Examining Factors Influencing the Ceylon Tea Export Market Share to East Asian Countries

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Abstract. East Asia tea market is a sophisticated market with high consumption and high production. Preferences for tea consumption are changing rapidly among consumers. This study examines the key factors influencing the export market share of Ceylon tea in East Asia, a region that presents both challenges and opportunities. The purpose of this research is to identify and analyze these factors in order to provide valuable insights that can improve Ceylon tea export performance. The research employed quantitative data analysis. The analysis was conducted using a multiple linear regression model. The main findings indicate that innovative technological practices, obtaining international certifications and the implementation of diverse marketing strategies; product differentiation and branding, significantly enhance the export performance. The production and export of value-added tea products emerged as a key driver of market share expansion. However, challenges such as high production costs adversely affect competitiveness of Ceylon tea. This emphasize the importance of modern strategic and technological approaches. The growing segment of health-conscious consumers; Millennials and Gen Z is shaping demand for natural, organic, wellness-focused teas, Ready-to-Drink variants and premium teas. With these, Ceylon tea's reputation for high quality presents a competitive advantage, where stringent quality standards apply. To remain competitive in the East Asian tea market, Ceylon tea exporters must adopt innovative marketing strategies, effectively reduce production costs, and focus on product quality and emerging consumer preferences. Improving trade fair participation, exploring market trends, and maintaining quality control are some of the key recommendations.

Keywords: East Asian tea market, Export market share, Competitive advantage, Consumer preference, Tea market trends

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1 Introduction

Sri Lanka's tea industry has long been a cornerstone of the national economy, internationally recognized for its premium quality "Ceylon tea." The sector provides significant foreign exchange earnings and employment to over one million people [Sri Lanka Tea Board, 2016; Sachitra, 2014]. Although Sri Lanka is the fourth-largest tea producer and third-largest exporter, the industry is facing challenges in sustaining its competitiveness in international markets. Despite positive growth in tea production in 2024, factors such as bulk tea exports and increasing competition threaten its market share. Exports are vital to Sri Lanka's economy, but declining competitiveness calls for strategies to regain its former position as the second-largest tea exporter [De Silva & Cooray, 2022].

Specifically, Ceylon tea's export performance in East Asia has been underwhelming. While existing research predominantly emphasizes broader and traditional markets, East Asia's unique market dynamics remain underexplored. This study aims to investigate the factors affecting Ceylon tea's competitiveness in East Asia, addressing current gaps and developing strategies to strengthen Sri Lanka's presence in this growing and culturally distinct region.

Ceylon tea, historically celebrated for its distinctive taste and significant role in the national economy, faces increasing challenges in the global market. Although domestic consumption remains stable, international competitiveness has declined due to factors including declining productivity, economic instability, the impact of COVID-19, and rising competition from countries such as Kenya, China, and India. Export volumes dropped notably in recent years, reaching their lowest point since 1996, while global shifts in consumer preferences toward value-added tea products, like tea bags and instant tea, have pressured Sri Lanka's predominantly bulk tea-focused export model [Hilal, 2019]. Efforts have been made to diversify through value addition, including organic and specialty tea products, but a larger strategic overhaul is needed to meet global market demands and maintain Sri Lanka's share in international trade [Fonseka, 1997; Yu & Zhang, 2022]. In East Asia, a critical target region for Sri Lanka's tea exports, consumer trends are evolving rapidly, with a growing demand for convenience-oriented and high-value tea products. Despite maintaining strong export relationships, particularly in the Middle East and CIS regions (Commonwealth of Independent States), Sri Lanka's reliance on bulk tea exports poses risks, given the global move toward packaged and branded teas. Enhancing the competitiveness of Ceylon tea will require strategic investments in value addition, marketing, and branding initiatives, particularly to appeal to sophisticated markets like East Asia and Europe. Strengthening market research, embracing product innovation, and targeting niche markets will be essential for sustaining and expanding Sri Lanka's presence in the global tea industry.

The general objective of this study is to examine the factors influencing Ceylon Tea export to East Asian Countries. Specific objectives of the study are to identify the internal factors affecting the export performance of Ceylon tea in East Asian Region, to identify current consumer demand, trends, and purchasing behavior of Ceylon tea in East Asian tea markets and to suggest possible solutions to improve the export performance of Ceylon tea in the East Asian region.

2 Literature Review

Sri Lankan tea, known as Ceylon tea, is highly popular among consumers due to its specific taste and aroma. A significant portion of Sri Lankans, approximately 89 percent, regularly consume tea, with the average person purchasing about 112 g of tea each month [Sri Lanka Tea Board, 2016].

Recent statistics indicate that the performance of Ceylon tea in the global market is gradually declining, with countries such as China, India, and Kenya emerging as the leading players in the global tea industry [Statista, 2019].

Overall tea production, excluding green tea, increased by 1.79% to reach 254,155,850 kilograms, although national production in 2022 saw a 16% decrease compared to 2021 [Perera & Rathnayake, 2021].

The Sri Lankan tea industry has experienced significant growth and challenges over the past few decades. A major milestone occurred in 2008 when the industry's export earnings surpassed US$ 1 billion for the first time. This achievement marked Sri Lanka's dominance in the global tea market. However, the issues related to product quality, declining productivity, and increased competition on the international stage became apparent, posing a challenge to sustaining its global standing. In 2011, consumer behavior in Sri Lanka highlighted the cultural significance of tea. A survey conducted by the Sri Lanka Tea Board indicated that 72% of consumers drank tea to feel refreshed and active. This emphasized not only tea's importance as a global export but also its role within the local market and everyday life. Despite this strong domestic demand, by 2014, the tea industry faced increasing pressure from global competition. [Sachithra, 2014].

However, as the global tea market expanded, the need for higher efficiency and improved product quality became more pressing. In 2021, Sri Lanka managed to secure a 10% share in the global tea market, with total export volumes reaching 285,877 metric tons. The shift toward value-added exports, such as green tea, organic tea, and instant tea, demonstrated the industry's efforts to adapt to changing global demands [Sri Lanka Tea Board, 2022].

The year 2022 marked both progress and setbacks for the Sri Lankan tea industry. The sector's contribution to the national GDP rose to 4.1%, reflecting its continued importance to the economy [Sri Lanka Tea Board, 2022].

Export volumes fell sharply by 12.5%, with only 230.866 million kilograms of tea exported. This decline was the lowest level since 1996 and was attributed to ongoing economic challenges and production shortfalls [FAO, 2024].

By 2023, the export landscape had shifted, with Tea in Packets making up 44.7% of exports and Tea in Bulk accounting for 42.7%. Smaller segments like Tea in Bags, Green Tea, and Instant Tea reflected a more diversified approach to tea exportation (Figure 1) [Sri Lanka Tea Board, 2023]. Globally, Sri Lanka's tea industry faces fierce competition, with the country holding a 9% share of global tea production and 19% of global tea exports. As the industry moves forward, addressing productivity and quality concerns will be crucial for maintaining its competitiveness in the international market [FAO,2024].

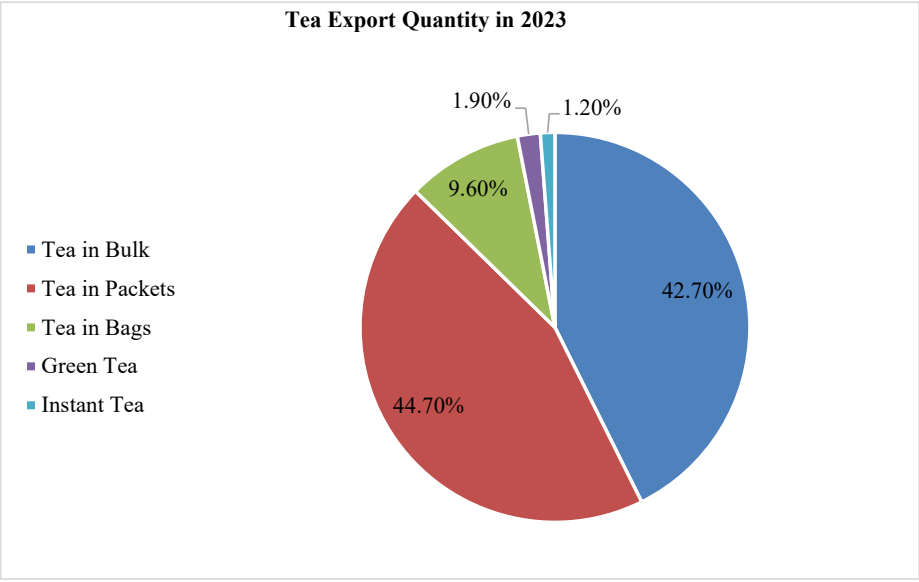

Fig. 1. Tea Export Quantity in 2023

Source: SLTB 2023

2.1 Tea Consumption of East Asian Region

East Asia is both a significant tea-consuming and -producing region. Despite its rich tea culture and economic importance, few studies have examined the tea industry in East Asia from a supply chain perspective. Historically, tea production and consumption have deep roots in countries such as China, Japan, Taiwan, and Korea, all of which maintain tea production data through the Food and Agriculture Organization (FAO) of the United Nations [Yu & Zhang, 2022]. Japan's tea production has been relatively stable, while Taiwan produces less but maintains consistent output. Korea, in contrast, has a much smaller tea production scale [Lei, 2016].

Taiwan's domestic tea consumption far exceeds its production capacity. Approximately 75% of the tea consumed in Taiwan is imported, with only 25% produced locally. However, Taiwan has shifted focus from merely exporting tea to leading in the global tea value chain by exporting ingredients and technology for specialty tea drinks, including bubble tea. The tea industry in Taiwan is now characterized by the production of high-value-added products like foam tea and canned tea drinks, often using imported tea leaves [Lei, 2016].

China's long history of tea production dates back to the 2nd century BC. Today China is the largest tea producer in East Asia. From 2003 to 2024, China consistently

maintained its position as the largest global tea producer following Sri Lanka and Kenya, and its production has steadily increased since. [Lei, 2016]. Tea is deeply embedded in Chinese culture, with two-thirds of the country's tea production consumed domestically. China's tea industry has become polarized, focusing on high-quality premium teas for domestic consumption and mass-produced teas for export [Yu & Zhang, 2022].

Although Sri Lanka is predominantly focused on bulk tea exports, these exports yield lower profits compared to value-added forms of tea, which command price premiums of up to 250% [RAM, 2010]. Moreover, consumer demand for convenient tea products, such as tea bags, instant tea, and flavored teas, continues to grow globally, including in East Asia [Fonseka, 1997].

East Asian tea cultures have experienced significant transformations in recent decades. In China, traditional tea culture has undergone a resurgence, contributing to the expansion of the tea market and the creation of new tea varieties, which blend traditional techniques with innovative production methods [Zhang, 2018]. Korea's tea culture has evolved from a court- and temple-based tradition to a more democratized practice. Similarly, Taiwan's tea culture, once centered on semi-fermented teas, has evolved into an innovative tea industry known for bubble tea [Yu & Zhang, 2022]. These cultural shifts demonstrate the adaptability and enduring significance of tea in East Asian societies.

While East Asia remains a dominant tea-consuming and -producing region, its tea industry is facing challenges posed by increasing competition from other tea-exporting nations and shifting consumer preferences. For Sri Lanka to maintain and grow its export market share of Ceylon tea to East Asia, adapting to these changes by focusing on value-added products and aligning with modern consumption trends will be crucial [Kasturiratne, 2008; RAM, 2010].

Ceylon tea maintaining a distinguished image among foreign markets. Tea exports account for approximately 11% of total exports and contribute around 62% to total agricultural exports in the country. However, the country faces stiff competition from tea-producing nations like Kenya, Vietnam, and Indonesia. Sri Lankan tea depends mostly on CIS (Commonwealth of Independent States), Russian Federation, and Middle Eastern countries' markets. About 70% of the bulk tea is exported to these markets [Ranaweera, 2007]. This could be risky for the Sri Lankan tea industry as these markets are huge for bulk tea. The competitiveness of Sri Lankan tea is decreasing in the global market due to the high cost of production. These markets may get cheaper tea from other origins. Hence, rather than depending on these markets, Sri Lanka can target sophisticated customers in developed countries such as the East Asia and European Union, where there is good demand for value-added tea products.

The table 1 provides an insightful overview of Sri Lanka's major tea export destinations, highlighting the prominence of Middle Eastern markets, as evidenced by significant export volumes to Iraq and the United Arab Emirates (UAE). According to data from the Ceylon Tea Board, Iraq stands as the largest importer of Ceylon tea, Turkey, Russia and the UAE are also major importers. The data is further disaggregated into the types of tea exports; bulk tea, tea packets, and tea bags, revealing distinct consumption patterns across these markets. The figures underscore Sri Lanka's strategic emphasis

on Middle Eastern countries, particularly Iraq and the UAE, which together account for a significant portion of total tea exports. This focus on the Middle East as a key export region suggests Sri Lanka's prioritization of catering to the specific preferences of these markets, aiming to optimize the value chain and enhance its position in global tea trade.

Table 1. Major Tea Exporting Countries of Sri Lanka

Country	Total Kgs	Tea Bulk %	Tea Packets %	Tea Bags %
Iraq	32306560	14.0	84.8	1.1
Turkey	30634543	22.5	73.4	4.0
Russia	22261738	78.7	15.2	3.9
UAE	18209243	64.4	31.8	1.6

Source – SLTB 2023

Table 2 provides a comprehensive analysis of Sri Lanka's tea exports to key countries in the East Asian region in 2023, based on data from the Ceylon Tea Board. The countries examined include China, Japan, Taiwan, Hong Kong, South Korea, Mongolia, and Macau. China emerges as the largest importer of Sri Lankan tea within this region.

The data highlights the predominance of bulk tea in East Asia's imports, with varying degrees of demand for tea packets and tea bags, lower. This reinforces the significance of the East Asian region in Sri Lanka's tea export strategy, as it aligns with both bulk and value-added product preferences. Understanding these market-specific trends is crucial for refining Sri Lanka's export policies and enhancing its competitiveness in the East Asian tea market. As the major focus region of this research, East Asia represents a key opportunity for optimizing Sri Lanka's tea trade, particularly in bulk exports, while recognizing niche demands for processed tea formats such as tea bags.

Table 2. East Asian Region Tea Export Statistics

Country	Total Kgs	Tea Bulk %	Tea Packets %	Tea Bags %
China	12,378,352	89.6	6.7	2.6
Japan	4726,710	79.9	4.5	15.1
Taiwan	4,199,660	88.6	8.3	1.8
Hong Kong	3,708,903	80.3	10.0	9.5
South Korea	294,452	51.5	35.8	8.2
Mongolia	139,027	-	2.4	92.7
Macau	96,154	98.7	0	0.8

Source: SLTB 2023

In East Asia, Ceylon tea constitutes a relatively small portion of the total tea market. Mongolia, South Korea, and Hong Kong show very low Ceylon tea utilization, with Sri Lankan tea making up only a tiny fraction of their overall tea imports. China, on the

other hand, has the smallest share of Ceylon tea relative to its total tea imports, reflecting minimal market utilization of Sri Lankan tea (Figure 2). Overall, the chart highlights that Sri Lanka's tea exports are underutilized across the tea markets of these East Asian countries, representing a small share compared to their total tea imports, with ability for growth in market share.

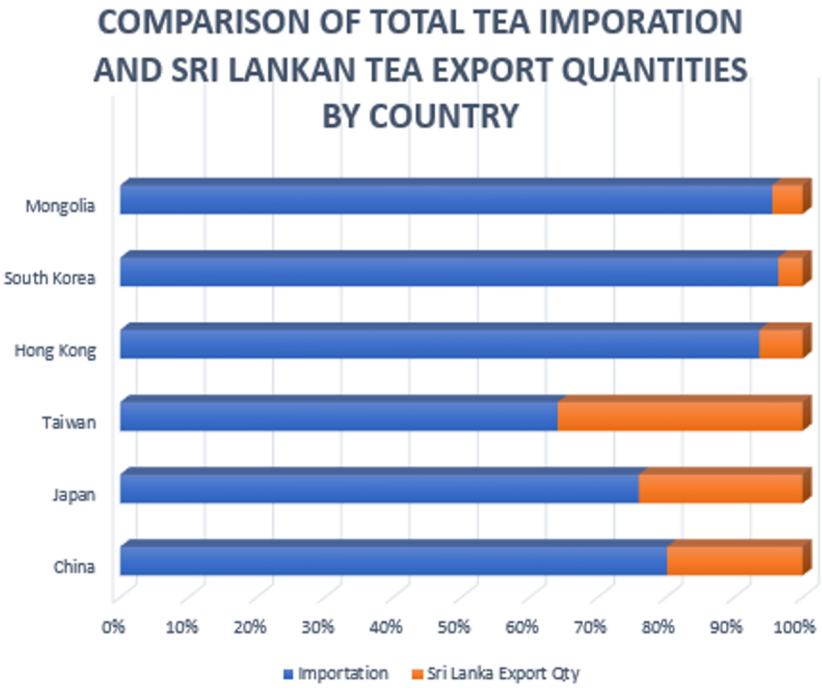

Fig. 2. Comparison of Total Tea Importations and Ceylon Tea Export Quantities

3 Materials and Methodology

This chapter discusses the relevant methodological procedures that were used in data collection and data analysis. It contains the research design, conceptual framework, sample size, population, sampling procedure, methodology, reliability test, and methods of data analysis.

3.1 Research design

The Research Design is the important step of the study in order to collect relevant information. The study was designed by using following steps.

1. The conceptual framework was developed for the study
2. The sampling techniques and sample size were identified and specified.
3. A questionnaire was constructed and pretested.
4. The questionnaire was finalized and data were collected.
5. Behavior of independent and dependent variables were observed by applying correlation analysis
6. Multiple regression analysis was done to established relationship between independent and dependent variables.

3.2 Conceptual framework

The conceptual framework (Figure 3) for this study was developed through a comprehensive review of prior literature on tea export performance, international marketing, and competitiveness in agricultural exports. Key theoretical foundations were drawn from Porter's Competitive Advantage Theory and export performance models used in similar studies [e.g., Herath & Silva, 2011; Ganewatta et al., 2005; Kithsiri et al., 2020]. Empirical studies that analyzed factors such as innovation, international certifications, production costs, and marketing strategies in the Sri Lankan and global tea industries were particularly influential. In addition, industry reports and expert insights obtained through preliminary discussions with exporters informed the inclusion of context-specific variables such as the value-added export ratio, scale of production, and diversity in consumer preferences.

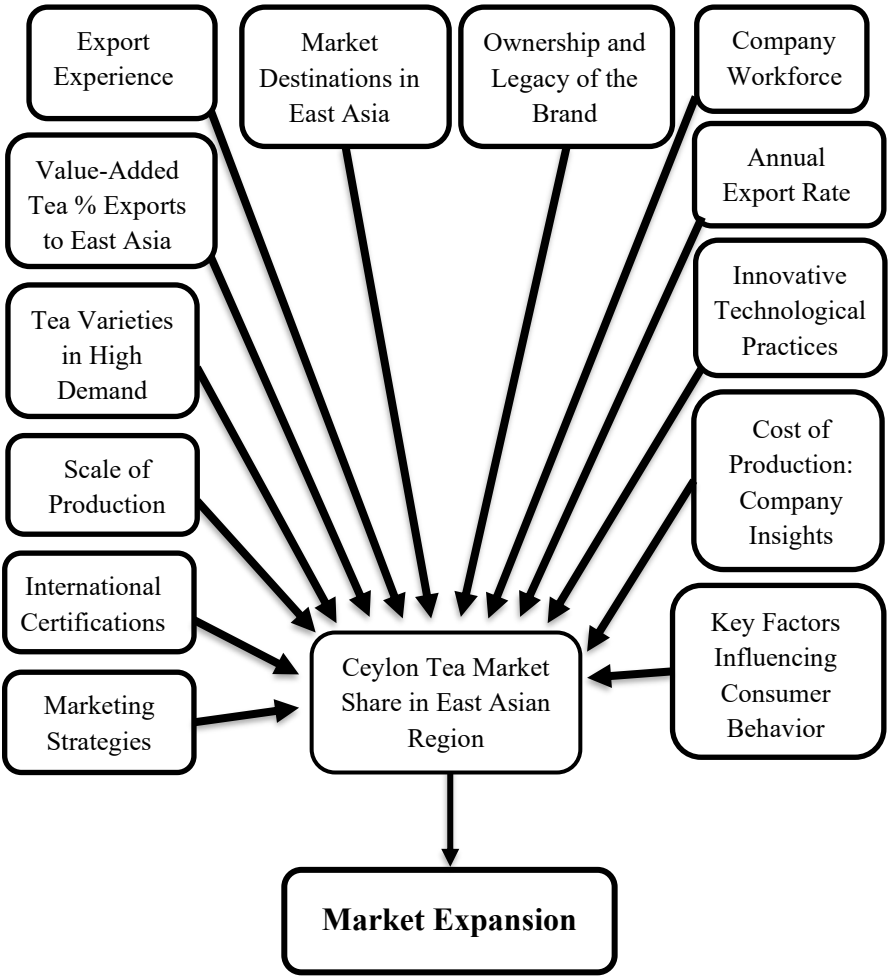

Fig. 3. Ceylon tea export relating factors

3.3 Sampling technique of the study

In this study, a census sampling approach was applied to a specific sub-population: all Ceylon tea export companies in Sri Lanka exporting to East Asia. Of the 215 companies registered with the Sri Lanka Tea Board, 90 exported to East Asia in 2023. All 90 were contacted to ensure comprehensive data collection; however, only 61 companies responded (Figure 4). Although the study aimed for a full census, the final sample reflects a self-selection process, as only the companies that chose to respond were included.

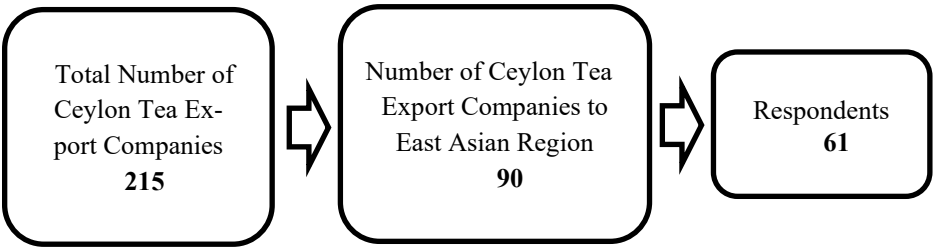

Fig. 4. Sample size

Data Sources and Data Collection Methods. This study used both primary and secondary data. Primary data was collected from Ceylon tea exporting companies into East Asian region through a questionnaire. Data were collected through google survey, direct interviews, telephone calls and emails. Secondary data was collected from sources of secondary data such as the International Tea Committee, the Sri Lanka customs, the Sri Lanka Tea Board, the Central Bank of Sri Lanka, and the Export Development Board of Sri Lanka, Tea Exporters Association, Forbes & walkers PLC. Other sources of publications such as research articles, web-references, annual reports, journals and books were also associated with the extraction of data.

3.4 Data analysis

Quantitative data were gathered and the data were gathered by using dummy variables, five Likert scale and short answer questions. SPSS 27 statistical software was used for the advance statistical analysis. Open ended questions were used to collect Ceylon tea exporters' suggestions and recommendations.

3.5 Empirical model

Empirical model for the research was also developed to identify the relationship between dependent and independent variables by multiple linear regression model.

Where,

$$\text{EMS \%} = \boldsymbol{\beta 0} + \boldsymbol{\beta 1}(\text{EXY}) + \boldsymbol{\beta 2}(\text{OLB}) + \boldsymbol{\beta 3}(\text{CW}) + \boldsymbol{\beta 4}(\text{ITP}) + \boldsymbol{\beta 5}(\text{AER}) + \boldsymbol{\beta 6}(\text{EXEA}) + \boldsymbol{\beta 7}(\text{SOP}) + \boldsymbol{\beta 8}(\text{NIC}) + \boldsymbol{\beta} 9(\text{VATEA}) + \boldsymbol{\beta} 10(\text{DMS}) + \boldsymbol{\beta} 11(\text{COP}) + \boldsymbol{\beta} 12(\text{TVHD}) + \boldsymbol{\beta} 13(\text{FICB}) + \boldsymbol{\varepsilon}(\text{TVHD})$$

β0 - Coefficient of constant
β - Coefficient of Variable
EMS% - Export Market Share of Ceylon Tea to East Asia %
EXY - Years of Export Experience
OLB - Ownership and Legacy of the Brand
CW - Company Workforce
ITP - Innovative Technological Practices
AER - Annual Export Rate
EXEA - Export Destinations in East Asia
SOP - Scale of Production
NIC - Number of International Certifications
VATEA -Value-Added Tea % Exports to East Asia
DMS - Diverse Marketing Strategies
COP - Cost of Production: Company Insights
TVHD - Tea Varieties in High Demand
FICB - Key Factors Influencing Consumer Behavior
$\boldsymbol{\varepsilon}$ - Error

3.6 Variables

Dependent Variable. The dependent variable of the study was the Ceylon Tea Export share to East Asian Region in 2023, measured by the percentage quantity (% kg) of Ceylon tea exported to East Asia out of total tea quantity exported by each 61 companies. The data were collected from the data source of Ceylon Tea Board.

Independent variables. Independent variables (Table 3) were assumed as the factors which influence the Ceylon Tea Export share to East Asian Region in 2023.

Table 3. Independent variables and measurement

Variable	Indicator	Type
Exporter scale of tea production	• Small • Medium • Large	Dummy
Ownership and Legacy of the Brand	Yes/ No	Dummy
Company Workforce	• No of factory staff • No of office staff	Likert Scale
Years of Export Experience	No. of years	Numeric
Tea Varieties in High Demand	• Bulk • Tea in packets (below 3kg) • Tea in bags • Instant tea • Iced tea • Gift packs • Herbal tea • Private Label • Other:	Dummy
Innovative Technological Practices	1 = Very Low 2 = Low 3 = Neutral 4 = High 5 = very High	Likert scale
Diverse Marketing Strategies	• Product differentiation • Branding • R&D innovation • Customer focus • Quick delivery	Dummy

Factors Influencing Consumer Behavior	• Price • Quality • Brand reputation • Packaging • Health benefits	
Cost of Production: Company Insights	• Strongly Disagree –1 • Disagree – 2 • Neutral – 3 • Agree – 4 • Strongly Agree – 5	Likert scale
Annual Export Rate	• Less than 10% • 10% - 40% • 40% - 70% • 70% - 100% • 100%	Dummy
Export Destinations in East Asia	East Asian Countries	Number of countries
Number of International Certifications	• ISO 9001 • ISO 22000 • HACCP • GMP • HALAL • USDA ORGANIC • EU ORGANIC	Dummy
Value-Added Tea % Exports to East Asia	Secondary data – Ceylon Tea Board	Percentage %

Exporter Scale of Tea Production (Dummy Variable). Exporters were categorized according to their scale of tea production. According to the Sri Lanka tea board, exporters have categorized by the annual volume of tea produced.

Years of Export Experience (Number of Years). The number of years in exporting tea by the companies was used to measure the company experience on tea exportation.

Ownership and Legacy of the Brand (Dummy Variable). A company having its own brand name is important when they export their commodities to abroad. Most of the tea exporters in Sri Lanka have their own brand name while some of them export under the other foreign brands, Accordingly, this study tested whether Company use Brand name or not.

Company Workforce (Number of Workforce). Tea producers have both machinery and labor force in their production process. Labor productivity can be increased by labor force management in the production to increase of the exportation of tea.

International Certification (Number of certifications) Tea exporters have obtained several international certifications, which serve as indicators of the company's success and commitment to quality. These certifications reassure international buyers, who are more inclined to purchase from certified exporters due to attributes such as product quality, safety, and natural origins.

It not only strengthens the brand image but also positively influences consumer attitudes, brand preferences, and purchase intentions, making it a key driver in the export market.

Destinations in East Asia (Number of Countries). To measure the variable, out of seven countries in East Asian region, count of Ceylon tea purchasing countries was calculated. When the companies have more market destinations it means they have expanded their exportation.

Technological Approach (Number of Technological Approaches). The identified technological approaches for the tea exportation to East Asian region are as fallows and tested statements given in questionnaire.

- Use advanced technologies to save time, reduce labor force for enhance the productivity
- Use own software to data entering, keeping and selling tea
- R & D facilities (The company have its own research and development department)
- Conduct conference meetings, alliances with foreign management staff
- Use renewable sources inside the factories for efficient energy consumption

Tea Varieties in High Demand in East Asian Market. Varieties of Ceylon teas the company that are in high demand within east Asian buyers which are identified from the Ceylon tea exporters was counted

Marketing Strategies (Number of Marketing Strategies Used). Identified marketing strategies used by the exporting companies are

- Product differentiation
- Branding
- R&D innovation
- Digital marketing
- Cost leadership
- Customer focus and strategic partnerships

- Environmental sustainability
- Customized products
- Owns tea shops in foreign countries with the brands
- Digital marketing

Perception on Cost of Production (Likert Scale). There were 6 statements and measured using the sum of the Likert scale score.

- Packing cost is higher than tea blend making and flavoring?
- Since the production of tea bags needed advanced technology, the cost for the tea bag machines is higher
- The cost incurred in the transportation, raw materials, labor and machinery have increased in 2023
- The "selling prices of tea" in the public auction has increased and therefore cost for purchasing has increased
- The company import some specific materials to make value added tea
- Due to the depreciation of the local currency value, the value of income gain from the international buyers has increased

Factors Influence Purchasing Behavior (Number of Factors). factors influence purchasing behavior of east Asian buyers identified by Ceylon tea exporters was used to measure this. out of price, quality, brand reputation, packaging, health benefits and etc. were counted.

Value added tea Percentage to East Asia (Percentage). Secondary data was used to measure this. The percentage of tea exported in tea packets and tea bags was calculated out of total tea export weight.

Annual Export Percentage (Dummy variable). Annual tea export percentage was calculated from the amount of tea exported out of total tea production of the company. Five ranges were used to get the count of export percentage.

4 Results and Discussion

4.1 Normality test

Normality test was conducted to assess whether the data followed a normal distribution. Both the Kolmogorov-Smirnov (statistic = 0.292, $p < 0.001$) and Shapiro-Wilk tests (statistic = 0.709, $p < 0.001$) indicated significant departure from normality (Table 4).

Table 4. Normality test for dependent variable

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
East Asia Export Ratio	.292	61	<.001	.709	61	<.001

Source: SPSS output

The table 5 presents the skewness values for key variables influencing the export share of Ceylon Tea to the East Asian region in 2023. Variables such as Ownership and Brand Legacy showed positive skewness, indicating clustering at higher values, while Export Experience skewed toward lower values. Variables like Company Workforce, Technological Practices, and Annual Export Rate exhibited near-symmetrical distributions. Others, including Tea Varieties in Demand, Consumer Behavior Factors, and Export Destinations, showed mild skewness within acceptable limits for parametric tests. International Certifications and Value-Added Export Percentage were skewed toward lower values, whereas Cost of Production showed higher frequencies of larger values.

Table 5. Results of the normality test of independent variables

Variable	Skewness	Std. Error of Skewness
Exporter scale of tea production	-0.281	0.306
Ownership and Legacy of the Brand	-2.241	0.306
Company Workforce	0.174	0.306
Years of Export Experience	2.709	0.306
Tea Varieties in High Demand	0.551	0.306
Innovative Technological Practices	0.140	0.306
Diverse Marketing Strategies	-0.032	0.306
Factors Influencing Consumer Behavior	0.255	0.306
Cost of Production: Company Insights	-0.638	0.306
Annual Export Rate	-0.125	0.306
Export Destinations in East Asia	0.166	0.306
Number of International Certifications	1.048	0.306
Value-Added Tea % Exports to East Asia	1.036	0.306

The table 6 presents the results of normality tests, specifically the Kolmogorov-Smirnov and Shapiro-Wilk tests, applied to various independent variables. Both tests assess the null hypothesis that the data follows a normal distribution. For the Kolmogorov-Smirnov test, all variables, including "Export Share of Ceylon Tea to East Asia,"

"Years of Export Experience," and "Ownership and Legacy of the Brand," exhibit significant p-values (Sig. < 0.05), indicating non-normal distribution. Similarly, the Shapiro-Wilk test, which is more suitable for smaller sample sizes (n = 61 in this case), shows significant results (Sig. < 0.05) for all variables, further confirming the rejection of the normality assumption. These results suggest that non-parametric methods may be more appropriate for further statistical analysis. The dataset involves key aspects such as company workforce, innovative technological practices, marketing strategies, and consumer behavior factors, all of which seem to deviate from a normal distribution, highlighting the complexity of the factors affecting Ceylon tea exports to East Asia.

Table 6. Kolmogorov-Smirnov and Shapiro-Wilk tests

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Export Share of Ceylon Tea to east Asia	.292	61	<.001	.709	61	<.001
Years of Export Experience	.353	61	<.001	.639	61	<.001
Ownership and Legacy of the Brand	.519	61	<.001	.398	61	<.001
Company Workforce	.125	61	.019	.907	61	<.001
Innovative Technological Practices	.193	61	<.001	.856	61	<.001
Annual Export Rate	.264	61	<.001	.829	61	<.001
Key Export Destinations in East Asia	.126	61	.018	.949	61	.013
Scale of Production	.263	61	<.001	.785	61	<.001
No. of International Certifications	.178	61	<.001	.904	61	<.001
Diverse Marketing Strategies	.134	61	.008	.920	61	<.001

Cost of Production: Company Insights	.118	61	.034	.931	61	.002
Tea Varieties in High Demand	.167	61	<.001	.922	61	<.001
Factors influencing Consumer Behavior	.195	61	<.001	.894	61	<.001
Value added tea % export to East Asia	.225	61	<.001	.809	61	<.001

Source: SPSS output

4.2 Correlation analysis

Table 7. Correlation analysis results

		Export Share of Ceylon Tea to East Asia		
	Independent Variable	Pearson Correlation Coefficient (r)	Sig.	Strength of Relationship
1	Company Export Experience	0.191	0.141	Weakly positive
2	Brand Ownership	-0.272	0.034	Weakly negative
3	Number of Staff	0.159	0.220	Weakly positive
4	No. of Technological Approaches Company Used	0.652	<0.001	Strong positive
5	Export Percentage from the Production	0.457	<0.001	Weakly positive
6	Market Destinations in East Asia	-0.086	0.512	Weakly negative
7	Exporter Scale of Production	-0.108	0.407	Weakly negative
8	No. of International Certifications	0.773	<0.001	Strong positive
9	No. of Marketing Strategies Adopted by the Company	0.636	<0.001	Strong positive
10	Perception on Cost of Production	-0.614	<0.001	Strong negative

11	Types of Ceylon Teas the Company have High Demand for	-0.247	0.005	Weakly negative
12	Factors influence East Asian Buyers' Purchasing Decision	-0.170	0.189	Weakly negative
13	Value added tea % export to East Asia	0.599	<0.001	Strong positive

Source: SPSS output

This study examined key determinants of the export share of Ceylon tea to East Asian markets. The findings indicate that the adoption of innovative technologies, acquisition of international certifications, and implementation of effective marketing strategies are significant drivers of export success. In contrast, high production costs and a negative association with brand ownership were identified as barriers to export performance. Additionally, the production of value-added tea products emerged as a critical factor in enhancing export shares (Table 7). These results underscore the importance for Sri Lankan tea exporters to prioritize innovation, certifications, value-added products, and strategic marketing to improve competitiveness in East Asian markets.

4.3 Multiple regression analysis

Model summary. The model summary presents key statistical values from a regression analysis. The R value of 0.933 indicates a very strong positive correlation between the independent variables and the dependent variable. The R-squared (R^2) value of 0.871 shows that 87.1% of the variation in Ceylon tea export market share in East Asia is explained by the independent variables in the model. The adjusted R-squared value of 0.838 accounts for the number of predictors and provides a more accurate reflection of the model's explanatory power. The standard error of the estimate, 0.098, shows the average distance that the observed values fall from the regression line, indicating the model's prediction accuracy. Lastly, the Durbin-Watson statistic of 2.036 suggests that there is minimal autocorrelation in the residuals, meaning the errors are not correlated. Overall, this model shows a high level of fit and reliability in explaining the Ceylon tea market share in East Asia (Table 8).

Table 8. Model summery of regression analysis

Model	R	R Sqare	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.933[a]	.871	.838	.098023132	2.036

Source: SPSS output

A reliability test conducted on responses measured with a five-point Likert scale yielded a Cronbach's Alpha of 0.927, demonstrating high internal consistency and

strong reliability of the instrument used to assess perceptions of production costs in 2023 (Table 9).

Table 9. Reliability test

Item	No of Items	Cronbach's Alpha
Cost of Production	6	.927

Source: SPSS output

Table 10. ANOVA table of regression analysis

Model		Sum of Squares	df	Mean Square	F	Sig
1	Regres-sion	3.088	13	.238	23.323	<.001[b]
	Residual	.479	47	.010		
	Total	3.566	60			

Source: SPSS output

ANOVA table. The ANOVA test results indicate that the regression model used to analyze factors influencing Ceylon tea exports to East Asia is statistically significant. The model explains a substantial portion of the variance in the export share, as evidenced by the Sum of Squares for the regression (3.088) and a high F-statistic (23.323) with a p-value less than 0.001. This suggests that the independent variables significantly impact the export share. (Table 10).

Table 11. Multiple regression analysis

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std.Error	Beta	t	Sig.
Constant	.220	.129		1.703	.095
Years of Export Experience	.000	.000	.019	.301	.764
Ownership and Legacy of the Brand	-.034	.044	-.047	-.765	.448
Company Workforce	.010	.011	.058	.947	.349
Innovative Technological Practices	.030	.012	.187	2.465	.017
Annual Export Rate	.001	.000	.151	2.449	.018

Key Export Destinations in East Asia	-.021	.011	-.136	-1.893	.064
Scale of Production	-.053	.023	-.177	-2.260	.028
Number of International Certifications	.027	.007	.329	3.736	<.001
Diverse Marketing Strategies	.018	.007	.192	2.427	.019
Cost of Production: Company Insights	-.052	.018	-.203	-2.913	.005
Tea Varieties in High Demand	-.010	.009	-.068	-1.166	.249
Key Factors Influencing Consumer Behavior	-.006	.011	-.031	-.538	.593
Value-Added Tea % Exports to East Asia	.001	.001	.158	2.314	.025

Source: SPSS output

Multiple regression coefficients values. Key findings indicate that the adoption of innovative technologies, higher annual export volumes, international certifications, and diversified marketing strategies significantly enhance export success. Additionally, focusing on value-added tea products enhances the chances of increasing market share in East Asia.

However, the analysis also shows that high production costs and larger production scales negatively affect export performance. Interestingly, traditional factors such as years of export experience, brand ownership, and workforce size do not significantly influence export performance, implying that more modern, strategic factors like technology, certification, and marketing are critical for success in this region. (Table 11)

5 Conclusion

This study examined the factors influencing Ceylon Tea exports to East Asia, focusing on internal challenges, consumer demand shifts, emerging market trends, and strategies for improvement. Key internal factors identified include production cost management, product quality, and innovation, while external factors influence stem from evolving consumer preferences and dynamic market conditions. In response to open-ended short-answer questions from experts handling overseas clients at tea export companies, demand is increasingly being driven by health-conscious millennials and Gen Z consumers, who prefer natural and organic products, as well as Ready-to-Drink (RTD) teas. Ceylon Tea's high quality aligns with these trends, particularly in markets like Japan, where strict quality standards prevail. The rise of premium and specialty teas, alongside the globalization of tea traditions such as Matcha and Bubble tea, presents further opportunities.

To capitalize, exporters must prioritize quality, reduce pesticide and weedicide residues, innovate with health-focused and flavored teas, and enhance brand engagement

through trade fairs and festival promotions. Managing production costs without compromising quality is crucial, especially in competition with producers like Kenya. Expanding offerings in wellness teas and RTD segments can attract a broader, younger consumer base. The research concludes that integrated internal and external strategies, emphasizing cost control, quality assurance, product innovation, and targeted consumer engagement are essential for improving Ceylon Tea's competitiveness and expanding its market share in East Asia.

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Declaration of Conflict of Interest. The authors declare that they have no conflicts of interest related to this study.

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