

A HYBRID MULTI-CRITERIA DECISION-MAKING TECHNIQUE FOR INTERNATIONAL MARKET SELECTION IN SMEs

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Abstract: Traditional market selection analysis relies purely on macroeconomic and political factors and fails to account for cultural aspects. Also, international market selection systematic models lack to incorporate hybrid techniques to systematically reduce the uncertainty by comparing results and examining the similarities and differences of the various approaches. The paper aims to present a multi-criteria decision-making model combined with a qualitative technique to make strategic decisions while selecting an international market. Using a hybrid approach, it was examined 18 coffee-producing SMEs to contrast the current multi-criteria model with the firms' qualitative approach. Thus, the study offers novelty by incorporating a cultural dimension in a multi-criteria model and combining this quantitative approach with a qualitative approach to validate a hybrid approach and thus gain more reliable decision-making while selecting markets abroad. The contribution of the study is twofold. First, the study offers insights into international business by analyzing the relationship between international market selection and small and medium-sized enterprises from novel contexts. Second, the study proposes a multi-criteria decision-making model combined with a qualitative technique to make accurate and strategic decisions while selecting foreign markets.

Key words: International market selection, multi-criteria models, SMEs, management

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Introduction

One key strategic decision in a firm's internationalization process is International Market Selection (IMS). Entering new foreign markets requires a significant commitment of strategic, technical, managerial and financial resources (Ellis, 2000; He and Wei, 2011). Due to the limitation of assets, a firm must make a strategic decision on which market to enter and allocate resources. Then, the choice of a

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market critically impacts a firm's performance because it may affect its strategic competitiveness, production costs, operation, transactions and ability to coordinate international activities (O'Farrell and Wood, 1994). IMS must match the firm's own-specific resources and capabilities for optimal performance (Brouthers et al., 2009; Martín, Chetty and Bai, 2022; Tabares, Alvarez and Urbano, 2015).

Although IMS plays a significant role in attaining international performance, it is a complex decision requiring managers to evaluate target countries, which can be difficult (Clark, Li and Shepherd, 2018; Mersland, Nyarko and Sirisena, 2020). Thus, IMS implies critical decisions that could lead to success or failure (Sakarya, Eckman and Hyllegard, 2007). A correct market selection could bring greater probabilities of success and long-term maintenance. Otherwise, an incorrect decision can be costly and lead the company to failure. Different authors argue that IMS also plays a significant role in determining success in international markets. As such, the use of a systematic methodology in selecting foreign export markets appears to play a role in SMEs' export success (Brouthers and Nakos, 2005).

According to Martín et al. (2022), for Small and Medium-sized Enterprises (SMEs), IMS is a bounded rational decision involving risk, uncertainty, lack of information and managerial cognitive limitations. Thus, decision-making requires systematic and rigorous analysis to make accurate and timely decisions. This approach implies effortful and deliberate calculations that are slower, more precise, controlled, and rational (Clark et al., 2018) to improve international performance (He and Wei, 2011). While the literature emphasizes the importance of IMS leading to SME performance, little is known about how IMS is made in SMEs, and there is a dearth of studies on agricultural firms from emerging economies (Baena-Rojas, Vanegas-López and López-Cadavid, 2021; Schu and Morschett, 2017).

Since SMEs mostly use cognition and qualitative models to select a target market abroad, the IMS literature calls for more robust models incorporating not only macroeconomic but also cultural factors, as well as qualitative and quantitative methods (Sakarya et al., 2007). Following this argument, SMEs require a methodology to analyze the decision-making criteria and select markets more favourably (Vanegas-López, Baena-Rojas, López-Cadavid and Mathew, 2021). In this sense, multi-criteria decision-making (MCDM) models stand out as methods that support this IMS decision-making (Aghdaie, Zolfani and Zavadskas, 2013). However, although different MCDM models have been widely used to make good decisions while selecting international markets, companies and scholars are increasingly becoming aware of the need for combining functional MCDM models with qualitative techniques (Aghdaie et al., 2013; Vanegas-López et al., 2021) to obtain results with a higher level of precision on the criteria analysis (Brouthers and Nakos, 2005).

Following the demands in the literature, the purpose of this study is to present a multi-criteria decision-making model combined with a qualitative technique to make accurate and strategic decisions while selecting international markets. The research question is: What is a functional technique for SMEs to make accurate and strategic

decisions when selecting international markets? In doing so, the study presents a quantitative MCMD model incorporating a qualitative tool to validate the relevance of the multi-criteria model criteria and thus gain more reliable decision-making while selecting markets abroad. To empirically test the hybrid technique, the authors analyzed 18 roasted coffee-producing SMEs from Manizales (Colombia), one Latin American emerging economy that may enrich IMS research.

This study contributes to both theoretical and practical perspectives. Concerning the theoretical implications, the study makes some contributions. First, the study offers insights into international business by analyzing the relationship between IMS and SMEs IP from novel contexts. More specifically, the study directly responds to the call regarding research on how international SMEs from emerging economies specialized in roasted coffee production apply the international market selection. Second, the study proposes a multi-criteria decision-making model combined with a qualitative technique to make accurate and strategic decisions while selecting international markets. The paper directly responds to a call regarding research on more robust models incorporating cultural factors and combining quantitative and qualitative methods that are scarce in this area of knowledge.

In this regard, the structure of this article is divided into four parts. The first part begins with a literature review, showing the relevance of IMS for decision-making and the methodological approaches that have been developed, including MCDM techniques and their factors. The second part highlights the methodological proposal of this study, where the researchers present and describe a multi-criteria decision-making model combined with a qualitative technique. The third part presents the results and the ideal markets for exporting roasted coffee. Finally, the conclusions show the findings and offer theoretical and managerial implications and future research directions.

Literature Review

IMS is a strategic key decision and a critical success factor in a firm's internationalization strategy (He and Wei, 2011; Schu and Morschett, 2017). IMS involves searching for comparative information about countries, industries, products and/or consumers and using market and market selection knowledge. According to Papadopoulos and Martín (2011), IMS is a boundedly rational decision, i.e., the rationality of decision-makers is constrained by their cognitive limitations, their limited amount of time, the market information they have, and the imperfections of available decision-making models. Thus, IMS needs to be considered not only as a strategic decision but also as a problem of choice in which the objective is to select a target market.

A literature review on IMS shows the diversity of approaches, analytical perspectives, gaps and variety of results and even differences in the conceptual domain. Extant research indicates that IMS discussion has attracted considerable research attention, but, at the same time, this research is characterized by two main problems: a high level of fragmentation, as described above, and a relative lack of

empirical studies (Papadopoulos and Martín, 2011). Specifically, IMS research remains fragmented and overshadowed because many authors have focused on market entry mode selection and have not integrated frameworks to understand better the IMS nature (Schu and Morschett, 2017). For instance, various theories have been proposed to explain IMS and entry modes (Andersen, Ahmad and Chan, 2014). However, there is no solid agreement between the different theoretical points of view to describe and predict the behavior of firms during their internationalization. Figure 1 outlines the most revised theories explaining IMS and entry modes.

Regarding methodological approaches, it can be highlighted that studies have been developed through diverse proposals that address systematic, non-systematic and relational perspectives that improve decision-making regarding foreign markets (Brouthers and Nakos, 2005; Vanegas-López et al., 2021). Concerning the IMS process in SMEs, previous studies argue that managers from this breed of firms typically engage more in intuitive than systematic decision-making techniques (Tabares et al., 2021). Consequently, SMEs collect and use information in fragmented ways and thus fail to select the best markets strategically for their products and services (Papadopoulos and Martín, 2011).

Different studies on IMS indicate that firms, especially SMEs, must rely on systematic decision-making techniques to guarantee efficient IMS and thus achieve international performance (Martín et al., 2022). Systematic decision-making techniques have been widely used to solve problems involving multiple variables and alternates, which help achieve internationalization success (Clark et al., 2018). Furthermore, they can help firms to make accurate and timely decisions leading to international performance (He and Wei, 2011). However, while the literature emphasizes the importance of systematic decision-making techniques for IMS, it pays limited attention to how SMEs from emerging economies could use and apply MCDM models to make good decisions when selecting international markets (Vanegas-López et al., 2021).

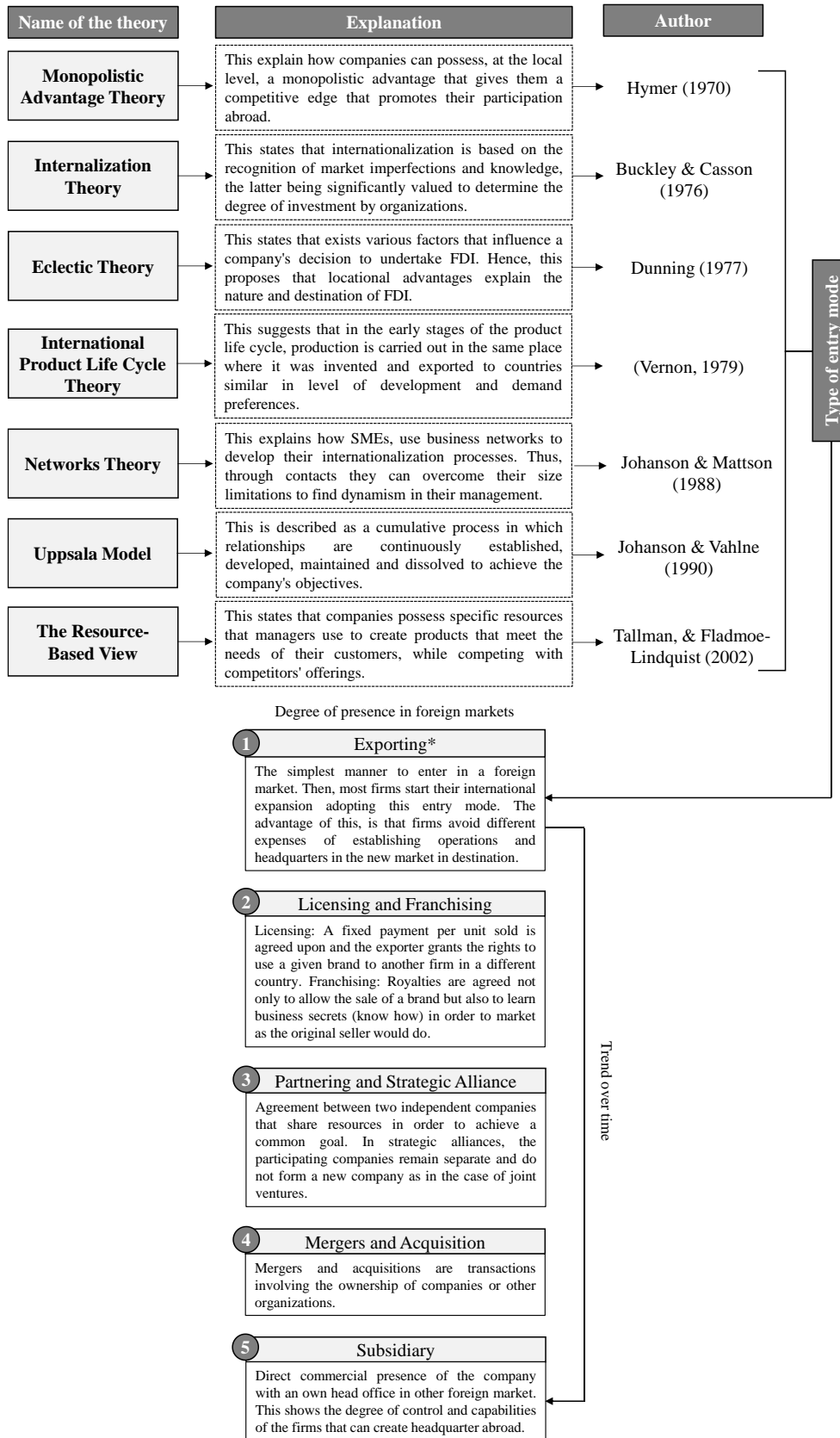


Figure 1: The most revised theories explaining IMS and entry modes

**The current study adopted this type of entry mode exclusively*

Source: Own elaboration

Previous literature reviews on IMS reveal that firms using MCDM techniques tend to analyze general macroeconomic, socio-political, demand, and cost factors, among others (Sakarya et al., 2007). Nonetheless, other factors, such as culture, should be considered to enrich the adoption of MCDM models within the firms (Vanegas-López et al., 2021). Different authors claim that the application of MCDM models incorporating culture can improve the efforts of firms in the IMS analysis (Aghdaie et al., 2013). Other authors claim that MCDM models are increasingly decisive for market prioritization and are the first step for the successful design of rigorous and mathematically reliable export strategies (Vanegas-López, et al., 2021).

Other authors also highlight that the combination of different methodologies of MCDM could allow for complementing the tools for decision-making in a more precise and appropriate way (López-Cadavid, Vanegas-López and Baena-Rojas, 2020). For instance, the extensive use of these hybrid techniques could reduce the uncertainty generated in the international environment (Aghdaie et al., 2013). Regarding the need to combine different methodologies, extant literature suggests combining quantitative and qualitative to systematically compare their results and examine the similarities and differences between the various approaches (Papadopoulos and Martín, 2011). According to Schu and Morschett (2017), the use of secondary data does not allow for investigating motives for internationalization or for the selection of a specific country, and there is a need to complement secondary data with primary data from a company survey.

Research Methodology

The paper aims to present a multi-criteria decision-making model combined with a qualitative technique to make accurate and strategic decisions while selecting international markets. In doing so, the study proposes a quantitative MCMD model incorporating a qualitative tool to validate the relevance of the multi-criteria model criteria and thus gain more reliable decision-making when selecting markets abroad. To empirically test our hybrid technique, the researchers analyzed 18 international SMEs specialising in roasted coffee production. The present study firm selection was cross-sectional and based on purposive sampling criteria where different companies were considered without any prior judgment except their experience in exporting. Hence, the considered SMEs were selected based on availability and easy access for this study.

In this case, the sample SMEs are from Manizales (Colombia), one Latin American emerging economy that may enrich IMS research (Tabares et al., 2022). The World Economic Forum indicates Colombia benefits from a relatively large market size and good macroeconomic results by regional standards. Nonetheless, further improvement in the quality of the education system, especially in math and science, is crucial to deliver the capacity to innovate and diversify the economy (World Economic Forum, 2020). Other areas for improvement are the country's institutional framework, especially public institutions, with corruption and security remaining dire. Structural reforms to foster competition and improve infrastructure, precisely the overall quality of transport, would further enhance (World Economic Forum, 2020). Regarding the coffee industry, Colombia is considered a leading coffee producer worldwide (Gonzalez-Perez and Gutierrez-Viana, 2012).

About the research study design, the authors present a five-stage framework to make accurate and strategic decisions while selecting international markets. In doing so, they propose a four-multicriteria (four-variable) model that incorporates a survey of the managers of the 18 SMEs to validate that model and thus make good decisions while selecting international markets. Figure 2 shows the five-stage framework for IMS.

In the first stage, the authors preselect potential countries by considering official trade statistics of roasted coffee imports through the database of the International Trade Centre (ITC, 2022). As such, they identify those countries importing more roasted coffee worldwide by consulting the customs code 090121, i.e., a unique numeric value that classifies a specific product category in World Customs Organization (WCO, 2022). In the end, they select a total of twenty (20) countries or target markets from highest to lowest.

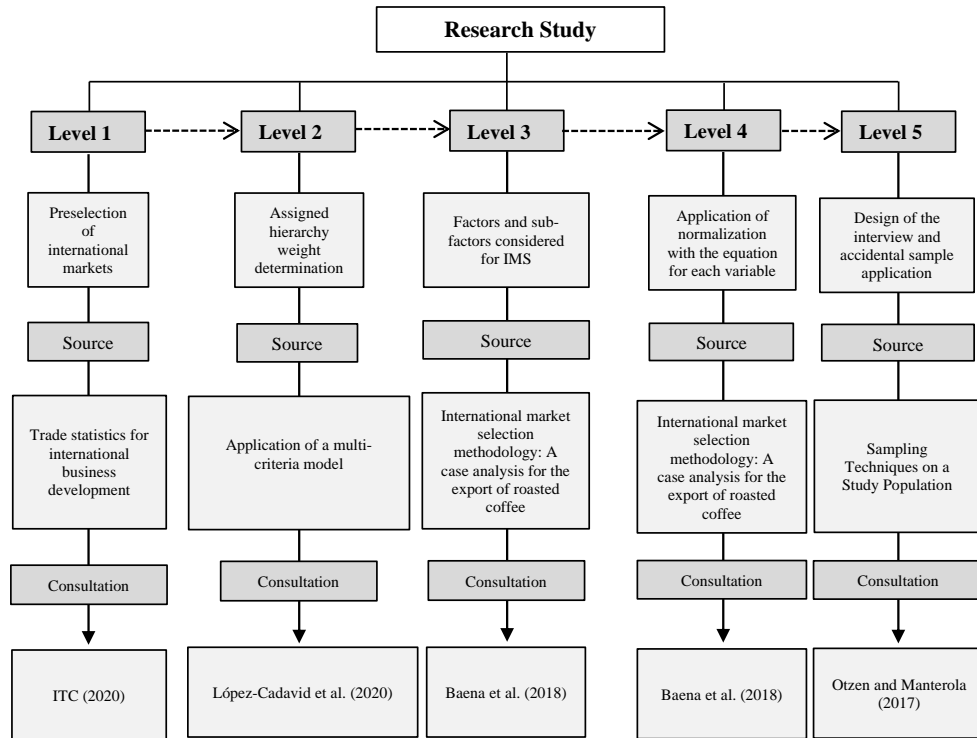


Figure 2: The five-stage framework for IMS
Source: Own elaboration

In the second stage, the researchers assign hierarchy weight determination to four (4) factors and eleven (11) sub-factors. One of the evaluating factors is costs, composed of the destination price, international transport cost and cost to import (Alexander, Rhodes and Myers, 2011; He, Lin and Wei, 2016). Another important factor is logistics, composed of the logistics performance index and transit time (Martín and Drogendijk, 2014). Another factor is trade barriers, composed of tariff barriers, trade protectionism and the index of economic freedom (Papadopoulos, Chen, and Thomas, 2002). One more factor is the cultural context, composed of ease of doing business, the corruption index and cultural dis-affinity, also called cultural distance (Vanegas-López et al., 2021; Martín and Drogendijk, 2014). Figures 3 and 4 indicate factors and sub-factors for IMS.

In the third stage, the researchers analyzed the factors and sub-factors by consulting different official secondary databases, such as Precios Mundi, Incotainers, the World Bank, SeaRates, the World Trade Organization (WTO), the Global Trade Alert (GTA), Heritage, Transparency International and Hofstede Insights. Thus, each factor's weighted values and corresponding sub-factors are related, including their names. Figure 3 shows the factors and sub-factors for data processing in IMS.

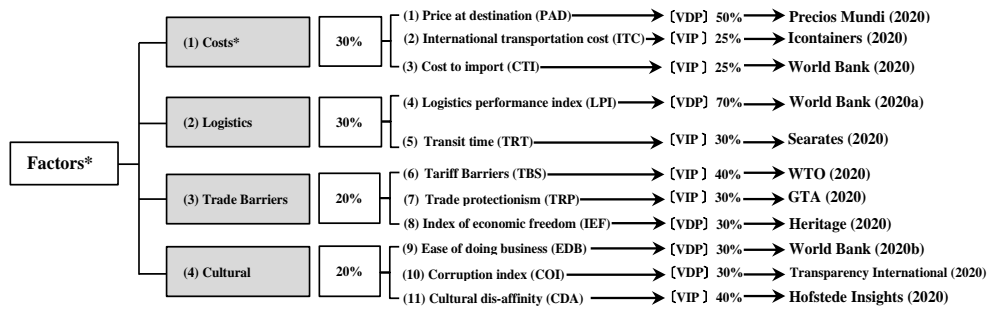


Figure 3: Factors and sub-factors data processing for IMS
Source: Own elaboration based on Vanegas-López et al. (2021)

Distance	Factors	Sub-factors	Description and sources
Socio-Economic Physical Cultural context	Cost	Price at destination (PAD)	This is the reference value of the target market and determines the exporter's competitiveness (Alexander et al., 2011).
		International transportation cost (ITC)	This is the cost charged by the international carrier to move the goods from one country to another. This cost impacts the final price of international sales and purchases (He et al., 2016).
		Cost to import (CTI)	This is the value related to the process of importing the goods, such as documents, local transportation, and customs taxes, which impact the final price (Alexander et al., 2011; Dalgic, Fazlioglu and Gasiorek, 2015).
	Logistics	Transit time (TRT)	This period elapses since the goods are sent from an exporter's country of origin to an importer's destination (Tiwari, Itoh and Doi, 2003; Martín and Drogendijk, 2014).
		Logistics performance index (LPI)	This indicator reflects the quality of the operation, infrastructure and reduction of the obstacles that intervene in each country's logistical and operational processes (Erkan, 2014).
	Trade	Tariff Barriers (TBS)	Tariffs are the customs taxes that impact the price of goods in the importer's country. These barriers to trade protect domestic industry from highly competitive foreign companies (Kinzius, Sandkamp and Yalcin, 2019).
		Trade protectionism (TPR)	These are all those trade policies generally used in a market to give advantages to local companies and restrict foreign import trade (Daniels, Radebaugh, Sullivan and Click, 2014; Schuknecht, 2017; Bown, Erbahar and Zanardi, 2021; Evenett, 2019).
		Index of economic freedom (IEF)	It is the index that measures the degree of economic freedom in each country of the world, applying the ideological concept coming from economic liberalism, in the field of market economy (Papadopoulos et al., 2002).
	Cultural context	Ease of doing business (EDB)	It is an index that studies the regulations of each government for companies in each country, identifying the best markets in terms of investment ownership (Martín and Drogendijk, 2014).
		Corruption index (COI)	This index measures the scale of corruption in the public sector of a given country, identifying cases of misappropriation of public funds among many other such phenomena (Thede and Gustafson, 2017).
		Cultural dis-affinity (CDA)	This indicator compares cultural similarities among countries based on dimensions such as power distance, individualism, masculinity, uncertainty avoidance, long-term orientation versus and indulgence (Tung and Verbeke, 2010).

Figure 4: Factors and sub-factors for IMS

Source: Own elaboration based on Baena-Rojas et al. (2021); López-Cadavid et al. (2020); Martín and Drogendijk (2014)

In the fourth stage, after consulting secondary databases, the researchers adopted a data normalization with a numerical value between 0.1 to infinity. Each factor is normalized on a scale from one (1) to five (5) with an equation to structure a relational database according to a series of so-called normal forms to reduce data redundancy and improve data integrity (Baena-Rojas et al., 2021). In this normalization process, some factors may be directly proportional [VDP] since higher values may indicate better conditions for exporting. Some factors may be inversely proportional [VIP] since lower values may indicate worse exporting conditions. Therefore, Equation 1 distinguishes the typology of each variable, such VDP as VIP, including the corresponding indicative acronym.

$$VN_{ij} = \begin{cases} \frac{x_{ij} * 5}{\text{Max}\{x_{ij}\}} & \text{si } x_{ij} \text{ is VDP} \\ \frac{\text{Min}\{x_{ij}\} * 5}{x_{ij}} & \text{si } x_{ij} \text{ is VIP} \end{cases} \quad \forall i = 1, \dots, I$$

Equation 1. Normalization for factors with VDP and factors with VIP

Source: Based on Baena-Rojas et al. (2021)

In the fifth stage, the authors included a semi-structured survey containing qualitative questions for an interview with 18 managers of the roasted coffee-producing SMEs to identify possible similarities or differences between the systemically four-multicriteria model and the cognitive and perceptive approach these managers apply to select a target market for their roasted coffee product. As such, this qualitative approach through the interview allows us to combine a multicriteria decision-making model and a qualitative technique to make accurate and better strategic decisions while selecting international markets (Otzen and Manterola, 2017).

Research Results

After completing the preselection of the target countries according to their import volume of roasted coffee worldwide, the following markets have been identified as possible export scenarios, as shown in Table 1.

Table 1. Countries considered for the IMS

World position	Importers	Imported value in 2018	%
1	France	2.036.923 USD	19,40%
2	United States	876.272 USD	8,35%
3	Netherlands	669.042 USD	6,37%
4	Germany	609.938 USD	5,81%
5	Canada	531.583 USD	5,06%
6	United Kingdom	481.951 USD	4,59%
7	Austria	377.341 USD	3,59%
8	Spain	311.711 USD	2,97%
9	Belgium	305.479 USD	2,91%
10	Poland	287.915 USD	2,74%
11	Czech Republic	216.459 USD	2,06%
12	Italy	213.526 USD	2,03%
13	Russia	202.154 USD	1,93%
14	Romania	197.535 USD	1,88%
15	South Korea	181.281 USD	1,73%
16	Australia	176.794 USD	1,68%
17	Slovakia	162.689 USD	1,55%
18	China	155.837 USD	1,48%
19	Luxembourg	128.715 USD	1,23%
20	Greece	128.675 USD	1,23%
-	Other countries	2.246.525 USD	21,40%
-	World	10.498.345 USD	100%

Source: Own elaboration based on the International Trade Centre (2020)

Once the target market preselection, the researchers tracked each sub-factor in each factor data for each country. In doing so, they consulted different official secondary databases, such as Precios Mundi, Incotainers, the World Bank, SeaRates, the World Trade Organization (WTO), the Global Trade Alert (GTA), Heritage, Transparency International and Hofstede Insights. Table 2 shows the inventory of data for each factor.

Table 2. Inventory of data for each factor

Factor	(1) Costs			(2) Logistics		(3) Trade Barriers			(4) Cultural		
Weighting	30%			30%		20%			20%		
Variable	PAD VDP	ITC VIP	CTI VIP	LPI VDP	TRT VIP	TBS VIP	TRP VIP	IEF VDP	EDB VDP	COI VDP	CDA VIP
Weighting	50%	25%	25%	70%	30%	40%	30%	30%	30%	30%	40%
France	2,92	2042,8	1445	3,90	14	0,01	85	63,90	76,13	72	59
United States	4,10	1318,7	1289	3,99	4	0,01	251	75,70	82,54	71	13
Netherlands	3,03	2121,5	975	4,19	15	0,01	39	76,20	76,03	82	0
Germany	2,96	2058,5	1050	4,23	15	0,01	187	74,20	79,00	80	36
Canada	3,18	1877,8	1680	3,93	9	0,01	296	77,70	79,29	81	3
United Kingdom	3,42	2074,2	1050	4,07	14	0,01	88	78,00	82,22	80	25
Austria	3,42	2771,4	1215	4,10	19	0,01	47	71,80	78,54	76	18
Spain	1,75	2042,8	1400	3,73	13	0,01	81	65,10	77,02	58	8
Belgium	3,14	2058,5	1400	4,11	14	0,01	45	67,80	71,69	75	107
Poland	2,17	2275,6	1025	3,43	17	0,01	53	67,50	77,30	60	32
Czech Republic	1,98	2058,5	1215	3,67	15	0,01	44	74,20	76,21	59	25
Italy	1,49	2501,3	1145	3,76	16	0,01	86	62,50	72,70	52	42
Russia	1,88	2310,9	2595	2,57	18	0,01	43	58,20	75,50	28	44
Romania	1,55	2866,16	1495	2,99	19	0,01	48	69,40	72,87	47	4
South Korea	3,88	2143,7	695	3,72	26	0,01	13	73,80	83,92	57	11
Australia	3,02	2810,3	1220	3,79	25	0,01	63	80,90	80,14	76	12
Slovakia	1,91	2771,4	1510	3,34	19	0,01	45	65,30	74,90	50	88
China	3,92	2160,1	800	3,66	28	15,00	426	57,80	65,29	39	13
Luxembourg	3,42	2058,5	1420	4,22	14	0,01	35	76,40	69,01	81	20
Greece	3,26	2749,6	1135	3,24	18	0,01	46	57,30	68,02	45	27

Source: Own elaboration

Hence, the researchers collected the information for each sub-factor in each factor for each country. In this way, they applied the data normalization formula for factors with VDP and VIP. This procedure allowed transforming all the estimated values in Table 2 on scale values from one (1) to five (5). Table 2 shows the normalized values of each factor and sub-factors for each target market.

Table 3. Normalized values of factors and sub-factors for each market

Factor	(1) Costs			(2) Logistics		(3) Trade Barriers			(4) Cultural		
Weighting	30%			30%		20%			20%		
Variable	PAD VDP	ITC VIP	CTI VIP	LPI VDP	TRT VIP	TBS VIP	TRP VIP	IEF VDP	EDB VDP	COI VDP	CDA VIP
Weighting	50%	25%	25%	70%	30%	40%	30%	30%	30%	30%	40%
France	3,56	3,23	2,40	4,61	1,43	5,00	0,76	3,95	4,54	4,39	0,01
United States	5,00	5,00	2,70	4,72	5,00	5,00	0,26	4,68	4,92	4,33	0,04
Netherlands	3,70	3,11	3,56	4,95	1,33	5,00	1,67	4,71	4,53	5,00	5,00
Germany	3,61	3,20	3,31	5,00	1,33	5,00	0,35	4,59	4,71	4,88	0,01
Canada	3,88	3,51	2,07	4,65	2,22	5,00	0,22	4,80	4,72	4,94	0,17
United Kingdom	4,17	3,18	3,31	4,81	1,43	5,00	0,74	4,82	4,90	4,88	0,02
Austria	4,17	2,38	2,86	4,85	1,05	5,00	1,38	4,44	4,68	4,63	0,03
Spain	2,13	3,23	2,48	4,41	1,54	5,00	0,80	4,02	4,59	3,54	0,06
Belgium	3,83	3,20	2,48	4,86	1,43	5,00	1,44	4,19	4,27	4,57	0,00
Poland	2,65	2,90	3,39	4,05	1,18	5,00	1,23	4,17	4,61	3,66	0,02
Czech Republic	2,41	3,20	2,86	4,34	1,33	5,00	1,48	4,59	4,54	3,60	0,02
Italy	1,82	2,64	3,03	4,44	1,25	5,00	0,76	3,86	4,33	3,17	0,01
Russia	2,29	2,85	1,34	3,04	1,11	5,00	1,51	3,60	4,50	1,71	0,01
Romania	1,89	2,30	2,32	3,53	1,05	5,00	1,35	4,29	4,34	2,87	0,13
South Korea	4,73	3,08	5,00	4,40	0,77	5,00	5,00	4,56	5,00	3,48	0,05
Australia	3,68	2,35	2,85	4,48	0,80	5,00	1,03	5,00	4,77	4,63	0,04
Slovakia	2,33	2,38	2,30	3,95	1,05	5,00	1,44	4,04	4,46	3,05	0,01
China	4,78	3,05	4,34	4,33	0,71	0,00	0,15	3,57	3,89	2,38	0,04
Luxembourg	4,17	3,20	2,45	4,99	1,43	5,00	1,86	4,72	4,11	4,94	0,03
Greece	3,98	2,40	3,06	3,83	1,11	5,00	1,41	3,54	4,05	2,74	0,02

Source: Own elaboration

The data normalization formula then allowed us to identify the most viable countries according to the four-multicriteria model proposed in this study. Thereby, the United States, Netherlands and South Korea are identified with an overall score of 4.02, 3.97 and 3.79, respectively, as the most attractive markets for exporting roasted coffee. Table 4 shows overall scores for each factor and the best option for IMS.

Table 4. Overall scores for each factor and the best option for IMS

Priority	Factor	(1) Costs	(2) Logistics	(3) Trade Barriers	(4) Cultural	Overall Score
No	Weighting	30%	30%	20%	20%	100%
1	United States	4,42	4,80	3,48	2,79	4,02
2	Netherlands	3,52	3,87	3,91	4,86	3,97
3	South Korea	4,38	3,31	4,87	2,56	3,79
4	United Kingdom	3,71	3,80	3,67	2,94	3,57
5	Luxembourg	3,50	3,92	3,97	2,73	3,57
6	Germany	3,43	3,90	3,48	2,88	3,47
7	Canada	3,33	3,92	3,51	2,97	3,47
8	Austria	3,40	3,71	3,75	2,81	3,44
9	Belgium	3,34	3,83	3,69	2,66	3,42
10	Australia	3,14	3,38	3,81	2,84	3,28
11	France	3,19	3,66	3,41	2,68	3,27
12	Czech Republic	2,72	3,44	3,82	2,45	3,10
13	Poland	2,90	3,19	3,62	2,49	3,05
14	Greece	3,35	3,01	3,49	2,05	3,02
15	Spain	2,49	3,55	3,45	2,46	2,99
16	Italy	2,33	3,49	3,39	2,26	2,87
17	China	4,24	3,24	1,12	1,90	2,85
18	Slovakia	2,33	3,08	3,64	2,26	2,80
19	Romania	2,10	2,79	3,69	2,21	2,65
20	Russia	2,19	2,46	3,53	1,87	2,48

Source: Own elaboration

Finally, the study included a semi-structured survey containing qualitative questions for an interview with 18 managers of roasted coffee-producing SMEs to identify the cognitive approach to selecting a target market for their product. Figure 4 shows the most common techniques of roasted coffee-producing SMEs for IMS.

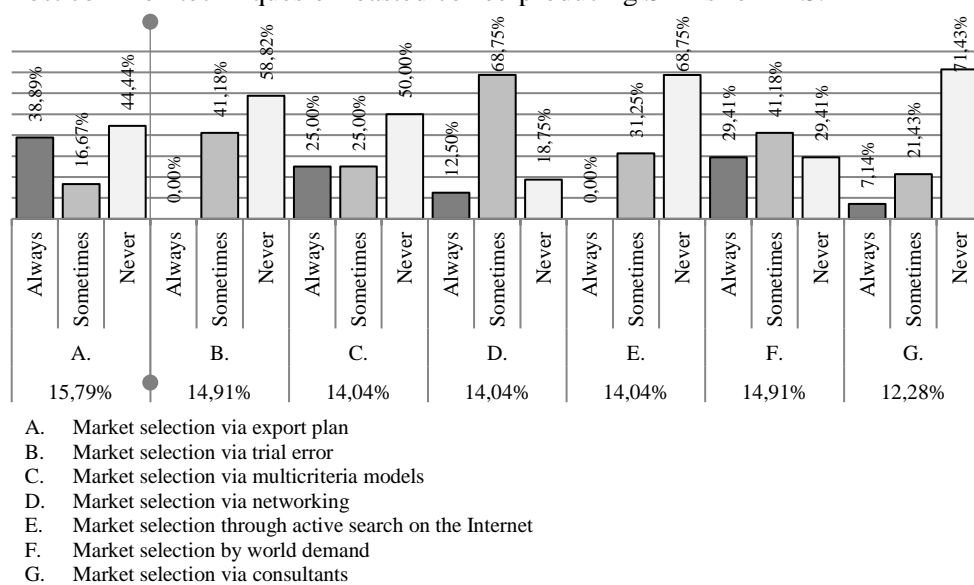


Figure 4: The most common techniques of SMEs for IMS

Source: Own elaboration

The survey revealed that international SMEs specialized in roasted coffee production follow the next techniques for IMS: market selection via export plan, market selection via trial error, market selection via multi-criteria models, market selection via networking and worth mouth, market selection through active search on the Internet, market selection by world demand and market selection via consultants.

Interestingly, the survey results revealed that international SMEs specialized in roasted coffee production do not apply MCDM models regularly despite the fact the firms recognize the importance of these techniques to increase reliability in the decision-making process. Figure 5 shows the level of importance and frequency of MCDM models for IMS.

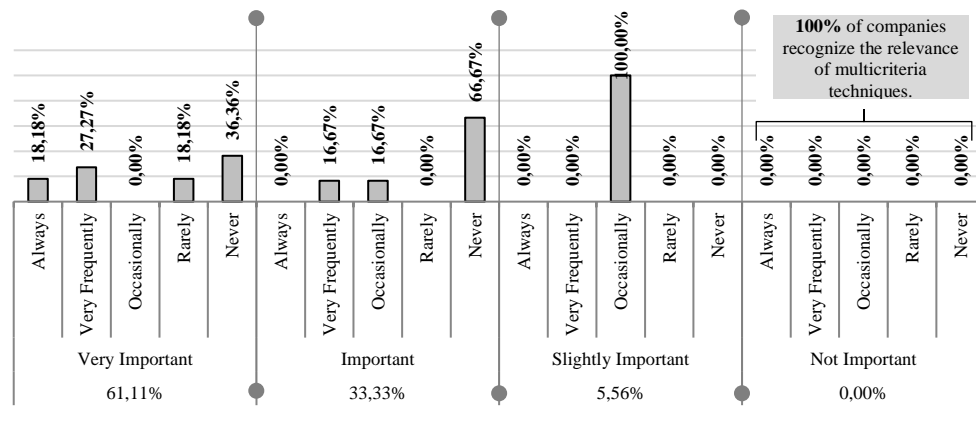


Figure 5: Level of importance and frequency of MCDM models for IMS

Source: Own elaboration

Furthermore, the survey shows that managers of international roasted-producing SMEs offer similar factors and sub-factor weights to previous scholarly researchers that conducted similar studies in different industries. This means that there is a correspondence between estimations and weights proposed by researchers and those proposed by firms in factors such as cost, logistics, trade barriers, and cultural context. There is a theoretical and practical consensus not only on the factors to consider but also on their weight within the IMS process. Figure 6 shows factor weights given by scholars and SMEs' managers.

The study's findings reveal that the most attractive markets for exporting roasted coffee are the United States, Netherlands and South Korea, respectively. Moreover, our results indicate that international SMEs specialized in roasted coffee production do not regularly apply MCDM models despite recognising these techniques' importance in increasing reliability in decision-making. Interestingly, the findings underscore consensus among scholars and international SME managers regarding the importance of these techniques, the factors to consider, and their corresponding weights when selecting international markets. On the other hand, the results also revealed that a hybrid technique, combining a quantitative MCDM model and a qualitative approach, could help to optimize the IMS process in SMEs leading to superior performance.

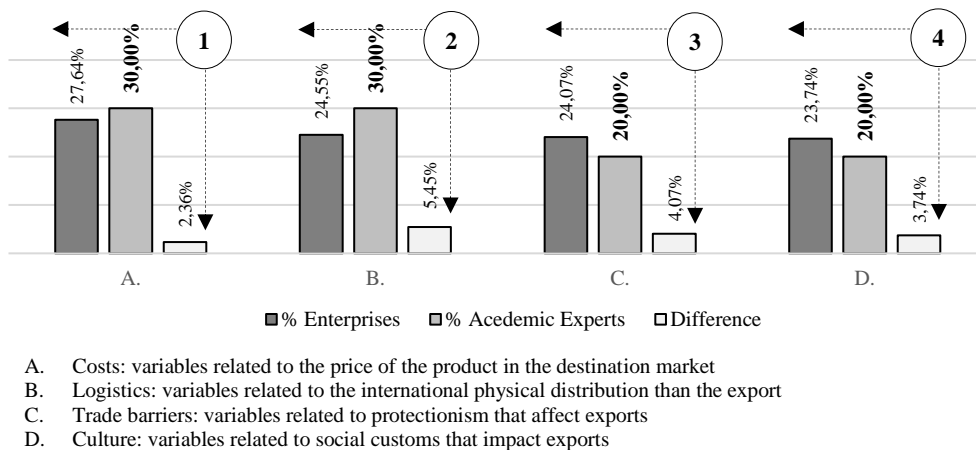


Figure 6: Factor weights given by scholars and SMEs' managers
Source: Own elaboration

Discussion

This study reveals that internationalizing SMEs in the agriculture industry do not usually apply MCDM models to select markets but understand the relevance of these systematic techniques to achieve performance. Like previous studies (Aghdaie et al. 2013), SMEs need to combine these quantitative models with their cognitive approaches to increase reliability in the decision-making process. In line with scholarly studies, this work's results show that a combination of quantitative and qualitative approaches could complement the tools for decision-making in a more precise and appropriate way (Hashemkhani et al., 2021).

Furthermore, the extensive use of hybrid techniques could reduce the uncertainty generated in the international environment and help firms achieve successful internationalization (He and Wei, 2011; Schu and Morschett, 2017). Similar to previous research (Martín et al., 2022) point out just like findings that SMEs should make strategic decisions on which market to enter to achieve optimal performance and not affect their strategic competitiveness, costs of production, operation, transactions and the ability to coordinate international activities due to their limit resources and capabilities. Thus, SMEs must apply hybrid techniques to guarantee efficient IMS and thus achieve international performance (Clark et al., 2018).

The findings in this paper about the relevance of incorporating factors, such as culture, are like other relevant published studies (Gaston-Breton and Martín-Martín, 2011). Thus, MCDM techniques should consider cultural aspects to improve IMS analysis. Different authors claim that the application of MCDM models incorporating culture can enhance the efforts of firms in the IMS analysis (Aghdaie et al., 2013), leading to successful performance (Ozorhon, Dikmen and Birgonul, 2006). Finally, the current results coincide with previous research while indicating IMS is one of the most strategic and complex decisions for SMEs within the decision-making process (Clark et al., 2018).

Conclusion

Since IMS is one of the most strategic and complex decisions for SMEs, it implies critical decisions that could lead to success or failure. Consequently, IMS must result from a rigorous and systematic process to make accurate and timely decisions leading to international performance. Since firms, notably SMEs use cognition and qualitative models to select a target market abroad, there is a need for robust models incorporating not only macroeconomic and cultural factors but also qualitative and

quantitative methods. Following this argument, this study aims to present a multi-criteria decision-making model combined with a qualitative technique for SMEs and other breeds of firms to make accurate and strategic decisions while selecting international markets.

As such, this study contributes to both theoretical and practical perspectives. Concerning the theoretical implications, the study makes some contributions. First, the study offers insights into international business by analyzing the relationship between IMS and SMEs IP from novel contexts. More specifically, the study directly responds to the call regarding research on how international SMEs from emerging economies specialized in roasted coffee production apply the international market selection. Second, the study proposes a multi-criteria decision-making model combined with a qualitative technique to make accurate and strategic decisions when selecting foreign markets. The paper directly responds to a call regarding research on more robust models incorporating cultural factors and combining quantitative and qualitative methods that are scarce in this area of knowledge.

The study results mainly suggest managerial implications for international SME managers and policymakers. An implication for SME managers is to apply systematic and rigorous analysis or complement their traditional intuitive techniques to make accurate and timely decisions and guarantee efficient IMS. Accordingly, managers of SMEs need to implement robust models that analyze macroeconomic and cultural factors and combine them with qualitative techniques to make accurate and strategic decisions when selecting international markets. Also, SME managers can use this hybrid technique to evaluate new potential markets and design promotional strategies for positioning products abroad. It is clear that this hybrid technique is not a substitute for existing methods but may complement them.

On the other hand, policymakers should design guidelines and strategies for promoting IMS techniques and models. Besides, government institutions supporting internationalization could offer more formal and systematic approaches through training and coaching programs. Also, supporting organizations could use their websites to provide easily accessible resources, such as market research reports about specific countries and templates with specific criteria to assess foreign markets. If government institutions help SMEs have better information about foreign markets and use systematic tools and planning, firms can make accurate and timely decisions leading to international performance. Finally, government institutions could organize networking events and workshops to train SMEs to develop international networking. IMS uncertainty and complexity may be reduced by organizing an ecosystem in the home country where multiple organizations such as government, universities, customs control, credit office and international trade promotion organizations are aligned to provide trustworthy information and advice for internationalizing SMEs.

Among the empirical study limitations, the study used cross-sectional data from 18 international SMEs. Consequently, other larger firms like multinationals were overlooked. Also, this study has been carried out within a single Latin American country, limiting the generalization of the findings. These study limitations highlight avenues for future research. One suggestion is to research large global firms where the IMS analysis differs from entrepreneurial firms due to their governance and financial capacities. Another possible future line could be to examine the hybrid technique in other emerging economies and industries to validate or improve our findings. Likewise, future studies should use data sets from multiple sources to strengthen confidence in the research design and empirical findings. Finally, future research could examine IMS under different theoretical frameworks, providing rich insights into the discussion.

In conclusion, the findings of this study confirm the importance of systematic methodologies in selecting foreign export markets, especially in SMEs from emerging economies characterized by the bounded rational decision involving risk, uncertainty, lack of information and managerial cognitive limitations.

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HYBRYDOWA WIELOKRYTERIALNA TECHNIKA PODEJMOWANIA DECYZJI DLA WYBORU RYNKU MIĘDZYNARODOWEGO W MŚP

Streszczenie: Tradycyjna analiza wyboru rynku opiera się głównie na czynnikach makroekonomicznych i politycznych i nie uwzględnia aspektów kulturowych. Ponadto, systematyczne modele wyboru rynków międzynarodowych nie uwzględniają technik hybrydowych, aby konsekwentnie zmniejszać niepewność poprzez porównywanie wyników oraz badanie podobieństw i różnic między różnymi metodami. Celem artykułu jest przedstawienie wielokryterialnego modelu decyzyjnego w połączeniu z metodą jakościową do podejmowania strategicznych decyzji przy wyborze rynku międzynarodowego.

Wykorzystując podejście hybrydowe, zbadano 18 MŚP produkujących kawę, aby porównać obecny model wielokryterialny z metodą jakościową stosowaną przez firmy. W związku z tym badanie oferuje nowatorstwo poprzez włączenie wymiaru kulturowego do modelu wielokryterialnego i połączenie tej metody ilościowej z metodą jakościową w celu zweryfikowania techniki hybrydowej, a tym samym uzyskania bardziej wiarygodnego procesu decyzyjnego przy wyborze rynków zagranicznych. Opracowanie ma dwojaki charakter. Po pierwsze, oferuje ono wgląd w międzynarodowy biznes poprzez analizę relacji między wyborem rynku międzynarodowego a małymi i średnimi przedsiębiorstwami z nowych kontekstów. Po drugie, proponuje się wielokryterialny model podejmowania decyzji w połączeniu z techniką jakościową w celu podejmowania trafnych i strategicznych decyzji przy wyborze rynków zagranicznych.

Słowa kluczowe: Wybór rynku międzynarodowego, modele wielokryterialne, MŚP, zarządzanie

中小企业国际市场选择的混合多标准决策技术

摘要: 传统的市场选择分析纯粹依赖于宏观经济和政治因素，没有考虑到文化方面。此外，国际市场选择系统模型缺乏结合混合技术，通过比较结果和检查各种方法的异同来系统地减少不确定性。本文旨在提出一个多标准决策模型，结合定性技术，在选择国际市场时做出战略决策。使用混合方法，对 18 家咖啡生产中小企业进行了检查，以将当前的多标准模型与公司的定性方法进行对比。因此，该研究通过将文化维度纳入多标准模型并将这种定量方法与定性方法相结合来验证混合方法，从而在选择国外市场时获得更可靠的决策，从而提供了新颖性。这项研究的贡献是双重的。首先，该研究通过分析国际市场选择与新环境中中小企业之间的关系，提供了对国际业务的见解。其次，该研究提出了一种结合定性技术的多标准决策模型，以便在选择国外市场时做出准确的战略决策。

关键词: 国际市场选择, 多准则模型, 中小企业, 管理