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An Empirical Analysis of Growth Opportunities for Spice Export Firms in Tamil Nadu

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Abstract

Spices are an essential commodity in international trade, playing a significant role in the global economy. India has consistently maintained its leadership in this domain, commanding a substantial 20% share of the global spice export market. Within this context, the present study focuses on analyzing the growth prospects of the spice export industry in Tamil Nadu, a region known for its rich agricultural heritage and significant contributions to the spice trade. The study adopts a quantitative research approach, drawing insights from data collected through structured questionnaires administered to 318 spice exporters in Tamil Nadu. A 13-item questionnaire was designed, employing a five-point Likert scale to capture respondents' perceptions, with response options ranging from 1 ('strongly disagree') to 5 ('strongly agree'). The research model underwent rigorous evaluation to ensure its validity and reliability.

Exploratory Factor Analysis (EFA) was conducted as an initial step, resulting in the removal of two items to refine the model. This was followed by Confirmatory Factor Analysis (CFA) performed using SPSS Amos 23, which provided a robust methodological framework for the study. Results from the second-order CFA revealed that the success of spice exporters is predominantly driven by the adoption of global expansion strategies and the enhancement of operational competitiveness, highlighting critical factors for industry growth. Results from the second-order CFA reveal that the success of spice exporters is primarily driven by the implementation of global expansion strategies and the enhancement of operational competitiveness. Additionally, the findings highlight the critical importance of adopting a proactive and adaptive approach to international market growth. This includes delivering post-sale value, aligning with evolving market dynamics, and addressing the changing preferences of global customers. Based on these insights, the study provides valuable implications for both exporters and policymakers. It presents strategies to enhance the potential of the spice export industry and secure its long-term sustainability in the global market. These findings emphasize the need for strategic planning and adaptability to maintain competitiveness and capitalize on emerging opportunities in the international spice trade.

Keywords: Competitiveness, Global Strategies, International Market, Market Adaptability, Spice Exports.

Introduction

Spices have historically played a crucial role in trade, influencing economic, social, and political developments worldwide (Bhardwaj et al., 2011; Thomas, 2019). India remains the global leader in the spice trade, being the largest producer, consumer, and exporter of spices (Anusha et al., 2020). The country is renowned for its spices not only due to its vast production volume and variety but also for its distinctive aroma, taste, and texture. According to the International Organization for Standardization (ISO), India's diverse agro-climatic zones allow it to produce 75 of the 109 recognized spice varieties globally.

India has maintained its leading position, currently holding a 20% share of the global spice export market (Yes Bank & Spices Board, 2023). The trade is largely driven by chilli and pepper, which together account for over one third of the global spices export value (Spices Board of India, 2023). However, recently, India's spice export industry has encountered challenges concerning quality standards; this has resulted in bans on Indian spices in international markets (Dalmia, 2024). For instance, the U.S. Food and Drug Administration Import Refusal Report last year indicated that one-third of spices and herbs exported from India were rejected due to salmonella contamination ("After Pesticide, MDH Now Faces Heat for Salmonella Contamination," 2024). This controversy, involving prominent Indian spice brands such as MDH and Everest, has further disrupted India's global spice market (Dalmia, 2024).

Given these challenges, examining both the issues and opportunities with in Indian spice exports is essential for understanding India's position in the global spice market. Bhatt & Valasan (2016) found that unfair practices, such as adulteration, along with volatile pricing, could stifle market growth. Building on this, Anbuchelvi (2019) explored the challenges and potential in exporting value-added spices like oils and oleoresins, emphasizing the need for strategic interventions. Additionally, Nair (1987) analyzed cardamom marketing, identifying both obstacles and future opportunities for Indian spices. Thomas et al. (2024) noted that research on spice production, marketing, and trade systems could guide policy development to support the spice economy. However, a comprehensive review of existing literature reveals that prior studies have largely neglected the specific prospects for spice exports. Therefore, this research aims to address this gap by identifying key business prospects for Indian spice export firms to strengthen India's presence in the international spice market.

The first section of the study offers an overview of the research, focusing on the potential for spices exports from India. The second section reviews previous academic studies to understand foreign market opportunities, market expansion, quality management, and future prospects for Indian spices. The third section outlines the data collection process and explains its relevance to the study, followed by a description of the research methodology used to assess empirical evidence. In the fourth section, we present empirical findings supported by critical analysis and discussion. The subsequent section interprets these results, offering valuable insights for both researchers and industry professionals.

Literature Review

The literature synthesis on the prospect of spice exports in international markets encompasses academic research to explore the potential of India's spices exports globally. Bhattacharya's (2002) study on commodity export prospects revealed that successful trade depends on both opportunities and challenges in the international market. The study further highlighted that countries with a substantial share of global consumption and a significant portion of world imports represent valuable opportunities for expanding exports.

Notable research by Manova & Zhang (2012) emphasizes that expanding agricultural trade between countries requires diversifying traded goods and optimizing trade potential. Furthermore, it highlighted that exporting countries must enhance quality control measures for their agricultural products to remain competitive. Tian (2023) highlighted that the overall prospects for agricultural trade are promising, with individual countries having the potential to expand and become more integrated into global markets. Similarly, Kondratieva et al. (2022) identified key strategic areas necessary for developing the agricultural sector and increasing export volumes. Their study also recommends substantial policy amendments to adapt to new global conditions and accelerate growth in the spices trade. Besides Zhang et al. (2023)'s identified trade prospects for Latin American countries exporting agricultural products to China and suggested expanding trade categories and improving quality control to enhance trade potential.

Cuyvers (2004) identifies Thailand's export opportunities, furthermore highlighting that individual countries, particularly in the Asia-Pacific region, present more opportunities. These opportunities are listed and categorized based on criteria such as import market characteristics and Thailand's market share in the various markets. In addition, Peu (2019) suggests proactive government actions to improve business infrastructure through capital investments. Furthermore, effective policy-making could enable industries to outperform competing countries in global markets.

While numerous studies have examined the export prospects and challenges of various products, research specifically focused on spices exports, where India is a global leader, remains limited. Moreover, most existing research relies heavily on quantitative data, leaving a significant empirical gap.

Moreover, The sample area is Tamil Nadu, a major spice-exporting state in India. According to the Spices Board of India, Tamil Nadu spice exports were valued at USD 200.96 million in 2019, increasing to USD 222.18 million in 2023. The state is known for exporting a diverse range of spices, including black pepper, cardamom, turmeric, clove, chili, curry leaves, and mustard seeds.

Hence, this study addresses that gap by building on previous research and empirically identifying the factors that influence the prospects of spices exports in Tamil Nadu.

Research Question

What are the key business prospects of spice export firms in Tamil Nadu?

Objective Of The Study

To identify the key business prospects of spice export firms in Tamil Nadu.

Data and Research Methodology

Existing literature underscores that the factors shaping the prospects of spice exports are not universally fixed; they fluctuate across countries, sectors, and over time. Recognizing this variability, the present study is dedicated to identifying and examining the specific opportunities that define the export landscape for Indian spices.

Questionnaire Development

To measure the prospects for spices exports, a 13-item questionnaire was developed based on a review of existing literature. Ultimately, 11 items demonstrating good face and content validity (Hinkin et al., 1997) were retained. The questionnaire was divided into two parts: the first part consisted of 11 statements measuring the prospects for spices exporters on a five-point Likert scale, with responses ranging from 1 = 'strongly disagree' to 5 = 'strongly agree'. All 11 statements indicating the prospects for spices exports were coded positively. The second part of the questionnaire collected the demographic profiles of the respondents.

Data Collection And Sample Profile

This study utilizes primary data collected from spice exporters through an 11-item structured questionnaire. The exporter data was drawn from the Spices Board's database. The total population comprises 414 spice-exporting firms in Tamil Nadu. (Ministry of Commerce and Industry, Government of India), which provides comprehensive information on spice exports. Invitations 414 spice exporter were sent via email to the managers and executives of these firms. The questionnaire was distributed to the entire population, and factor analysis was performed on the collected responses. A total of 318 responses were received, of which 300 were deemed valid for the factor analysis.

The demographic profile of the respondents indicates that 77.6% of exporters have fewer than 10 years of experience in international trade. Notably, 38.8% of respondents represent private enterprises, underscoring the substantial role of the private sector in spice export market. Additionally, the majority of respondents (65.3%) are merchant exporters. Among these, 80.8% are categorized as small exporters, with annual export volumes below USD 3 million (INR 20 crore). Concerning customs duties on spices, 61.5% of respondents consider them moderate. In terms of capital structure, 34% of respondents rely primarily on self-financing, while 42.3% utilize cash-in-advance payment arrangements, reflecting a preference for pre-paid transactions in international dealings.

Data Analysis And Results

Exploratory Factor Analysis (EFA)

To analyze the data collected from the 11-item questionnaire, the study employed exploratory factor Analysis (EFA) using principal component analysis and varimax rotation. The Kaiser-Meyer-Olkin (KMO) measure of 0.826 confirmed the adequacy of the sample for factor analysis. Bartlett's test of sphericity indicated that the correlation matrix was significant ($p < 0.000$). Additionally, the total variance explained by these two dimensions was 69.83%, suggesting that the questionnaire captured a substantial portion of the variance. The EFA resulted in the identification of two dimensions.

Cronbach's alpha, a measure of internal consistency, was used to assess the reliability of the dimensions. A value above 0.6 is considered moderately acceptable ensure the validity and reliability of the instrument, with individual construct values ranging from 0.612 to 0.854. (O'Hair et al., 1998). Table 1 presents the EFA results.

Table 1: Exploratory Factor Analysis

Factor	Item Code	Item Content	Factor Loadings	Cronbach's Alpha
Global Expansion Strategy	GES2	Prospects for continuous expansion in foreign markets.	.890	.916
	GES1	Opportunities to explore new foreign markets.	.869	
	GES3	Expected strong foreign demand for spices products.	.718	

Factor	Item Code	Item Content	Factor Loadings	Cronbach's Alpha
	GES5	Opportunities to provide after-sales services to overseas buyers.	.667	
	GES6	Adaptability to changing customer needs and market conditions.	.648	
	GES4	Competitive advantages over other spices exporters.	.599	
Operational Competitiveness	OC4	well- positioned to ensure on-time delivery of shipments.	.801	.839
	OC1	Opportunities to maintain high-quality management standards.	.710	
	OC2	Strong local reputation and global contacts.	.705	
	OC3	Prospects to offer competitive prices for spices exports.	.668	
	OC5	Opportunities to increase R&D efforts in product innovation.	.631	

Source: Computed by the authors.

Confirmatory Factor Analysis (CFA)

To validate the two constructs obtained from EFA, CFA was performed using AMOS 23.0. To ensure the model fit, modifications were made based on the standardized residual covariances and error covariances. The CFA model runs 300 responses. It was observed that the standardized estimates of the second-order construct, namely "business prospect", was created by combining these two first-order constructs.

Table 2: Model fit Measures

Measure	Estimate	Threshold	Interpretation
CMIN	3.306	--	--
DF	3	--	--
CMIN/DF	1.102	Between 1 and 3	Excellent
CFI	1.000	>0.95	Excellent
SRMR	0.016	<0.08	Excellent
RMSEA	0.019	<0.06	Excellent
PClose	0.626	>0.05	Excellent

Source: Computed by the authors

Table 2 shows that the initial model did not achieve the fitness, so we deleted items with factor loading for less than 0.4 (Deleted items = GES1, GES3, GES4, OC10, OC6, OC11) and created covariance of error terms based on modification. The final model that emerged was a first-order CFA. Factor loading for each item representing different constructs ranged from 0.83 to 0.91. The model fit was ensured based on the values of the following two indices: CMIN/DF(3.306), CFI(1.000), SRMR(0.016), RMSEA(0.019), and P Close (0.626), which showed an excellent fit (Gaskin & Lim, 2016).

The model displayed strong validity, with no significant concerns. Convergent validity was confirmed as the average variance extracted (AVE) exceeded 0.83 across all factors. Discriminant validity was ensured by comparing the square root of the AVE with the correlations among the respective variables, indicating clear differentiation between constructs. Lastly, composite reliability demonstrated the internal consistency of the measurement model, affirming its reliability and robustness.

Figure1: Business Prospects Of Spices Export Firms

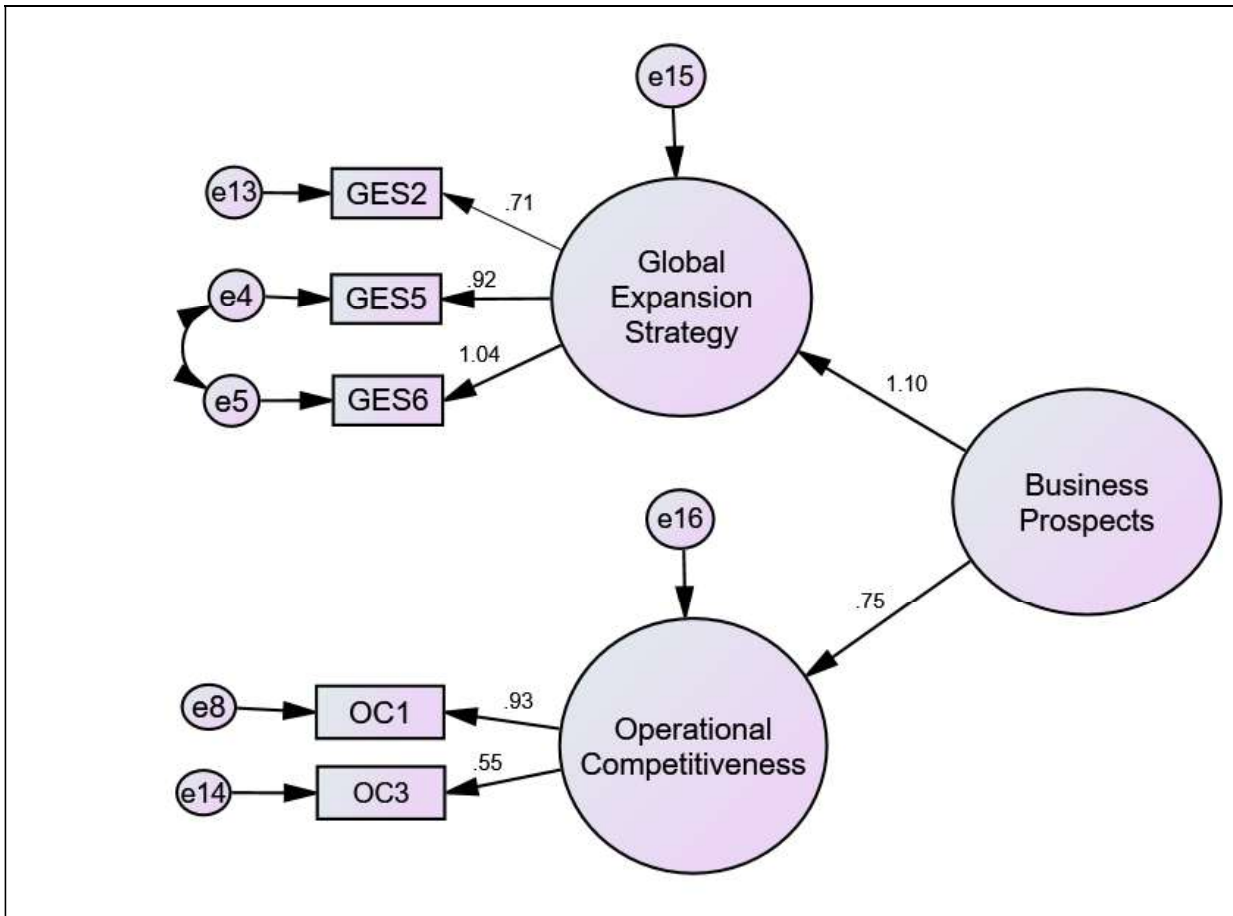


Figure1: Second order CFA

As shown in Figure 1, the second -order CFA results revealed that the business prospects for spices exports can be associated with two main components: the first-order construct, which is assessed through 'global expansion strategy' and 'operational competitiveness,' both contributing to the overall spices export business prospect in Tamil Nadu.

Discussion

This analysis uncovers essential insights derived from constructs identified through the second-order CFA, each supported by relevant indicators. These findings illuminate the strategies shaping growth and competitiveness in the spice export business.

The Global Expansion Strategy in the context of the spice export business combines foreign market expansion, after-sales service for overseas buyers, and an understanding of customer needs. This strategy highlights spice export firms' ongoing efforts to grow their presence in new international markets. It also involves aligning strategy content with individual marketing mix variables to effectively meet international customer needs, reflecting a long-term commitment to global growth rather than a one-time initiative. The focus is on building sustainable relationships and steadily expanding the international footprint of spice export firms. This strategy emphasizes the importance of providing support to customers even after the sale, as strong after-sales service fosters trust and enhances customer satisfaction critical factors in international trade.

Additionally, this construct addresses spices export firms adaptability to global market trends and customer preferences. this study finding aligns with the Szymanski et al.(1993)finding that identified two key strategies for expanding into Western markets. Highlighting the first involves standardizing resource allocation patterns across marketing mix variables. Similarly, the study's findings align with those of Lubis & Muniapan(2024),who emphasize the importance of conducting competitive analysis. Further such analysis helps companies differentiate their products, build competitive advantages, and improve market positioning, ultimately leading to a larger share of the international market.

Operational competitiveness in the context of a spices export business combines quality management and cost leadership to create a strategy where the spices export can effectively compete on both quality and price. By ensuring stringent quality control measures throughout the production and supply chain, exporters can meet global standards and cater to the demands of diverse markets. Simultaneously, optimizing operational efficiency through cost-effective sourcing, production techniques, and logistics enables the business to keep prices competitive. This dual focus allows the spices exporter to deliver high-quality products while maintaining cost leadership, enhancing its ability to capture market share, penetrate new markets, and sustain profitability in an increasingly competitive global spices industry. This finding aligns with Hordofa & Tolossa(2020), who observed that Ethiopia was unable to enhance its production capacity and improve quality, which prevented it from becoming a competitive player in the global spices market. In the context of spices exports, excelling in both quality and price allows a company to attract international buyers seeking reliable suppliers that offer consistent product quality at competitive prices.

However, the study by Manova & Zhang (2012) contradicts our findings regarding international trade. It suggests that successful exporters use higher-quality inputs to produce superior goods and adjust product quality according to different markets. Firms often utilize inputs of varying quality levels depending on the destination market.

This study revealed that global expansion strategies and operational competitiveness are key business prospects for the spices export firm in Tamil Nadu. A special emphasis on export quality is necessary, as Indian spices have faced several challenges related to quality issues. These challenges have led some countries to prefer importing branded spices products from other sources, negatively affecting spices exports in Tamil Nadu. However, efforts are being made to resolve these issues and reclaim India's position as the leading player in the global spices market.

Limitation and Scope for Future Studies

The first limitation of the study was that data collection fieldwork had to be extended for a longer duration. The second and major limitation of the prospect of spices exporting firms is the absence of in-depth interviews with respondents. Also, the study can be further extended to other regions of India such as Kerala, Karnataka, and Andhra Pradesh. Maharashtra and Gujarat.

Conclusion

Through the second-order CFA, the study identified key business prospects for spices exports in the international market. The findings revealed that the prospects for spices exporters are driven by global expansion strategies and operational competitiveness.

A dynamic approach to international business growth, which includes providing providing post-sale value and remaining adaptable to evolving market conditions and customer demands, is essential for success. These factors are likely to shape the future of spices export industry. Based on the evidence from our study, we offer implications for both spices exporters and policymakers to enhance the potential of spices export industry.

Implications

The findings from this study on global expansion strategy and operational competitiveness have important implications for spices-exporting firms, policymakers, and the broader spices industry. Firms should strategically invest in market research, trade agreements, and logistics infrastructure to explore and penetrate new markets. By doing so, they can reduce their reliance on traditional markets, diversify revenue streams, and enhance resilience against global market fluctuations. Policymakers should support this expansion by negotiating favorable trade agreements, reducing export barriers, and offering financial incentives for market diversification. These efforts could strengthen India's position as a global leader in spices exports while simultaneously benefiting local economies by creating more jobs in spices-producing regions.

Additionally, firms must focus on improving both efficiency and product quality to remain competitive. Policymakers and industry leaders can contribute by supporting initiatives that provide access to advanced production technologies, quality certifications, and infrastructure designed to reduce costs and enhance operational performance.

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