing destination for distribution; this is due to the abundant supply of freshly available coconut water in SEA countries. Moreover, coconut water in SEA is often consumed directly from an opened fruit by straw and sold fresh to passers in the city streets.

Although the last decades have witnessed a burgeoning global interest of practitioners and public policymakers in the SEA region and its agricultural resources, and despite the growing interest by scholars to study factors and parameters surrounding exporting intensity and market potential, research on factors defining the exporting potential of Vietnamese bottled coconut water is still in the infancy stage, and the topic itself remains complicated and somewhat confusing due to the scattered literature and the interrelation nature between different factors involved. For example, the majority of present studies related to export competitiveness and trade potential of SEA countries collected evidence from India, Indonesia, Malaysia, Brunei, Philippines, Sri Lanka, and Taiwan [8–16]. Very limited studies considered studying the Vietnamese exports of agricultural products, including coconut [17,18]. Moreover, most of the literature related to agricultural exports in SEA or Vietnam present papers focusing on a single perspective of export competitiveness and success, as in supply chain [18,19]), quality management and pricing [20], consumers' preferences [21], accession to World Trade Organization [22], trade relations with European union and the U.S.A as a target market [23,24], government involvement [25], and consideration of organic cultivation [26]. Moreover, most of the research studies approaching the topic focus on aggregate data sources of production [27,28]. There is also a scarcity of studies addressing the importance level of factors involved in forming successful export competitiveness. Export competitiveness varies based on the volume of resources, among other factors related to the size of the manufacturing plant [29]. The literature also lacks to address the ranking of different export readiness factors to small- vs. large-scale manufacturers.

Our research aims to address the research gaps identified in prior research studies by identifying a more comprehensive view of factors necessary to determine potential market competitiveness and export potential of bottled coconut water by taking Vietnam as a case study. Vietnam makes a good case study due to its most notable growth rate of coconut

production amongst the major producing countries in SEA [30]. Coconut production of other global leaders experienced more modest paces of growth [31]. Indonesia is the largest exporter of coconuts globally. Thailand takes the second position in the ranking, followed by Vietnam. All these "emerging economies" together hold nearly 23% share of total exports of coconut worldwide [31]. In the SEA region, coconut water exporters struggle to achieve sustainable export development in the context of the common agricultural policy. Thus, this study addresses the following research questions:

RQ1: What are the marketing, industry, profitability, and target market-related factors identifying the export potential success of Vietnamese bottled coconut water?
RQ2: Which factors are ranked top priority vs. least priority for small- and large-scale bottled coconut water manufacturers?
RQ3: Which target market has a higher export potential success for Vietnamese bottled coconut water manufacturers?

To answer the main research questions, we collect qualitative data through in-depth interviews conducted with experts from Vietnam. We collect quantitative data from experts in the form of pairwise comparisons of key factors identified by the literature review and modified and validated by the qualitative data of the in-depth interviews. All interviewed experts are engaged in bottled coconut water manufacturing activities in Vietnam and targeting either the European or U.S. markets. We collected data from three main manufacturers, (i) industry leader (large-scale, U.S. target market), (ii) niche-specific intermediary (medium-scale, New Zealand, Australia, and Asia target markets), and (iii) small family business enterprise (small-scale, Europe as a target market).

Moreover, our study aims to rank the factors based on their importance to the experts. By collecting data from small- and large-scale bottled coconut water manufacturers, our study will contribute to our understanding of what factors are more or least prioritized by small- vs. large-scale coconut water manufacturers. We rank the factors by employing Multi-Criteria Decision Making (MCDM) techniques. In MCDM, criteria weights in the decision matrix could be determined either subjectively or objectively. In the subjective approach, the expert provides the criteria weight based on a managerial hunch and tacit knowledge of the industry. Given that experts are subject to their bounded rationality, providing a single score for criteria evaluation is not an ideal approach. Alternatively, the criteria weights are obtained from experts in a pairwise comparison format. The pairwise comparison values are then transformed into a weight matrix by an MCDM alternatives-ranking method, such as the Analytical Hierarchy Process (AHP).

In the presence of a hierarchical structure of the decision criteria, each group of criteria should be given a relative weight or priority to perform a weighted ranking of alternative criteria. This is objectively computed by an MCDM criteria-ranking method as the CRITIC method. The complexity of the MCDM methods varies relative to (i) the normalization processes performed to transform all criteria into the same unit, (ii) the weighting technique used for determining the importance of the criteria, and (iii) the method of aggregation of value functions assigned to each criterion [32]. A linear scale transformation [33] is used to normalize the decision matrix values in several MCDM methods, including the Criteria Importance through Intercriteria Correlation (CRITIC) method [34]. The classical CRITIC approach mandates the attribution of each criterion as beneficial or nonbeneficial, also referred to as cost [35]. Accordingly, in classical CRITIC, beneficial and nonbeneficial criteria are normalized differently.

A conflict arises among experts when a criterion that is considered beneficial to one expert is judged nonbeneficial by another. For example, in a country like Vietnam, with highly fragmented farming land, we find some coconut water manufacturers who own coconut plantations and sell bulk bottled coconut water to domestic and overseas markets. With foreign merchants offering more money to buy more from farmers owning fragmented plots of land, the price of raw coconut water fluctuates. In such a case, bottled coconut water manufacturers who own coconut plantations benefit. However, manufacturers who rely on domestic supply find themselves in an unfavorable situation. Thus, the factor

"fluctuation in price of raw coconut water" may act as an institutional barrier to one manufacturer but maybe plays in favor of another who is unaffected due to self-sourcing raw material by owning large plantations of coconut. This is a recurring situation across different sectors, especially when players are closely interconnected within the supply chain or when informants belong to a heterogeneous pool of experts.

To overcome the conflict in criteria attribution, we apply the recent extension of the classical CRITIC method, referred to as modified CRITIC with a reference point (M-CRITIC-RP) developed by Sharkasi and Rezakhah [36]. The normalization procedure in the M-CRITIC-RP does not rely on criteria attribution due to incorporating the notion of a reference point (RP) and fuzzy logic. Sharkasi and Rezakhah [36] show the privilege of using this method in comparison to other criteria-ranking methods to produce lower symmetric mean absolute percentage error (sMAPE) and log accuracy ratio (LAR). The intermediary company is selected to be the reference point (RP) in the M-CRITIC-RP method because it is the top performer in terms of (i) the current number of export destinations and (ii) the ratio of revenue from exports versus domestic market sales. The headquarter of the mediator company is in New Zealand. The Vietnamese branch of the mediator is set up to source and manufacture high-grade organic bottled coconut water while marketing and financial activities are handled in New Zealand's HQ.

Finally, to answer the third research question, the paper aims to incorporate the criteria/factors' weights obtained from MCDM methods into the gravity model of trade [37]. We use the basic model of gravity of trade to predict the bilateral trade flows or export potential of small- vs. large-scale manufactures and the European and U.S. target markets, respectively. This is achieved by setting the criteria weights of different beneficial and cost factors as a proxy to the economic size and distance variables in the basic gravity of the trade model.

This paper is organized as follows: Section 2 is a case outline and literature review. The methodology is outlined in Section 3. Data and Results are described in Section 4. This study is concluded in Section 5.

2. Literature Review

2.1. Case Outline: Export Readiness of Vietnamese Bottled Coconut Water

Future Market Insights forecasts growth for the global coconut water market at a compound annual growth rate CAGR of 10.5% between 2020 and 2030 [38]. Consumer preferences are shifting towards natural and healthy beverages; accordingly, big manufacturers offer packaged coconut water drinks to gain traction. Over 70% of bottled coconut water accounts for original/unflavored; regular coconut water remains the consumers' favorite, accounting for nearly one-fourth of the market [39]. Coconut water is used to nutritionally functionalize and enrich various food and beverage products, including cereals, nutrition bars, baked goods, dairy products, drinks, snacks, soups, sauces, and some authentic culinary cuisines from South Asia, among others. The worldwide market value of coconut water in 2022 has reached USD 4.75 billion, with revenue forecast in 2027 being USD 14.06 billion [39]. It has been estimated that around one in ten of the human population is connected directly with coconut production and the processing, trade, and retail distribution of its products [40]. The production base of the coconut industry is shown to be currently stable, but the advanced age of a high proportion of the palms foreshadows an accelerating decline in productivity unless renewal begins immediately. Examining the case of bottled coconut water helps identify the manufacturer's capacities required to achieve sustainability.

With traditional coconut industrial products (e.g., coconut oil, coconut copra, and coconut milk), coconut water production has grown to a billion-dollar industry in Vietnam only after its first introduction as a packaged drink in America in 2004 [5]. Although the coconut plantation area in Vietnam is ranked within the top six largest agricultural regions in the world [41], and despite having had steady growth over the past ten years [42], it only

occupies a modest role in the common agricultural structure in Vietnam, and lacks a proper national strategy [43].

Surveying all government websites in Vietnam, we found that the Vietnamese government has not been collecting, upgrading, and analyzing data on the coconut industry at both the local and central levels. As a result, no official online database system exists to aggregate information on exports of coconut products from different areas. The Coconut Association of Ben Tre province—one of the largest coconut areas on the Mekong Delta River—had taken the coconut industry into serious consideration as the province's primary industry and kept updating information on coconut activities on its site. The lack of information has led many farmers and businesses to turn to local newspapers and TV programs like Technical Guidelines for Farmers (VTV2), Agricultural Weather (VTV1), and Farmer's Life (Good Morning News-VTV1) as a source of information.

Within high information uncertainty, coconut water manufacturers in Vietnam face a new strategic possibility, either adding value to the raw coconut water in the form of bottled coconut water or wholesale cheaper unbranded coconut water to be packaged and branded by manufacturers in neighboring countries, such as Thailand and China. For example, Thailand imported 420,500 L (3.73% of total production) of coconut water from Vietnam in 2015 [7]; we note here that export data with Thailand after 2015 is not available. Vietnamese manufacturers realized that rather than exporting bulk coconut water to other countries to be branded as self-sourced there; it would be economically feasible to compete in the end-consumer market with bottled coconut water.

Although the last decades have witnessed a burgeoning global interest of practitioners and public policymakers in the SEA region, research on factors defining the export readiness of sustainable products, such as in organic coconut water of SEA countries, is still in the infancy stage, and despite the growing interest by scholars to study factors and parameters surrounding export intensity and potential, the topic itself remains complicated and somewhat confusing due to the difficulty in obtaining reliable data and timely statistics [44,45]. The survival of business enterprises is critical for economic sustainability due to the multifaceted role of the economy and the role of the government as a major driver and/or barrier to enterprises' engagement in sustainable practices [46].

Most of the literature on coconut water was unspecific to bottled coconut water manufacturing. Our investigation for identifying tentative factors crucial to export performance benefited from Dr. Tran Tien Khai's report published in November 2011 on the coconut industry in Vietnam [43]. In his 195-page report, written in Vietnamese and made publicly available on the website of the Ministry of Agriculture, [43] focuses his situational analysis on commonly produced coconut derivatives in Vietnam, such as coconut candy, desiccated coconut products, coconut fiber, and coconut water. In the concluding chapter, Tran recommended that Vietnam set foot in manufacturing higher added-value products; an example was bottled coconut water.

In what follows, a literature review on the main themes contributing to export readiness is based on the opinion of interviewed experts in this study.

2.2. Industrial Assets and Investments

Asset-intensive organizations, as in the agricultural sector, are under rising pressure from their stakeholders to realize the optimum level of exploiting assets to achieve a balanced and sustainable performance over their life cycle [47]. An efficient supply chain for products is one of the most important factors toward export readiness; it is described by stable processes with low supply uncertainty [48]. Moreover, experiential knowledge plays a role in conceptualizing the role of human capital in exploiting opportunities to improve exporting potential [49]. Firm labor-related characteristics, such as labor productivity, multifactor productivity, the capital–labor ratio, and employment stability, define how performance dynamics affect firms engaging in exporting activities for the first time and exporters entering new markets [50]. Human capital is described in terms of creativity, intellect, and innovation for those working on the production line [51].

Firms vary concerning export-related activities of critical technology [52]. Ventures with specific competitive advantages linked to their technological level may exploit opportunities in international markets [53]. Firms honing production innovation capabilities may be better placed to increase their exporting potential [54]. Manufacturers involved in importing technology to enhance their manufacturing processes may experience higher growth rates [55].

Despite the essential role of capital investment, developing economies show reluctance to grow and develop toward the industrial shift [56] (p. 133). Surprisingly, only 1% of enterprises in Vietnam invested in agriculture, and its capital only accounted for approximately 3% of total public investment [57]. More importantly, the banking system is not strong enough to give long-term loans to coconut water manufacturers [58]. A high degree of liquidity influences the probability of entering export markets. In contrast, those firms that face increased costs due to their export activity may need to become indebted to secure the necessary financial resources [59].

2.3. Marketing and Sales Resources

Sustainability has become a relevant and critical factor in several food industries. The adoption of a sustainable marketing strategy contributes positively to changes in society in terms of environmental, social, and economic development [60]. Sales organizations invest substantial financial and human resources in developing effective salesforces, yet salespeople are among the highest 'risk group' in staff turnover. For export sales settings, the organizational consequences of this form of turnover are even more severe; this is because experienced exporters reap more productivity gains from "learning-by-exporting" with a long-lasting spillover cumulative effect [61].

Brand awareness and knowledge of the competition in various international markets is an essential factor in achieving customer satisfaction [62] and thus paves the way to a successful market entry. Ref. [63] showed that specific marketing capabilities, including branding and planning, lead to increased financial and market performance internationally. Country-of-origin branding also plays an essential role in enhancing the exporting potential of domestic products and services [64]. An important area of research has been exporting marketing research, indicating a positive relationship between export marketing strategy and export performance [65]. Most of the bottled coconut water manufacturers in Vietnam do not pay attention to branding. The majority of coconut products are exported by foreign intermediary businesses, mainly from Thailand and China.

The quality of raw materials is an essential factor in internationalization. Vietnamese coconut is well-known for its high quality on the Southeast Asia level. Vietnamese coconut enjoys a higher volume of water per coconut with a better sweetness level [3,41,65]. In a food-related case study, the lack of quality standards was one of the areas the industry was suffering from [66,67].

As dairy-free diets continue to prevail, coconut milk has become a popular alternative to soy, prompting global coffee companies like Starbucks to debut coconut milk as part of its offerings [68]. Coconut water has benefited too from this shift in consumption trends. Fresh coconut water is well known as a natural isotonic with high proteins, vitamins, and calcium; it is valued by customers who highly appreciate the environment's healthiness, cleanliness, and friendliness [69]. In a survey conducted in the United Kingdom, coconut water was ranked sixth among the most requested ingredients that consumers would like to see in sports/energy drinks [70]. Despite the evidence of the literature on the growing potential of coconut water in foreign markets, informants shared concerns about carbonated drinks as a rival substitute to bottled coconut water.

2.4. Potential Profitability

Growth in the global market's demand for coconut water, especially in China, U.S., and Europe, leads to the production of more processed coconut products. Since uncertainty is resolved after entry, many firms enter a destination and then exit after learning that

they cannot profit [71]. It is expected for exporting firms and countries to continue in their fruition by growing demand in an existing market and creating it in new destinations [72]. When the economic value of coconut as an industrial tree has been proved to both global and domestic markets, coconut production in Vietnam has grown steadily after the year 2000 upon its latest dramatic decrease in that same year [45].

Becoming a member of the World Trade Organization and other regional economic alignments is an excellent opportunity for Vietnam to enjoy better trading opportunities with countries enjoying a high purchasing power. Trade policies, such as export taxes, play a vital role in export potential and internationalization activities, especially in the least developed countries [73] like Vietnam. Export restrictions lead to a decrease in export volumes. Relevant findings of political ties were reported by [74], whereby the strength of the political relations reduces the relationship between export market intelligence dissemination and responsiveness, where export market responsiveness is positively related to strategic export performance. Recently, the Vietnamese government has been supporting the agricultural sector and simplifying procedures.

Investment in qualified staff and technology affects the sustainability of profit in businesses [75]. The cost of transporting goods from a producer in one country to a final destination is vital for profitability analysis. Additional transportation costs are incurred to move internationally traded goods within exporting countries and within importing countries. Transport charges have a significant effect on trade flows [76]. The decline in transportation costs might cause a decrease in a country's distance of trade. For example, ocean shipping transportation costs can be divided into those unrelated to distance, known as dwell costs, and those related to distance. Dwell fees cover various aspects, such as loading and unloading ships and the cost of queuing outside a port waiting to be serviced. Distance costs are positively correlated to the distance from port to port. The longer the distance between ports, the larger the fuel costs of transporting a given shipment.

2.5. Foothold in Target Market

Strong distribution channels in domestic and potential markets are equally crucial for a sustainable financial inflow [77]. Thus, the process of creatively discovering distribution channels and opportunities in a firm's domestic and international market to pursue competitive advantage is considered of paramount importance. Morrish and Earl [78] state that "Networks can provide the foundation of strategic responses necessary for successful internationalization; therefore, firms need to understand how institutional environments develop and how networks can help in navigating different institutional forces."

In the influential work of Porter [79], the attractiveness of an industry may be affected by the dynamic interactions of five forces; at the core is competition intensity. Fierce competition in foreign markets impedes progress in penetrating the market [80]. A vast difference in production capital between competitor countries, such as Thailand, the Philippines, and China, compared to Vietnamese businesses is considered one of the most significant disadvantages. The lack of market-specific knowledge affects export channel exchanges at the market entry stage. The lack of reliable sources of information in foreign markets could also be the root source of unsatisfactory export performance problems [81].

3. Method

3.1. Data Collection

Due to the lack of specific knowledge in the literature on bottled coconut water exporting readiness and potential, we collected primary data from three experts working in Vietnam's coconut water manufacturing industry. The total number of coconut water manufacturers, including suppliers in Vietnam, is estimated to be less than thirty. The names of the enterprises were sealed upon the experts' request, and we labeled each enterprise based on its distinctive position in the industry. Table 1 describes the profile of the three interviewed informants: (i) market leader, which we refer to as the industry leader; (ii) intermediary niche specialist, which we refer to it as the intermediary; and (iii) family

business, which represents the small business denomination. The intermediary and the family businesses conveyed that they seek to gain market share globally but are less able to differentiate their brand. The leader and family businesses are from Ben Tre province in Vietnam, with a nationwide distribution network. The headquarter of the intermediary is based in New Zealand—its primary destination for exporting. It sources its organic raw coconut water from Vietnam with a strong distribution channel of bottled coconut water in New Zealand and abroad.

Table 1. Description of interviewed experts.

	Industry Leader	**Intermediary**	**Family Business**
Interviewee/Subject	Chief commercial officer	Representative of corporate-level management	Business Owner
Size (Annual Production)	7500 tones	Headquarters in New Zealand	Small business, family-based
Market Segment	B2B and mainstream	B2C and B2B Upper-scale, organic	B2B and just started its B2C packaging activities
Differentiation Elements	- Quality raw material and packaging	- Quality raw materials and packaging - Organic certificate (U.S. and Europe)	Quality of raw material and steady supply
Distribution Channel	- Domestic - Foreign wholesalers	Strong distribution channel in New Zealand and some foreign destinations	- Domestic - Foreign: direct export
Customer Acquisition	- Domestic: Promotions - Foreign: network expansion and trade expos	- Alibaba.com and other online marketplaces - various B2B marketing activities	Conventional personal network
Organizational Structure	Divisional	Flexible 20 staff members in Vietnam	Two owners, ten employees in total, and growing
Target Destinations	U.S market, Brazil, Argentina, Chile, yet focusing on boosting domestic sales	Asian Market, Africa, and Middle East. Aiming to become in the top 5 e-commerce companies by revenue in the U.S by 2025	Exports to neighboring countries, anticipate growth by an increase in demand for the current network in Europe

Data collection was performed in two stages; the first was qualitative data collection through interviews to identify important factors in export performance. The second was a quantitative data collection in pairwise comparisons of factors extracted from the qualitative stage. The following main types of data are used for constructing the survey instrument:

(i) Secondary data: a literature review to identify important criteria to study export performance;
(ii) Primary data: in-depth interviews with the experts to verify and amend the list of criteria prepared initially in step (i).

The mixed approach of data collection helps avoid the superficial scanning of the literature. The in-depth interviews improve the analyst's ability to position each element in-line with the study's context and allow for further input from the informants.

3.2. Pairwise Comparison Instrument

Many of the Multi-Criteria Decision Making (MCDM) methods have a common notion of alternatives and attributes. Alternatives represent different choices of action available to the decision maker through data collected from various decision makers. Attributes are

referred to as goals or decision criteria. Different attributes represent different dimensions of looking at the alternatives.

We use a pairwise comparison instrument to capture the judgments of experts on different alternatives. To make comparisons, a numerical scale indicating how many times more important or dominant one element is over another with respect to each criterion in the hierarchy is formed. In this study, the intensity of importance ranges from 1 to 3 and is described on the scale as "equally," "moderately," and "strongly" as follows:

- Intensity 1 (equally): two elements contribute equally to the goal;
- Intensity 2 (moderately): experience and judgment slightly favor one activity over another;
- Intensity 3 (strongly): experience and judgment strongly favor one activity over another.

Comparisons of elements are conducted for each criterion using the measurement scale shown in Figure 1.

			Importance			
Element A	**Strong**	**Moderate**	**Equal**	**Moderate**	**Strong**	**Element B**
Dynamic Human Capital	3	2	1	2	3	Modern Manufacturing Technology
Supply of Raw Material	3	2	1	2	3	Modern Manufacturing Technology

Figure 1. Measurement scale.

In comparing two elements in each column: A and B, choosing "3" (referring to "strongly") closer to "Element A" indicates that element A is more important compared to "Element B" in terms of the criterion on which the comparison is being made (See: Figure 1). Regarding the decision criteria, based on the literature reviewed in Section 2 and the input of experts from the in-depth interviews, Table 2 describes the decision criteria used in the survey instrument.

Table 2. Saaty random index table.

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
0.00	0.00	0.58	0.9	1.12	1.24	1.32	1.41	1.45	1.49

Figure 2 shows the hierarchical structure of the decision problem. Based on the literature review and in-depth interviews, we group the criteria into:

(1) Industrial assets and investments (INDUS);
(2) Marketing and sales (MRKT);
(3) Potential profitability (PP);
(4) Foothold in the target market (TM).

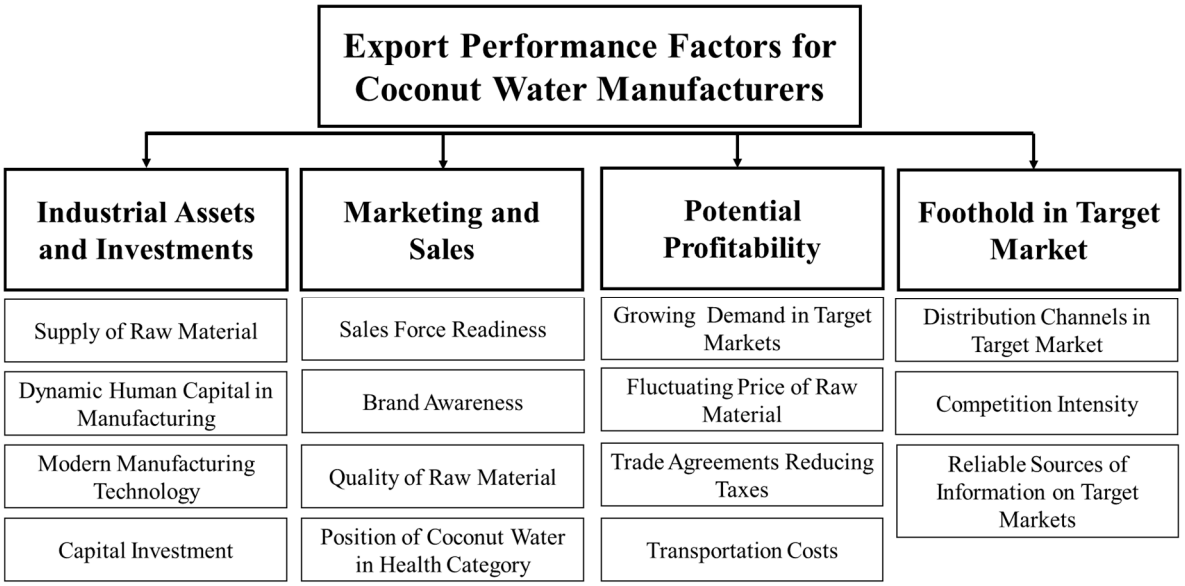

Figure 2. Hierarchical structure of decision criteria.

3.3. The AHP Method

There are many MCDM methods available in the literature. The most common are the weighted sum model, weighted product model, analytic hierarchy process (AHP), ELECTRE method, TOPISIS method, PROMETHEE method, VIKOR method, etc. The complexity of the Multi-Criteria Decision Making methods varies relative to (i) the normalization procedures performed to transform all criteria into the same unit, (ii) the weighting techniques used for determining the importance of the criteria, and (iii) the method of aggregation of value functions assigned to each criterion [31].

We use the Analytical Hierarchy Process (AHP) method, developed by Thomas Saaty [82], for its simplicity, power, and widespread use across multiple domains. It is also considered the first in use in social science research [83]. The AHP method has found use in business, government, social studies, R&D, defense, and other domains involving decisions in which choice and prioritization are needed.

The evaluation of the pairwise comparisons between the relevant criteria at each level of the hierarchy is performed by the AHP method in the following steps:

1. Define the decision problem and goal. The goal is to rank the criteria contributing to the export readiness of bottled coconut water manufactured in Vietnam.
2. Identify and structure the decision criteria and alternatives. This method involves the identification and organization of (a) decision objectives, (b) criteria, (c) constraints, and alternatives into a hierarchical structure. The hierarchical structure starts with the goal of the study on top, followed by the levels of the set of criteria and alternatives, which form a decision matrix for analysis.
3. Judge the relative value of the alternatives on each decision criterion. In this study, we capture the experts' judgments through a pairwise comparison instrument.
4. Judge or estimate the relative importance of the decision criteria. In this study, we use a criterion ranking method to compute the weights of the criteria based on the judgments captured in step 3.
5. Group aggregation of judgments. The two traditionally accepted aggregation procedures in the AHP context are (i) the aggregation of individual judgments (AIJ) and (ii) the aggregation of individual priorities (AIP). Applying the proper aggregation method depends on whether the group of experts belongs to a homogeneous cluster acting like one single entity or operating in a context characterized by a conflict of interests; in such a case, the group members are individually acting with their own value systems, and a consensus may be reached using the AIP aggregation method [84].

Given for each criterion in the hierarchy with n alternatives $(A_1, \cdots, A_n)$, and r decision makers $(D_1, \cdots, D_r)$, let $A^{(k)} = \left(a_{ij}^{(k)}\right)$ be the pairwise comparison matrix of decision maker $Dk(k = 1, \cdots, r; i, j = 1, \cdots, n)$ and π_k be the relative importance in the group of criteria $(\pi_k \geq 0, \sum_{k=1}^{r} \pi_k = 1)$.

In order to obtain the aggregation of individual/expert priorities, the priority vectors are first obtained for each individual, $w^{(k)} = w_i^{(k)}$ and $k = 1, \cdots, r$ using one of the existing prioritization methods and then aggregate to obtain the priorities of the group $w^{(G/P)} = w_i^{(G/P)}$ using the weighted geometric mean method as the aggregation procedure. The group judgments matrix and the group priority vector are given, respectively, by

$$A^{(G)} = a_{ij}^{(G)} \text{ with } a_{ij}^{(G)} = \prod_{k=1}^{r} a_{ij}^{(K)}, \; i, j = 1, \cdots, n \tag{1}$$

$$w^{(G/P)} = w_i^{(G/P)} \text{ with } w_i^{(G/P)} = \prod_{k=1}^{r} \left(w_i^{(K)}\right)^{\pi_k}, \; i = 1, \cdots, n \tag{2}$$

6. Inconsistency analysis of judgments. AHP calculates a consistency ratio (CR) by comparing the consistency index (CI) of the matrix in question (the one with our judgments) versus the consistency index of a random-like matrix (RI). A random matrix is one where the judgments have been entered randomly, and therefore it is expected to be highly inconsistent. Table 3 shows Saaty's RI per matrix size ranging from 1–10. The consistency ratio is then defined as CR = CI/RI. Saaty and Vargas [85] have shown that a consistency ratio (CR) of 0.01 or less is acceptable to continue the AHP analysis.

Table 3. Decision criteria.

Industrial Assets and Investments (INDUS)		**Description and Justification**
INDUS 1	Supply of Raw Material	The supply chain of raw materials is described by the level of stability. Environmental changes are the broad-level indicator of supply.
INDUS 2	Dynamic Human Capital in Manufacturing	Sufficient labor supply on the production line equipped with creativity, intellect, and innovation. It also encompasses labor productivity, multifactor productivity, the capital–labor ratio, and experience.
INDUS 3	Modern Manufacturing Technology	Deployment of tangible export-related technology and production innovation capabilities.
INDUS 4	Capital Investment	Firm's capital investment in improving manufacturing line, processing, and machinery, as well as the provincial budget and banking system supporting the industry, and investment in cultivating processes and farming.
Marketing and Sales (MRKT)		
MRKT 1	Sales Force Readiness	Degree of experience as an indicator of propensity to succeed in communicating with foreign partners; it also includes personnel turnover rate.
MRKT 2	Brand Awareness	The importance of the firm's branding and planning and the role of country-of-origin branding in target markets.
MRKT 3	Quality of Raw Material	Quality parameters of raw coconut water, like sweetness, water ratio in raw water supply used for manufacturing, as well as freshness.
MRKT 4	Position of Coconut Water in Health Category	Shift in consumption trends toward healthier and diary-free diets with high appreciation for the healthiness, cleanliness, and friendliness to the environment.

Table 3. *Cont.*

Potential Profitability (PP)		
PP1	Growing Demand in Target Markets	Exporting firms' ability to grow demand in an existing market and create it in new destinations.
PP2	Fluctuating Price of Raw Material	Raw material price uncertainty due to foreign merchants' intervention
PP3	Trade Agreements Reducing Taxes	Current trade agreements between Vietnam with foreign potential markets including tax reduction agreements and political ties with destination markets.
PP4	Transportation Costs	The dwell and distance costs involved in transporting a given shipment.
Foothold in Target Market (TM)		
TM 1	Distribution Channels in Target Markets	The discovery of new partners to build and expand a network of reliable distributors in target markets.
TM 2	Competition Intensity	Rivals within the industry in the target market, especially with higher production capital.
TM 3	Reliable Sources of Knowledge on Target Markets	Reliable sources of information in foreign markets.

7. Calculation of the weights of the criteria and priorities of the alternatives.

We use the AHP method to perform the following:

(i) Process the pairwise comparisons in a matrix and follow the steps in Saaty and Vargas [82] to transform the experts' judgments into subjective weights for each criterion. These weights will be fed into the criteria ranking method to determine the relative importance of group criteria;
(ii) Rank the alternatives of the decision matrix for further analysis and insights.

3.4. The M-CRITIC-RP Method for Group Criteria Ranking

To uncover the relative importance of the group of criteria, we apply the latest extension of the CRITIC method, referred to as M-CRITIC-RP [36]. The CRITIC method was introduced in 1995 [86] to determine the weights or importance of criteria. The main steps of this technique can be summarized as follows:

Step 1. The number of decision makers and the number of evaluation criteria determine the dimensions of the matrix. A decision matrix, R, with m number of alternatives and n number of criteria, is defined as

$$X = \left(r_{ij}\right)_{m \times n}; \ i = 1, \cdots, m; \ j = 1, \cdots, n \tag{3}$$

where r_{ij} is the element of the decision matrix for the ith alternative in the jth attribute.

Step 2. This step addresses whether the criterion is considered beneficial or nonbeneficial or is often referred to as a cost attribute [87]. A criterion could take a value in a range; this range is bounded by maximum and minimum values. For beneficial attributes, $j \in F^+$, where the ideal scenario is described as more or higher is better, the criterion is normalized by dividing the distance from the minimum value over the length of the range. On the other hand, the nonbeneficial criterion, $j \in F^-$, is normalized by dividing the distance from the maximum value over the distance of the range. The positive or beneficial attributes and the negative or nonbeneficial attributes of the decision matrix are normalized as

$$x_{ij}^{+} = \frac{r_{ij} - r_i^{-}}{r_i^{+} - r_i^{-}}; \ i = 1, \cdots, m; \ j = 1, \cdots, n \ if \ j \in F^{+} \tag{4}$$

$$x_{ij}^{-} = \frac{r_i^{+} - r_{ij}}{r_i^{+} - r_i^{-}}; \ i = 1, \cdots, m; \ j = 1, \cdots, n \ if \ j \in F^{-} \tag{5}$$

where x_{ij} represents the normalized value of the decision matrix for the ith alternative in the jth attribute and $r_i^+ = \max(r_1, r_2, \cdots, r_m)$ and $r_i^- = \min(r_1, r_2, \cdots, r_m)$.

The experts who quantify the criteria and attribute it by deciding whether it is beneficial or not may not agree on its attribution. Thus, a problem arises, and classical CRITIC falls short. For this reason, we use the Modified CRITIC with a Reference Point M-CRITIC-RP method that suggests an extension of the CRITIC method by introducing a normalization procedure using fuzzy logic and hamming distance [36]. Thus, the normalization procedure in the CRITIC method relies on the attribution of the criterion of whether being beneficial or not, while the M-CRITIC-RP does not due to incorporating the notion of a reference point (RP) into it. The M-CRITIC-RP computes the hamming distance between two fuzzy attributes, $\widetilde{A}$ and $\widetilde{B}$, as

$$Sim\left(\widetilde{A}, \widetilde{B}\right) = 1 - d\left(\widetilde{A}, \widetilde{B}\right) \in I = [0, 1]. \tag{6}$$

Given a criterion c_j with a value ranging in $[A_j, B_j] = \begin{bmatrix} \min r_{ij} , \max r_{ij} \\ i \quad\quad i \end{bmatrix}$, where $i = 1, \cdots, m$; $j = 1, \cdots, n$, and r_{ij} is the element of the decision matrix for the i–th alternative and the j-th criterion. In M-CRITIC-RP, we model the relation between two fuzzy arrays of data by relying on fuzzy logic as $r_{ij} \in \left[r_{ij}^L , r_{ij}^U\right]$ with respect to some fuzzy RP, say $[a_j, b_j]$. The fuzzy elements $r_{ij}^L = r_{ij} - h_i$ and $r_{ij}^U = r_{ij} + h_i$ are computed where h_i is some positive small number that for all i and j: $0 < r_{ij} + h_i < 1$. Let $A_j = \min\limits_i r_{ij}^L$, $B_j = \max\limits_i r_{ij}^U$, and fuzzy RP satisfy $[a_j, b_j] \subseteq [A_j, B_j]$, then the normalized values in the M-CRITIC-RP method are found by

$$\begin{cases} 1 , & \left[r_{ij}^L , r_{ij}^U\right] \subseteq [a_j, b_j] \\ 1 - \frac{\left|r_{ij}^L - a_j\right| + \left|r_{ij}^U - b_j\right|}{2\left(B_j - A_j\right)}, & \left[r_{ij}^L , r_{ij}^U\right] \not\subset [a_j, b_j],\ \left[r_{ij}^L , r_{ij}^U\right] \subseteq [A_j, B_j] \end{cases}. \tag{7}$$

Step 3. This step and subsequent steps address the weighting technique. In this step, the correlation coefficient between jth and kth attributes, ρ_{jk} , is computed as

$$\rho_{jk} = \sum_{i=1}^m (x_{ij} - \overline{x}_j)(x_{ik} - \overline{x}_k) / \sqrt{\sum_{i=1}^m (x_{ij} - \overline{x}_j)^2 \sum_{i=1}^m (x_{ik} - \overline{x}_k)^2} , \tag{8}$$

where $\overline{x}_j$ and $\overline{x}_k$ display the mean of jth and kth attributes, respectively. $\overline{x}_j$ is computed as in Equation (9). It is similarly obtained for $\overline{x}_k$.

$$\overline{x}_j = \frac{1}{n} \sum_{j=1}^n x_{ij};\ i = 1, \cdots, m. \tag{9}$$

The M-CRITIC-RP method also introduces an adjustment to this weighting step by incorporating covariance distance to capture linear and non-linear relationships [88].

Step 4. The standard deviation of each attribute is estimated by

$$\sigma_j = \sqrt{\frac{1}{n-1} \sum_{j=1}^n (x_{ij} - \overline{x}_j)^2};\quad i = 1, \cdots, m. \tag{10}$$

Step 5. The index E_j is calculated as

$$E_j = \sigma_j \sum_{k=1}^n \left(1 - \rho_{jk}\right);\quad j = 1, \cdots, n. \tag{11}$$

Step 6. The weights of the attributes are determined by

$$w_j = \frac{E_j}{\sum_{j=1}^n E_j} \ ;\ j = 1, \cdots, n \tag{12}$$

Finally, the ranking of the weights of the attributes is obtained; this identifies the importance given to each criterion.

3.5. The Gravity Model of Trade

The gravity model [38] is the pillar of the applied international trade literature. It has been used in thousands of research papers, published articles, and books covering all areas of trade. It is of particular interest to policy makers and researchers because it estimates the trade impact of various trade-related policies. The gravity model captures some deep regularities in the pattern of international trade and production by linking trade flows directly with economic size and inversely with trade costs, usually proxied by geographical distance—as an indicator of transport costs. The basic model for trade between two countries (i and j) takes the form of

$$E_{ij} = C.\frac{M_i\, M_j}{D_{ij}} \tag{13}$$

In this formula, C is a constant, E_{ij} stands for trade flow or exports from country i to j, and M_i ; M_j are the market size for countries i and j, respectively. Finally, D_{ij} is the geographical distance between the two countries, but also considered an observable proxy for trade costs. The gravity models now include variables far beyond those in the basic model. The name "gravity" comes from the fact that Equation (13) resembles Newton's law of gravity: exports are directly proportional to the exporting and importing countries' economic "mass" (GDP), and inversely proportional to the distance between them (not the square of the distance between them, as in physics). In other words, gravity says that we expect larger country pairs to trade more, but we expect countries that are further apart to trade less, perhaps because transport costs between them are higher.

In this study, we use the criteria attribution—beneficial vs. cost—obtained from the in-depth interviews with experts, along with the criteria weights obtained from the MCDM methods as proxies of the variables of the classical gravity trade model. We first classify the beneficial criteria as related to either the Vietnamese market, i, or the target market, j, and substitute them in the numerator. At the same time, we substitute the cost criteria in the denominator.

4. Data and Empirical Results

The goal of this study is to identify the priorities of criteria affecting the exporting readiness of bottled coconut water. Toward this goal, a list of decision criteria is extracted from the literature and verified by in-depth interviews carried out with each informant independently. Subsequently, some criteria were dropped, and others were added. For example, the following criteria were dropped:

1. Even though the element "high purchasing power in popular export destinations" is commonly discussed by Vietnamese newspapers, the three experts believe that with high freight costs, distribution, and storage costs, the profit margins are not significantly affected. Thus, this element was dropped upon their request;
2. Prior to the in-depth interviews, "strict requirements of quality standards imposed from importing countries" was listed as one of the most common challenges in exporting Vietnamese agricultural products in general. However, with the deployment of automation and advanced manufacturing technologies, the quality standards are now met; accordingly, this element was also eliminated;
3. The element "complicated exporting procedure" was also eliminated. Recently, the Vietnamese government has been supporting the agricultural sector and simplifying procedures. According to the participants, the paperwork necessary for export activities can be delegated to an agency (third party) and could be completed within only one day. The participants also mentioned that Free-on-board (FOB) port policies are also followed in Vietnam;
4. The three participants asked that "lack of government support" be dropped from the list of criteria, indicating that most of the challenges they face are due to their own weaknesses, and they do not see the government being responsible for it.

Thus, the decision criteria are finalized and reported in Table 3. Accordingly, the pairwise comparison instrument is constructed, and judgments are collected from the three experts listed in Table 1.

According to the hierarchal structure in hand, the goal is set to prioritize the criteria contributing to exporting readiness of bottled coconut water in Vietnam. The second level of the hierarchy consists of the following main attributes:

(i) Industrial Assets and Investments (INDUS), which is defined by four criteria;
(ii) Marketing and Sales (MRKT), which is defined by four criteria;
(iii) Potential Profitability (PP), which is defined by four criteria;
(iv) Foothold in Target Market (TM), which is defined by three criteria.

We refer to the rankings within each of the four main groups/attributes as intra-criteria weights and ranks of criteria. On the other hand, by collapsing the attributes' boundaries, we refer to the rankings of all criteria regardless of the attributes as inter-criteria weights and ranks of criteria (See: Figure 2). The informants shared some insights related to the decision criteria in the in-depth interviews as follows:

- The informants shared concerns about the role of unpredictable environmental changes affecting the supply of raw materials;
- From 2014 onwards, Vietnamese coconut water manufacturers started importing advanced technologies, mainly from Europe, for coconut water processing to improve production time, quality, and flavor mix. The technological advances in manufacturing also helped obtain organic certification from Europe and the United States;
- According to the informants, in Vietnam, there is a lack of capital investment from cultivation to processing. For example, farmers lack the capital to renew and improve existing coconut plantations. Processing businesses do not have enough money to expand the production scale or invest in new technology and machinery. The provincial budget is not enough to invest in thorough development to increase competitive advantages for the coconut industry;
- The three experts believe that with high freight costs, distribution, and storage costs, the profit margins are not significantly affected by export activities; it is the ability to sell more that makes global expansion attractive;
- According to the experts, it is tough for Vietnam's coconut water manufacturers to own and expand their ownership of coconut water plantations to compete with foreign bulk merchants on price. Chinese merchants' influence and a well-established network with highly fragmented farmers in Vietnam make their bargaining power higher than that of local buyers; this led to higher production costs affecting profitability;
- According to the informants, the paperwork necessary for exporting activities can be delegated to an agency (third party) and completed within only one day. The participants also mentioned that Free-on-board (FOB) port policies also facilitate transactions;
- The informants shared that they rely heavily on attending global food expos to expand their foreign distribution network. Still, they recognize it as not enough, and they lack the knowledge and expertise to gain access to distribution channels in foreign markets;
- Although many firms cite financial constraints as an essential impediment to their growth, we could not explore financial factors in more depth because the informants were not comfortable disclosing information on their financial stance or discussing financial solvency.

4.1. Processing Pairwise Comparisons

A square matrix of pairwise comparisons is constructed to prioritize the decision criteria. This consistent matrix represents the intensities of the expert's preference between individual pairs of criteria alternatives. Table 4 represents the pairwise comparison matrices for each expert in this study.

We use the raw geometric mean in the normalization procedure to aggregate the scores for each expert in the decision matrix [86]. For group aggregation of criteria, we follow the procedure described by Equation (2). (See: Section 2.3). We use the AIP of each expert and feed it to the M-CRITIC-RP. The experts' normalized subjective scores are reported in Table 5.

4.2. Normalization and Group Criteria Relative Weights: M-CRITIC-RP

In order to estimate the relative importance of the decision criteria (step 4 of the AHP method explained in Section 3.3), we apply the M-CRITIC-RP method. The M-CRITIC-RP technique applies fuzzy logic and the hamming distance relative to a reference point. Table 6 represents the decision matrix weights produced by the AHP method. Given the high-quality sourced materials of organic coconuts and the strong foothold in the New Zealand market for the mediator expert, we use his/her judgments as the reference point in the normalization procedure of M-CRITIC-RP.

Now we can use the normalized scores to produce the relative importance of the four main attributes of this study to be used in step 4 of the AHP method (See: Section 2.3). Table 7 shows the weights and ranks of criteria. The M-CRITIC-RP uses the covariance distance measure in its weighting technique to produce the weights and ranks. The priorities of the INDUS, MRKT, PP, and TM are evaluated as: 18.22%, 25.66%, 20.28%, and 35.84%, respectively. Now, we use these estimated relative group criteria weights in the AHP method.

Table 4. Pairwise comparison matrices.

	Intermediary				**Industry Leader**				**Family Business**			
	INDUS 1	INDUS 2	INDUS 3	INDUS 4	INDUS 1	INDUS 2	INDUS 3	INDUS 4	INDUS 1	INDUS 2	INDUS 3	INDUS 4
INDUS 1	1	0.50	0.50	0.33	1	1	0.33	0.33	1	2	2	1
INDUS 2	2	1	0.50	1	1	1	0.33	0.33	0.5	1	0.5	0.5
INDUS 3	2	2	1	1	3	3	1	1	0.5	2	1	2
INDUS 4	3	1	1	1	3	3	1	1	1	2	0.5	1
	MRKT1	MRKT2	MRKT3	MRKT4	MRKT1	MRKT2	MRKT3	MRKT4	MRKT1	MRKT2	MRKT3	MRKT4
MRKT 1	1	0.50	3	3	1	2	2	3	1	2	2	1
MRKT 2	2	1	3	2	0.50	1	0.50	2	0.50	1	0.50	1
MRKT 3	0.33	0.33	1	0.50	0.50	2	1	1	0.50	2	1	0.50
MRKT 4	0.33	0.50	2	1	0.33	0.50	1	1	1	1	2	1
	PP 1	PP 2	PP 3	PP 4	PP 1	PP 2	PP 3	PP 4	PP 1	PP 2	PP 3	PP 4
PP 1	1	2	1	0.50	1	2	1	2	1	3	2	2
PP 2	0.50	1	2	1	0.50	1	0.50	1	0.33	1	1	1
PP 3	1	0.50	1	0.50	1	2	1	0.50	0.50	1	1	1
PP 4	2	1	2	1	0.50	1	2	1	0.50	1	1	1
	Industry Leader			Intermediary			Family Business					
	TM1	TM 2	TM 3	TM1	TM 2	TM 3	TM1	TM 2	TM 3			
TM1	1	3	3	1	0.50	1	1	1	1			
TM 2	0.33	1	2	2	1	1	1	1	0.50			
TM 3	0.33	0.50	1	1	1	1	1	2	1			

INDUS: Industrial Assets and Investments; MRKT: Marketing and Sales; PP: Potential Profitability; TM: Foothold in Target Market.

Table 5. Normalized decision matrix by M-CRITIC-RP.

	INDUS1	**INDUS2**	**INDUS3**	**INDUS4**	**MRKT1**	**MRKT2**	**MRKT3**	**MRKT4**	**PP1**	**PP2**	**PP 3**	**PP 4**	**TM1**	**TM2**	**TM3**
k_1	0.9990	0.8847	0.9544	0.9288	0.8844	0.7604	0.8684	0.9793	0.8900	0.9264	0.9264	0.8921	0.6106	0.8234	0.8078
k_2	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
k_3	0.7657	0.9825	0.9041	0.8539	0.9071	0.9738	0.9705	0.8510	0.9021	0.9948	0.9511	0.9493	0.9212	0.8349	0.9040

k_1: Industry Leader; k_2: Intermediary; k_3: Family Business.

Table 6. Decision matrix weights produced by the AHP method.

	INDUS1	INDUS2	INDUS3	INDUS4	MRKT1	MRKT2	MRKT3	MRKT4	PP1	PP2	PP 3	PP 4	TM1	TM2	TM3
k_1	0.1259	0.2343	0.3314	0.3084	0.3192	0.4079	0.1064	0.1665	0.2426	0.2426	0.1716	0.3431	0.5936	0.2493	0.1571
k_2	0.1250	0.1250	0.3750	0.3750	0.4287	0.1937	0.2304	0.1472	0.3431	0.1716	0.2426	0.2426	0.2599	0.4126	0.3275
k_3	0.3369	0.1416	0.2833	0.2382	0.3407	0.1703	0.2026	0.2865	0.4326	0.1766	0.1954	0.1954	0.3275	0.2599	0.4126

k_1: Industry Leader; k_2: Intermediary; k_3: Family Business.

Table 7. Weights and ranks of criteria by AHP.

Group Criteria Weights	Criteria	Description	Intra-Criteria		Inter-Criteria	
			Weights	Ranks	Weights	Ranks
18.22%	INDUS 1	Supply Chain Network	0.5006	1	0.1033	4
	INDUS 2	Dynamic Human Capital in Manufacturing	0.2347	2	0.0489	10
	INDUS 3	Modern Manufacturing Technology	0.1049	4	0.0190	15
	INDUS 4	Capital Investment	0.1598	3	0.0329	12
25.66%	MRKT 1	Sales Force Readiness	0.1783	4	0.0475	11
	MRKT 2	Brand Awareness	0.4178	1	0.1093	3
	MRKT 3	Quality of Raw Material	0.2033	2	0.0539	8
	MRKT 4	Position of Coconut Water in Health Category	0.2006	3	0.0535	9
20.28%	PP 1	Growing Demand in Target Markets	0.3934	1	0.0805	5
	PP 2	Fluctuating Price of Raw Martial	0.1564	3	0.0320	13
	PP 3	Trade Agreements Reducing Taxes	0.1417	4	0.0291	14
	PP 4	Transportation Costs	0.3085	2	0.0631	7
35.84%	TM1	Distribution Channels in Target Market	0.4543	1	0.1410	1
	TM 2	Competition Intensity	0.2152	3	0.0760	6
	TM 3	Reliable Sources of Information on Target Markets	0.3305	2	0.1100	2

Note: The relative group criteria (attributes) weights are produced by considering the covariance distance correlation in the weighting technique of M-CRITIC-RP [35].

4.3. Intra- and Inter-Criteria Rankings: AHP

Following the consistency analysis check of judgments, the consistency index is evaluated as 0.005. Given the number of informants is three, we use the corresponding RI (See Table 2) to evaluate the consistency ratio as 0.009, which is less than the threshold of 0.01 [84]. By using the appropriate aggregation method, Table 8 shows the corresponding intra- and inter-criteria weights and ranks. We confirm that the group weights used in the AHP method to report these results are produced by the M-CRITIC-RP, which considers the covariance distance correlation in its weighting technique. The distance covariance measure allows to capture linear and non-linear relationships among criteria. We also note that the intermediary firm was used as a reference point to produce the rankings of the large-scale leader and small-scale family business, while the set of the average values of criteria weights of experts is used as the reference point for the ranking of the criteria of the intermediary firm.

Table 8. More numerical examples.

	Leader		**Family Business**		**Intermediary**	
Criteria	**Intra-Criteria**	**Inter-Criteria**	**Intra-Criteria**	**Inter-Criteria**	**Intra-Criteria**	**Inter-Criteria**
INDUS 1	1	2	1	4	1	4
INDUS 2	3	9	3	11	2	10
INDUS 3	4	13	4	13	4	15
INDUS 4	2	7	2	9	3	12
MRKT 1	4	10	4	12	4	11
MRKT 2	1	3	1	2	1	3
MRKT 3	3	8	3	10	2	8
MRKT 4	2	6	2	8	3	9
PP 1	1	11	1	5	1	5
PP 2	3	14	3	14	3	13
PP 3	4	15	4	15	4	14
PP 4	2	12	2	7	2	7
TM1	1	1	1	1	1	1
TM 2	2	4	3	6	3	6
TM 3	3	5	2	3	2	2

Results in intra-criteria rankings show that the top four important criteria in each group criteria are:

(1) Supply chain network (INDUS 1) in the INDUS group criteria;
(2) Brand awareness (MRKT 2) in the MRKT group criteria;
(3) Growing demand in the target market (PP 1) in the PP group criteria;
(4) Distribution channels in the target market (TM 1) in the TM group criteria.

Inter-criteria rankings also show overlapping factors; however, they differ in their ranking. The top five inter-criteria rankings of large-scale leaders are:

(1) Distribution channels in the target market (TM 1);
(2) Supply chain network (INDUS 1);
(3) Brand awareness (MRKT 2);
(4) Reliable sources of information on target markets (TM 2);
(5) Reliable sources of information on target markets (TM 3).

However, the top five inter-criteria rankings of small-scale family businesses are:

(1) Distribution channels in the target market (TM 1);
(2) Brand awareness (MRKT 2);
(3) Reliable sources of information on target markets (TM 3);
(4) Supply chain network (INDUS 1);

(5) Growing demand in target markets (PP1).

The industry leader and the family business shared their concerns regarding their marketing abilities and their branding capabilities; they believe marketing is one of the most important factors they need to improve. Such input obtained from in-depth interviews comes in agreement with the resulting rankings. The least important inter-criteria three factors in order from the least important according to the large- and small-scale manufacturers are:

(1) Trade agreements reducing taxes (PP 3), ranked 15th;
(2) The fluctuating price of raw materials (PP 2), ranked 14th;
(3) Modern manufacturing technology (INDUS 3), ranked 13th.

The industry leader ranked PP4: Transportation Costs as 12 and PP1: Growing Demand in Target Markets as 11. At the same time, the family business ranked MRKT 1: Sales force readiness as 12 and INDUS 2: Dynamic Human Capital in Manufacturing as 11.

The rankings come in conformation with what the informants shared in the interview. Based on the translated report of [43], the researcher believed technology in the manufacturing sector was underdeveloped; however, the informants shared that they had already installed state-of-the-art technology to meet global standards for exporting and that it allowed them to maintain the quality of coconut water. The informants perceive the tax policies as confusing; while foreign investors buying bulk coconut water enjoy huge facilitation and tax reduction and fee waiver, local manufacturers suffer the consequences of such policies. Yet, they do not believe this hinders their efforts to exporting, but rather gives a privilege of Filipino and Chinese investors sourcing their coconut water from Vietnam. The fluctuating price of raw materials was also one of the least important factors for the three companies interviewed; the abundance of the available volume of raw materials in Vietnam is more important than the pricing. As per capital investment, despite the fact that the informants shared that short-term loans with high interest do not support sustainable coconut development, it seems that other factors in the instrument were more important to them, since there is no complete absence of a loan scheme in place. All three informants agree that sales force readiness is one of their most important weaknesses, yet it seems that other criteria are far more important.

4.4. Target Market Potential: Gravity Trade Model with MCDM

Following the criteria ranking, we identified beneficial factors/criteria related to the Vietnamese manufacturer (i) and the target market (j) and also the cost criteria (D), as shown in Table 9. The group criteria weights obtained from Table 7 are multiplied by the expert criteria weights to produce the final criteria weights. Finally, the average of factors belonging to M_i, M_j, and D_{ij} are computed, and Equation (13) is applied to compute E_{ij}.

The results indicate that the export potential of large-scale manufacturers to the U.S. market ($E_{ij} = 0.225$) is higher than that of the small-scale market to the European Union ($E_{ij} = 0.170$) by 32.5%. The difference in the quantifiable scores is based on the criteria attribution obtained from the in-depth interviews with each expert, and the subject criteria weights obtained from each expert in a pairwise form.

Table 9. Target market potential per expert.

k_1	**INDUS1**	**INDUS2**	**INDUS3**	**INDUS4**	**MRKT1**	**MRKT2**	**MRKT3**	**MRKT4**	**PP1**	**PP2**	**PP 3**	**PP 4**	**TM1**	**TM2**	**TM3**
	i	***D***	***i***	***D***	***D***	***D***	***i***	***j***	***j***	***D***	***i***	***D***	***D***	***D***	***j***
	benefit	cost	benefit	cost	cost	cost	benefit	benefit	benefit	cost	benefit	cost	cost	cost	benefit
Expert Criteria Weights	0.999	0.8847	0.9544	0.9288	0.8844	0.7604	0.8684	0.9793	0.89	0.9264	**0.9264**	0.8921	0.6106	0.8234	0.8078
Group Criteria Weight	0.1822	0.1822	0.1822	0.1822	0.2566	0.2566	0.2566	0.2566	0.2028	0.2028	0.2028	0.2028	0.3584	0.3584	0.3584
Final Criteria Weight	0.182	0.161	0.174	0.169	0.227	0.195	0.223	0.251	0.180	0.188	0.188	0.181	0.219	0.295	0.290
	i	*0.192*		***j***	*0.240*		***D***	*0.204*		***E***	0.225				
k_3	**INDUS1**	**INDUS2**	**INDUS3**	**INDUS4**	**MRKT1**	**MRKT2**	**MRKT3**	**MRKT4**	**PP1**	**PP2**	**PP 3**	**PP 4**	**TM1**	**TM2**	**TM3**
	i	***D***	***D***	***D***	***D***	***D***	***i***	***j***	***j***	***i***	***D***	***D***	***D***	***D***	***D***
	benefit	cost	cost	cost	cost	cost	benefit	benefit	benefit	benefit	cost	cost	cost	cost	cost
Expert Criteria Weights	0.7657	0.9825	0.9041	0.8539	0.9071	0.9738	**0.9705**	0.851	0.9021	**0.9948**	0.9511	0.9493	0.9212	0.8349	0.904
Group Criteria Weight	0.1822	0.1822	0.1822	0.1822	0.2566	0.2566	0.2566	0.2566	0.2028	0.2028	0.2028	0.2028	0.3584	0.3584	0.3584
Final Criteria Weight	0.140	0.179	0.165	0.156	0.233	0.250	0.249	0.218	0.183	0.202	0.193	0.193	0.330	0.299	0.324
	i	0.197		***j***	0.201		***D***	0.232		***E***	0.170				

k_1: Industry leader; k_3: family business; ***i***: bottled coconut water manufacturer factors; ***j***: target market factors; ***D***: cost factors; ***E***: export potential.

5. Conclusions

Along with the growing demand for coconut water as a healthy natural drink, the bottled coconut water sector faces challenges in balancing resource consumption, environmental impacts, and yields, therefore, ascertaining the potential to improve sustainability in export potential. Vietnam leads the SEA countries in terms of the regional growth rate of coconut production, yet its sustainability, in the long run, is questionable because Vietnam lacks, according to our study, a credible strategy to reap the benefits of export potential. While Vietnam is trying to improve exports and progress as an emerging economic model, this study identifies key criteria necessary for identifying the export potential of coconut water. Examining the case of bottled coconut water highlights the manufacturer's capacities required to achieve sustainability in profitability, capital and industrial investments, and marketing and sales to achieve a sustainable foothold in the target market.

To answer the first research question, our in-depth interviews and literature review of the topic identified fifteen crucial criteria structured under four main criteria groups: industrial assets and investments, marketing and sales, potential profitability, and foothold in the target market. All experts agreed on the criteria with 96% consensus. The relative weights of group criteria indicate the importance of a foothold in the target market (35.84%), followed by marketing and sales operations (25.66%). In third and fourth place comes the potential profitability (20.28%) and industrial assets and investments (18.22%).

The second research question is addressed by ranking the inter- and intra- criteria weights obtained from the MCDM methods. The intra-criteria rankings assert that the supply of raw materials is the most important in the industrial assets and investment group criteria. In marketing and sales group criteria, brand awareness is the most important. The growing demand in target markets is the most important in terms of potential profitability group criteria, and distribution channels in target markets are the most important in foothold in target market group criteria.

The inter-criteria rankings presented in Table 8 show how large-scale and low-scale manufacturers prioritize these factors differently. Four out of the top five factors overlap, however, with different levels of prioritization. Only the factor distribution channels in target markets are ranked first by both manufacturers. An interesting observation is that none of the top five ranked factors by large-scale manufacturers belong to the potential profitability group criteria. In regard to the three least important factors, both manufacturers agree on the rankings of the following three factors: (i) trade agreements reducing taxes, ranked 15th; (ii) fluctuating price of raw material, ranked 14th; and (iii) modern manufacturing technology, ranked 13th.

Our study also computes export competitiveness among small- and large-scale manufacturers of the study to the European and U.S. markets, respectively. By incorporating the weights obtained from the MCDM method into the basic gravity model of trade, we are able to quantify the export readiness of bottled coconut water manufacturers. The results indicate that the large-scale manufacturer has a higher export potential ($E_{ij} = 0.225$) than small-scale manufacturers ($E_{ij} = 0.170$) to its target market by a significant increase rate of 32.5%. At the same time, this result is expected if the classical gravity of trade model is used in conjunction with the market size variable [30] due to the fact that the leader is considered a large-scale manufacturer compared to the family business. This further validates the application of criteria weights obtained by MCDM as a proxy of the market size and cost in the gravity of the basic trade model. Moreover, our results draw researchers' and policymakers' attention to the importance of considering how firms and manufacturers prioritize key factors to export readiness and its impact on their export potential with their target markets.

Only about 10% of coconut water manufacturers in Vietnam were interviewed (3/30). Despite this limitation, the in-depth interviews have given valuable insights into the inclusion and exclusion of some decision criteria. However, despite this limitation, the results could be generalized across bottled coconut water-producing countries in SEA. Future work could involve incorporating data collected from various sources with a higher

number of criteria. It could also entail considering the scenario of interrelated criteria, for example, to rank the variables for consideration in the model-building stage in big data projects.

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References

1. Debnath, B.; Shakur, M.S.; Bari, A.M.; Karmaker, C.L. A Bayesian Best–Worst approach for assessing the critical success factors in sustainable lean manufacturing. *Decis. Anal. J.* **2023**, *6*, 100157. [CrossRef]
2. Aschemann-Witzel, J.; Bizzo, H.R.; Doria Chaves, A.C.S.; Faria-Machado, A.F.; Gomes Soares, A.; de Oliveira Fonseca, M.J.; Kidmose, U.; Rosenthal, A. Sustainable use of tropical fruits? Challenges and opportunities of applying the waste-to-value concept to international value chains. *Crit. Rev. Food Sci. Nutr.* **2023**, *63*, 1339–1351. [CrossRef]
3. Rethinam, P.; Krishnakumar, V. Tender coconut varieties. In *Coconut Water: A Promising Natural Health Drink-Distribution, Processing and Nutritional Benefits*; Springer International Publishing: Cham, Switzerland, 2022; pp. 37–76. [CrossRef]
4. Rethinam, P.; Krishnakumar, V. Value addition in coconut water. In *Coconut Water: A Promising Natural Health Drink-Distribution, Processing and Nutritional Benefits*; Springer International Publishing: Cham, Switzerland, 2022; pp. 287–384. [CrossRef]
5. Groth, A.; Goldschein, E. The Amazing Story of How Coconut Water Took Over the Beverage Industry. Business Insider. 2011. Business Insider. Available online: https://www.businessinsider.com/coconut-water-brands-2011-9 (accessed on 12 January 2023).
6. Communist Party of Vietnam: Online Newspaper. Vietnam Expects to Earn 1 Billion USD from Coconut Product Exports in 2023. Compiled by BTA. 2023. Available online: https://en.dangcongsan.vn/daily-hot-news/vietnam-expects-to-earn-1-billion-usd-from-coconut-product-exports-in-2023-603206.html (accessed on 5 October 2022).
7. Ben Tre Coconut Association. Bentre Coconut Products Export. Ben Tre Coconut Association Website. 2016. Available online: http://www.congthuongbentre.gov.vn/home/tinh-hinh-xuat-khau-cac-san-pham-dua-o-ben-tre-thang-01-2016-W3488.htm (accessed on 5 October 2022).
8. Narayan, S.; Bhattacharya, P. Relative export competitiveness of agricultural commodities and its determinants: Some evidence from India. *World Dev.* **2019**, *117*, 29–47. [CrossRef]
9. Kuo, S.W.; Ranis, G. *The Taiwan Success Story: Rapid Growith with Improved Distribution in the Republic of China, 1952–1979*; Routledge: New York, NY, USA, 2020. [CrossRef]
10. Wardhana, A.K.; Ratnasari, R.T. Impact of Agricultural Land and the Output of Agricultural Products Moderated with Internet Users toward the Total export of Agricultural Product in Three Islamic South East Asian Countries. *Iqtishodia J. Ekon. Syariah* **2022**, *7*, 11–20. [CrossRef]
11. Zakaria, M.H.; Amin, M.Z.; Ahmad, M.F.; Dani, M.S. Market potential and competitiveness assessment of Malaysian coconut-based products. *Econ. Technol. Manag. Rev.* **2022**, *18*, 11–22.
12. Narmadha, N.; Karunakaran, K.R. A study on trade competitiveness of Indian Coconut Products. *Indian J. Econ. Dev.* **2022**, *18*, 868–875. [CrossRef]
13. Hebbar, K.B.; Pandiselvam, R.; Beegum, P.P.; Ramesh, S.V.; Manikantan, M.R.; Mathew, A.C. Seventy five years of research in processing and product development in plantation crops-Coconut, arecanut and cocoa. *Int. J. Innov. Hortic.* **2022**, *11*, 103–119. [CrossRef]
14. Mulyadi, H.; Nazamuddini, B.S.; Seftarita, C. What Determines Exports of Coconut Products? The Case of Indonesia. *Int. J. Acad. Res. Econ. Manag. Sci.* **2019**, *8*, 117–182. [CrossRef]
15. Kuwornu, J.K.; Moreno, M.L.; Martey, E. Assessment of the factors influencing the export of coconut from the Philippines. *Int. J. Value Chain Manag.* **2020**, *11*, 366–388. [CrossRef]
16. Prasannath, V. Export performance of coconut sector of Sri Lanka. *South Asian J. Soc. Stud. Econ.* **2020**, *6*, 35–43. [CrossRef]

17. Khanh Nguyen, H.T.; Nang Thu, T.T.; Lebailly, P.; Azadi, H. Economic challenges of the export-oriented aquaculture sector in Vietnam. *J. Appl. Aquac.* **2019**, *31*, 367–383. [CrossRef]
18. Nguyen, T.A.T.; Nguyen, Q.T.T.; Tran, T.C.; Nguyen, K.A.T.; Jolly, C.M. Balancing the aquatic export supply chain strategy-A case study of the Vietnam pangasius industry. *Aquaculture* **2023**, *566*, 739139. [CrossRef]
19. NGO, M.; VU, Q.; Liu, R.; Moritaka, M.; Fukuda, S. *Challenges for the Development of Safe Vegetables in Vietnam: An Insight into the Supply Chains in Hanoi City*; Faculty of Agriculture, Kyushu University: Fukuoka, Japan, 2019.
20. Van Hong, P.; Nguyen, N.T.; Huy, D.T.N.; Thuy, N.T.; Huong, L.T.T. Evaluating several models of quality management and impacts on lychee price applying for Vietnam agriculture products value chain sustainable development. *Alinteri J. Agric. Sci.* **2021**, *36*, 122–130.
21. Tu, V.H.; Kopp, S.W.; Trang, N.T.; Kontoleon, A.; Yabe, M. UK consumers' preferences for ethical attributes of floating rice: Implications for environmentally friendly agriculture in Vietnam. *Sustainability* **2021**, *13*, 8354. [CrossRef]
22. Van Huong, N.; Van Hung, H.; Huyen, M.T.; Diep, N.T.B.; Duc, H.M.; Van Chuong, N. Impact of accession to WTO on agriculture sector in vietnam. *AgBioForum* **2021**, *23*, 56–64.
23. Truong, H.D. A Study to Investigate Possible Advantages of Vietnam in Exporting Agricultural Products to the European Union. 2023. Available online: https://urn.fi/URN:NBN:fi:amk-202305057990 (accessed on 5 October 2022).
24. Agbude, E. Changes in the Export Trade Relationship between Vietnam and the US. Master's Thesis, Norwegian University of Life Sciences, Ås, Norway, 2023. Available online: https://hdl.handle.net/11250/3076790 (accessed on 5 October 2022).
25. Hossen, M.A.; Talukder, M.R.A.; Al Mamun, M.R.; Rahaman, H.; Paul, S.; Rahman, M.M.; Miaruddin; Ali, A.; Islam, M.N. Mechanization status, promotional activities and government strategies of Thailand and Vietnam in comparison to Bangladesh. *AgriEngineering* **2020**, *2*, 489–510. [CrossRef]
26. Bui, H.T.M.; Nguyen, H.T.T. Factors influencing farmers' decision to convert to organic tea cultivation in the mountainous areas of northern Vietnam. *Org. Agric.* **2021**, *11*, 51–61. [CrossRef]
27. Zainol, F.A.; Arumugam, N.; Daud, W.N.W.; Suhaimi, N.A.M.; Ishola, B.D.; Ishak, A.Z.; Afthanorhan, A. Coconut Value Chain Analysis: A Systematic Review. *Agriculture* **2023**, *13*, 1379. [CrossRef]
28. Hoang, V.V.; Tran, K.T. Comparative advantages of alternative crops: A comparison study in Ben Tre, Mekong Delta, Vietnam. *AGRIS Online Pap. Econ. Inform.* **2019**, *11*, 35–47. [CrossRef]
29. Ha, V.T.C.; Holmes, M.J.; Le, T.M. Firms and export performance: Does size matter? *J. Econ. Stud.* **2020**, *47*, 985–999. [CrossRef]
30. Market Watch. Coconut Water Market Size Sale 2021. 2021. Available online: https://www.marketwatch.com/press-release/coconut-water-market-size-sale-2021-regions-will-have-the-highest-revenue-which-will-emerge-in-importance-in-the-market-2026-2021-02-04 (accessed on 5 October 2022).
31. Businesswire. World Coconuts Market Analysis, Forecast, Size, Trends and Insights Report 2019. 2019. Available online: https://www.businesswire.com/news/home/20190919005726/en/World-Coconuts-Market-Analysis-Forecast-Size-Trends-and-Insights-Report-2019{-}{-}-ResearchAndMarkets.com (accessed on 5 October 2022).
32. Miljkovic, B.; Zizovic, M.; Petojevic, A.; Damljanovic, N. *New Weighted Sum Model*; Faculty of Sciences and Mathematics, University of Nis, Serbia: Nis, Serbia, 2017. Available online: http://www.pmf.ni.ac.rs/filomat (accessed on 5 October 2022).
33. Alinezhad, A.; Khalili, J. *New Methods and Applications in Multiple Attribute Decision Making (MADM)*; Springer International Publishing: Berlin/Heidelberg, Germany, 2019. [CrossRef]
34. Ouenniche, J.; Perez-Gladish, B.; Bouslah, K. An out-of-sample framework for TOPSIS-based classifiers with application in bankruptcy prediction. *Technol. Forecast. Soc. Chang.* **2018**, *131*, 111–116. [CrossRef]
35. Vafaei, N.; Ribeiro, R.A.; Camarinha-Matos, L.M. Data normalisation techniques in decision making: Case study with TOPSIS method. *Int. J. Inf. Decis. Sci.* **2018**, *10*, 19–38. [CrossRef]
36. Sharkasi, N.; Rezakhah, S. A modified CRITIC with a reference point based on fuzzy logic and hamming distance. *Knowl.-Based Syst.* **2022**, *255*, 109768. [CrossRef]
37. Isard, W. Location Theory and Trade Theory: Short-Run Analysis. *Q. J. Econ.* **1954**, *68*, 305–322. [CrossRef]
38. Future Market Insight. Analysis and Review of Coconut Water by Nature–Organic and Conventional for 2020. 2020. Available online: https://www.futuremarketinsights.com/reports/coconut-water-market (accessed on 5 October 2022).
39. Grand View Research. Coconut Water Market Size, Share & Trends Report. 2022. Available online: https://www.grandviewresearch.com/industry-analysis/coconut-water-market (accessed on 5 October 2022).
40. Salum, U.; Foale, M.; Biddle, J.; Bazrafshan, A.; Adkins, S. Towards the Sustainability of the "Tree of Life": An Introduction. In *Coconut Biotechnology: Towards the Sustainability of the 'Tree of Life'*; Adkins, S., Foale, M., Bourdeix, R., Nguyen, Q., Biddle, J., Eds.; Springer: Cham, Switzerland, 2020. [CrossRef]
41. Shahbandeh, M. Coconut Production Worldwide in 2019, by Leading Country. 2021. Available online: https://www.statista.com/statistics/1040499/world-coconut-production-by-leading-producers/ (accessed on 5 October 2022).
42. Shahbandeh, M. Coconut Production Worldwide from 2000 to 2019. 2021. Available online: https://www.statista.com/statistics/577497/world-coconut-production/ (accessed on 5 October 2022).
43. Tran, T.K. *Coconut Value Chain Analysis Report in Ben Tre*; IFAD & Ben Tre Province Government People's Committee: Rome, Italy, 2011.
44. Miller, E. The World's Top Coconut Producers Face Challenges. Farmfolio. 26 Septemeber 2020. Available online: https://farmfolio.net/articles/the-worlds-top-coconut-producers-face-challenges/ (accessed on 5 October 2022).

45. Asia Pacific Coconut Community. Vietnam Coconut Industry. 2021. Available online: http://www.apccsec.org/VIETNAM.HTM (accessed on 20 January 2023).
46. Lamoureux, S.M.; Movassaghi, H.; Kasiri, N. The Role of Government Support in SMEs' Adoption of Sustainability. *IEEE Eng. Manag. Rev.* **2019**, *47*, 110–114. [CrossRef]
47. Pai, R.; Chattopadhyay, G.; Karmakar, G. Maintenance and asset management practices of industrial assets: Importance of tribological practices and digital tools. *Int. J. Process Manag. Benchmarking* **2023**, *13*, 233–256. [CrossRef]
48. Khan, N.A.; Ahmed, W.; Waseem, M. Factors influencing supply chain agility to enhance export performance: Case of export-oriented textile sector. *Rev. Int. Bus. Strategy* **2022**, *33*, 301–316. [CrossRef]
49. Faroque, A.R.; Ahmed, F.U.; Rahman, M.; Gani, M.O.; Mortazavi, S. Exploring the individual and joint effects of founders' and managers' experiential knowledge on international opportunity identification. *Asian Bus. Manag.* **2022**, 1–27. [CrossRef]
50. Yildiz, H.E.; Morgulis-Yakushev, S.; Holm, U.; Eriksson, M. How do the source and context of experiential knowledge affect firms' degree of internationalization? *J. Bus. Res.* **2022**, *153*, 378–391. [CrossRef]
51. Shela, V.; Ramayah, T. Noor Hazlina, A. Human capital and organizational resilience in the context of manufacturing: A systematic literature review. *J. Intellect. Cap.* **2023**, *24*, 535–559. [CrossRef]
52. Sayavong, V. Technical inefficiency of the manufacturing sector in Laos: A case study of the firm survey. *J. Asian Bus. Econ. Stud.* **2022**, *29*, 314–332. [CrossRef]
53. Donbesuur, F.; Hultman, M.; Oghazi, P.; Boso, N. External knowledge resources and new venture success in developing economies: Leveraging innovative opportunities and legitimacy strategies. *Technol. Forecast. Soc. Chang.* **2022**, *185*, 122034. [CrossRef]
54. Hosein, R.; Satnarine-Singh, N.; Saridakis, G. Analyzing the trade potential of SIDs with a focus on CARICOM's small resource exporters. *J. Int. Trade Econ. Dev.* **2023**, 1–24. [CrossRef]
55. Wang, K.; Tao, W. Exploring the complementarity between product exports and foreign technology imports for innovation in emerging economic firms. *Eur. J. Mark.* **2019**, *53*, 224–256. [CrossRef]
56. Sunley, P.; Martin, R. Place and industrial development: Paths to understanding? In *Handbook of Industrial Development*; Edward Elgar Publishing: Cheltenham, UK, 2023; Chapter 8; pp. 133–150.
57. Sakata, S. (Ed.) *New Trends and Challenges for Agriculture in the Mekong Region: From Food Security to Development of Agri-Businesses*; BRC Research Report; Bangkok Research Center, JETRO Bangkok/IDE-JETRO: Bangkok, Thailand, 2019.
58. Miravitlles, P.; Mora, T.; Achcaoucaou, F. Corporate financial structure and firm's decision to export. *Manag. Decis.* **2018**, *56*, 1526–1540. [CrossRef]
59. Risitano, M.; Romano, R.; Rusciano, V.; Civero, G.; Scarpato, D. The impact of sustainability on marketing strategy and business performance: The case of Italian fisheries. *Bus. Strategy Environ.* **2022**, *31*, 1538–1551. [CrossRef]
60. Wu, R. Innovation or Imitation? The Impacts of Financial Factors on Green and General Research and Development. *Int. Rev. Econ. Financ.* **2023**. [CrossRef]
61. Bernarto, I.; Purwanto, A. The Effect of Perceived Risk, Brand Image and Perceived Price Fairness on Customer Satisfaction. Brand Image and Perceived Price Fairness on Customer Satisfaction (1 March 2022). 2022. Available online: https://ssrn.com/abstract=4046393 (accessed on 20 January 2023).
62. Pyper, K.; Doherty, A.M.; Gounaris, S.; Wilson, A. Investigating international strategic brand management and export performance outcomes in the B2B context. *Int. Mark. Rev.* **2019**, *37*, 98–129. [CrossRef]
63. Hao, A.W.; Paul, J.; Trott, S.; Guo, C.; Wu, H.H. Two decades of research on nation branding: A review and future research agenda. *Int. Mark. Rev.* **2021**, *38*, 46–69. [CrossRef]
64. Gao, J.; Wang, T.; Jia, Y. and Wang, C.L. How and when do exporters benefit from an international adaptation strategy? The moderating effect of formal and informal institutional distance. *Int. Mark. Rev.* **2022**, *39*, 1390–1416. [CrossRef]
65. Rethinam, P.; Krishnakumar, V. Global Scenario of Coconut and Coconut Water. In *Coconut Water*; Springer: Cham, Switzerland, 2022. [CrossRef]
66. Shahzad, U.; Madaleno, M.; Dagar, V.; Ghosh, S.; Doğan, B. Exploring the role of export product quality and economic complexity for economic progress of developed economies: Does institutional quality matter? *Struct. Change Econ. Dyn.* **2022**, *62*, 40–51. [CrossRef]
67. Ferdous, S.; Ikeda, M. Value creation and competitive advantages for the shrimp industries in Bangladesh: A value chain approach. *J. Agribus. Dev. Emerg. Econ.* **2018**, *8*, 518–536. [CrossRef]
68. Starbucks Stories and News. Starbucks Top 10 Consumer Products and Trends of the Year. 2016. Available online: https://stories.starbucks.com/stories/2016/starbucks-top-10-consumer-products-and-trends-of-2016/ (accessed on 20 January 2023).
69. Rethinam, P.; Krishnakumar, V. *Coconut Water: A Promising Natural Health Drink-Distribution, Processing and Nutritional Benefits*; Springer Nature: Berlin/Heidelberg, Germany, 2022.
70. Conway, J. Global Coconut Water Consumption 2009–2015. 2020. Available online: https://www.statista.com/statistics/690202/global-consumption-coconut-water/ (accessed on 20 January 2023).
71. Türkcan, K.; Majune Kraido, S.; Moyi, E. Export margins and survival: A firm-level analysis using Kenyan data. *S. Afr. J. Econ.* **2022**, *90*, 149–174. [CrossRef]
72. De Souza, J.P.A.; Gómez-Ramírez, L. The paradox of Mexico's export boom without growth: A demand-side explanation. *Struct. Change Econ. Dyn.* **2018**, *47*, 96–113. [CrossRef]
73. Solleder, J.M. Market power and export taxes. *Eur. Econ. Rev.* **2020**, *125*, 103425. [CrossRef]

74. Chen, T.; Qiu, Y.; Wang, B.; Yang, J. Analysis of effects on the dual circulation promotion policy for cross-border e-commerce B2B export trade based on system dynamics during COVID-19. *Systems* **2022**, *10*, 13. [CrossRef]
75. Lulaj, E.; Dragusha, B.; Hysa, E. Investigating Accounting Factors through Audited Financial Statements in Businesses toward a Circular Economy: Why a Sustainable Profit through Qualified Staff and Investment in Technology? *Adm. Sci.* **2023**, *13*, 72. [CrossRef]
76. Hafner, K.A.; Kleinert, J.; Spies, J. Endogenous transport costs and international trade. *World Econ.* **2023**, *46*, 560–597. [CrossRef]
77. Murshed, M.; Ahmed, R.; Al-Tal, R.M.; Kumpamool, C.; Vetchagool, W.; Avarado, R. Determinants of financial inclusion in South Asia: The moderating and mediating roles of internal conflict settlement. *Res. Int. Bus. Financ.* **2023**, *64*, 101880. [CrossRef]
78. Morrish, S.C.; Earl, A. Networks, institutional environment and firm internationalization. *J. Bus. Ind. Mark.* **2021**, *36*, 2037–2048. [CrossRef]
79. Porter, M.E. *Competitive Advantage*; The Free Press: New York, NY, USA, 1985.
80. Cho, H.E.; Lee, J.H.; Jeong, I. Launching new products in international markets: Waterfall versus sprinkler strategy of Korean SMEs. *Int. Mark. Rev.* **2023**, *40*, 224–245. [CrossRef]
81. Michel, S.; Saucède, F.; Pardo, C.; Fenneteau, H. Business interaction and institutional work: When intermediaries make efforts to change their position. *Ind. Mark. Manag.* **2018**, *80*, 266–279. [CrossRef]
82. Saaty, T.L. *The Analytic Hierarchy Prcess*; McGraw-Hill International: New York, NY, USA, 1980.
83. Mardani, A.; Jusoh, A.; Nor, K.; Khalifah, Z.; Zakwan, N.; Valipour, A. Multiple criteria decision-making techniques and their applications—A review of the literature from 2000 to 2014. *Econ. Res.-Ekon. Istraživanja* **2015**, *28*, 516–571. [CrossRef]
84. Ossadnik, W.; Schinke, S.; Kaspar, H.R. Group aggregation techniques for analytic hierarchy process and analytic network process: A comparative analysis. *Group Decis. Negot.* **2016**, *25*, 421–457. [CrossRef]
85. Saaty, T.L.; Vargas, L.G. *Models, Methods, Concepts & Applications of the Analytic Hierarchy Process*; Springer Science & Business Media: New York, NY, USA, 2012. [CrossRef]
86. Diakoulaki, D.; Mavrotas, G.; Papayannakis, L. Determining objective weights in multiple criteria problems:The critic method. *Comput. Oper. Res.* **1995**, *22*, 763–770. [CrossRef]
87. Jahan, A.; Edwards, K.L. A state-of-the-art survey on the influence of normalization techniques in ranking: Improving the materials selection process in engineering design. *Mater. Design.* **2014**, *65*, 335–342. [CrossRef]
88. Krishnan, A.R.; Kasim, M.M.; Hamid, R.; Ghazali, M.F. A modified CRITIC method to estimate the objective weights of decision criteria. *Symmetry* **2021**, *13*, 973. [CrossRef]