

Factors Affecting Export Performance in Sri Lanka: with Especial Reference to Value-Added Rubber Products Industry

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Abstract

The study was conducted to identify the determinants of the export performance of the value-added rubber products industry in Sri Lanka. This research has identified the impact of several selected factors on the export performance and the strength of those factors' impact on the industry. The research study was carried out by performing a comprehensive survey by focusing exclusively on Sri Lankan value-added rubber products exporters. Online questionnaire and interviews were used as research instruments to get the feedback from a randomly selected sample which comprises more than fifty percent of Sri Lankan value-added rubber products exporters. For the purpose of analysis, descriptive statistics were comprehensively used. Determinants of export performance have been identified by reviewing literature as firm characteristics, marketing strategies, market characteristics, technical capabilities and the investment portfolio. These variables' relationships were analyzed and positive correlation was identified with export performance. They are firm characteristics and technical capabilities. Thus, Sri Lankan value-added rubber products industry can improve their market performance by focusing the enhancement of those two factors. Further, the technical capability was identified as the most significant factor for the value-added rubber products' export performance. Therefore it was recommended the manufacturers & exporters to focus on their technical capabilities to gain more industry performance.

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Keywords: Export Performance, Value-Added Rubber Products, Manufacturing Sector, Sri Lanka

Cite this article: KP, S., & EACP, K. (2015). Factors Affecting Export Performance in Sri Lanka: with Especial Reference to Value-Added Rubber Products Industry. *International Journal of Management, Accounting and Economics*, 2(7), 780-788.

Introduction

According to Export Development Board of Sri Lanka in 2013, Sri Lanka was the world's sixth largest natural rubber exporter and the eighth largest natural rubber producing country. As per the Sri Lanka Export Development Board, Sri Lanka was well known for manufacturing number of value added rubber products by processing raw rubber. These rubber products were internationally acclaimed and accepted for quality and durability. Apart from industrial solid tires and gloves, Sri Lanka offers extrusion products, latex products, industrial products, and general rubber products and related components to the export market. (Sri Lanka Export Development Board, 2011).

The average share of the value of finished products exports was 81% of total exports in 2007 and it was 83% in 2012. However, year on year average growth rate of the total value of finished rubber products exports was 36% from year 2007-2008 and it has decreased to -10% from year 2011-2012. Solid tire sector is being the major contributor to Sri Lankan export value, although the export value growth rate has been decreased approximately by 5.7% from 2011 to 2012. According to Sri Lanka Export Development Board, in 2013 the main reason for this recession had been identified as the European financial crisis in 2012. But in the year 2013, the export performance of finished rubber products of Sri Lanka had gained only 2.85% of a positive growth.

Export performance can be defined as a relative success or a failure of the effort of a firm or nation to sell domestically-produced goods and services in other nations. Better gaining from export activities resulted in high export performance and nations should have supply capacity to gain such performance over its competitors. Various indicators such as capital, technical know-how, human resource, natural resources, economic stability, foreign direct investments, etc. are empowered for the highest export performance of a nation. Changes in the macroeconomic environment directly effect on the export performance of the most of countries in the world (Fugazza, 2004). The export performance determinants can be similar among nations in the same geographical-region or else as developed and developing nations. On the other hand each industry has its own export performance determinants and those can be different from one industry to another.

Literature Review

According to the study conducted on the Malaysian export market, it revealed the trustworthiness, social networks' favor and the friendship enhance the cooperation with their market which enable for export sales growth (Behyan, Mohamad & Omar, 2011).. On the other hand, Sharma (2003) has study the statistical significance on the foreign direct investment and Indian export market performance and stated there was no relationship although the correlation has showed a positive sign. However in Sri Lanka,

the investment portfolio is a common factor in the manufacturing sector as most of the firms functioning under the Board of Investment in Sri Lanka.

As per the Oliveira et al. in 2012, export performance indicators of greatest interest were the economic measures. These contain sales related dimensions such as sales growth and revenues relative to market share and profit related dimensions like profit margins, ratios and growth trends (Oliveira et al., 2012).

Certain factors that were impacting on the export performance have been identified from the literature. From the research done by Babakus et al. in 2006, a positive significance of the firm size on the foreign network and export performance had been identified (Babakus, Yavas & Haahti, 2006). Cavusgil and Naor (1987) concluded that the larger the company the more likely it is to export while Czinkota and Johnston, (1983) suggested that company size did not affected export activities.

Most findings indicated that perceived technological strengths are positively related to propensity to export (Aaby and Slater, 1989). In contrast, Nassimbeni in 2001 stated that the technological profile was less related to the export attitudes of the small scale manufacturers (Nassimbeni, 2001).

Literature revealed marketing strategies had a positive impact on export performance. Usages of export promotion programs positively influence managers' export knowledge and their positive perception toward export market environment. This consequently influences managers' commitment to export, firm export strategy and eventually firm export performance. Findings also indicated that firm managers who used more of the export promotion programs tended to have positive attitude toward export environment, were more knowledgeable about export markets and export procedures, and were more committed to export (Shamsuddoha & Ali, 2006).

Environmental characteristics such as competitive intensity and customer exposure were identified as another factor of impacting on exports performance. Competitive intensity; in the export market the intensity of competition could make firms to seek a high level of product and promotion adaptation to gain a competitive benefit over competitors (Jain, 1989; Cavusgil et al., 1993). In a competitive export market, a high level of product adaptation is needed in order to have a strong competitive pressure, because product adaptation can help gain a competitive dominance over competitors (Cavusgil & Zou, 1994). As per the Cadogan et al. in 2012 and Koksall in 2008, the export customer familiarity with a particular brand of the product made easier to enter into an export market and it required low promotions to the export market. Further, it built favorable attitudes to customers (Cadogan et al., 2012; Koksall, 2008).

Research Problem

Value-added rubber products exports contributed positively to the Sri Lankan economy and it is more profitable than exporting raw rubber. As a result, raw rubber export has been decreased last few years due to its usage by manufacturers in the Island.

In 2010 Sri Lankan overall exports grew by 18.2% compared to India 40.5%, Vietnam 26.4% and Thailand 28.1% (Kelegama, 2013) which stated a significant low growth in

Sri Lankan export performance comparing to its competitors. In the year 2013, although Sri Lankan rubber product export value was grown by 2.85% comparing to year 2012, the total value of rubber product export in 2013 (US\$ 666.07) was not reached the value of that was reported in year 2011(US\$ 700.33 million). Since there were a lower performance recorded in the value-added rubber products industry, as well as lower performance compared to regional countries, the study was conducted to identify the main determinants of export performance of value-added rubber products in Sri Lanka. Furthermore, the research was targeted on assessing the level of influence of those determinants and to make recommendations for the policy makers/ industry for better performance in rubber products export industry.

Methodology

Initially, literature was reviewed and interviews were held simultaneously to identify indicators which determine the export performance. Accordingly, sales volume, sales growth, market share, market share growth, profit margin growth and profitability were identified. On the other hand, firm characteristics, export marketing strategies, export market characteristics, technical capabilities of the exporter and foreign investment portfolio were identified as independent variables. Based on these facts, research questionnaire was prepared and hypotheses were developed. Research questionnaire was tested for the reliability. Then, data were collected by delivering a structured online questionnaire among rubber products manufacturing and exporting firms. Then the collected data were analyzed and conclusion and recommendations were made based on findings.

Data Collection and Analysis

Probabilistic sampling had followed as sampling schedule and simple random sampling without replacement was selected as the sampling technique. To have a minimum error from sampling technique, more than 50% of Sri Lankan value-added rubber products manufacturers and exporters were selected as the sample size.

The descriptive analysis of the data revealed that more than 20% of exporting rubber product type was tires. The second largest exporting rubber product was shoe soles with 15% of the total exports and third was gloves with 10% of the total exports. The other manufacturing and exporting rubber products were tubes, hoses, mats, forms etc.

According to the industry experience, ninety percent of rubber products manufacturers had less than 40 years of industry experience in export performance and only 5% of the manufacturers had over 60 years of experience according to the below Figure 1.

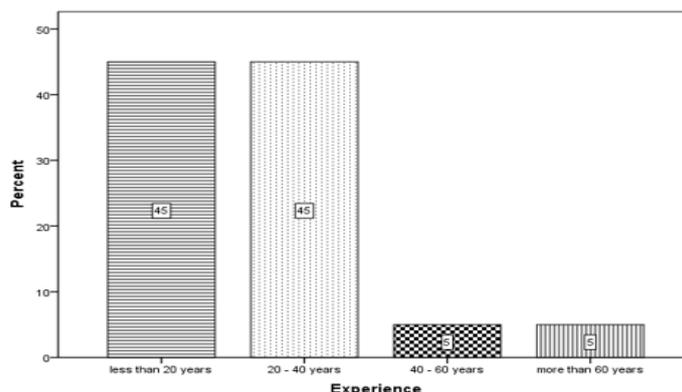


Figure 1 Experience of Rubber Products Manufacturers in the Industry

Further analysis carried out to identify whether there are significant behavioral differences related to the identified variables. For that, Kruskal Wallis test was used and significant differences were identified for investment portfolio based on firm experience in export performance.

Table 1 Test Statistics^a-based on Firm Experience

	Firm Characteristics	Marketing Strategy	Market Characteristics	Technical Capability	Investment Portfolio
Chi-Square	1.099	.634	.980	1.295	11.181
df	3	3	3	3	3
Asymp. Sig.	.777	.889	.806	.730	.011

^a Grouping Variable: Experience

Even though the firm experience of the majority firms were less than 40 years, many rubber products manufacturing firms had more than 300 employees and it is 35%. There were 20% of firms which had been functioning with less than 100 of employees and 40% of firms had employees between 100 and 300. When comparing to other exporting industries in Sri Lanka, the employee engagement in these set of firms was minimum.

Table 2 Number of Employees in the Firms

No. of Employees	Percentage
Less than 100 employees	25%
100 – 200 employees	20%
200 – 300 employees	20%
More than 300 employees	35%

As per the below Table 3, 95% of the rubber products manufacturers have changed their starting manufacturing technology due to the technological advancement in certain era and yet only 5% of the firms had not changed their technology in the process of manufacturing finished rubber products. From the technological change that had done by

the 65% of the firms, 40% of them had realized 6% to 10% of an increment of their sales volume and 25% of firms had realized more than 20% of sales volume increment.

Table 3 Sales Increment after Technology Change in Manufacturing

Sales Increment after the Technology Change in Firms	Percentage
6% - 10%	40%
11% - 20%	30%
More than 20%	25%
Had not change the Technology	05%

Correlation Analysis

When, significant value is less than 0.05, then the null hypothesis (H_0) was rejected and the alternative hypothesis was accepted. According to the output of the correlation of the data, all determinants showed positive association with the export performance. Marketing strategy, market characteristics and portfolio investments did not statistically significant on export performance because their p-values were greater than 0.05. Firm characteristics were interrelated with technical capabilities. Marketing strategies were interrelated with market characteristics and technical capabilities.

Table 4 Pearson Correlations

	Firm Characteristics	Marketing Strategy	Market Characteristics	Technical Capabilities	Investment Portfolio
Marketing Strategy	0.208				
Market Characteristics	-0.163	0.685**			
Technical Capabilities	0.604**	0.473*	0.355		
Portfolio Investment	0.033	0.224	0.251		
Export Performance	0.450*	0.192	0.108	0.626**	0.440

(Correlation is significant at ** $p < 0.005$, * $p < 0.05$)

The developed hypotheses were tested using the above Pearson correlations analysis. Significant correlation with export performance of value-added rubber products in Sri Lanka among firm characteristics and technical capabilities were identified through above analysis. Also, there were no any significant correlation between marketing strategy, market characteristics or investment portfolio.

To identify the most impacting factor for export performance of value-added rubber products stepwise regression analysis was carried out as there is multiple-correlation among independent variables. The output of that analysis had been given in table 5.

Table 5 Stepwise Regression Analysis

Variable	F-Value	Pr >F
Intercept	0.24	0.6278
Technical Capabilities	11.57	0.0032

According to the above stepwise regression analysis, technical capabilities of Sri Lankan rubber products manufacturers and exporters was statistically significant to their rubber products export performance.

Results and Discussion

According to the above study, technological capability of the firm was identified as major affecting factor for the export performance of Sri Lankan value-added rubber products industry. Further, positive correlation among firm characteristics and technical capabilities is also identified. Thus, Sri Lankan value-added rubber products industry can improve their market performance by focusing the enhancement of those two factors. This finding is much valuable to Sri Lankan value-added rubber products manufacturing exporters as the country was searching for better export performance in the particular field.

As a developing country, Sri Lankan rubber products manufacturers need to use appropriate technology in their production processes. The management's attention should be paid on upgrading the technology when it is needed and not to invest in the most recent technology unnecessarily which sometimes leads to an additional expenditure which will ultimately be a wastage. According to the analysis, majority firms have gained more than 10% sales increment with technological change. This can be done by doing operational changes in production. Furthermore, firms able to enhance their technological capabilities by recruiting skillful employees who could absorb new technical know-how in Sri Lankan value-added rubber products exports.

Conclusions

Sri Lankan value-added rubber products exporters should be analytical in order to improve their export performance. The research found the most important determinant that the manufacturers need to focus when making strategic plans to increase their export performance was their technical capabilities. Exporters with appropriate technology will lead for better export performance in the value-added rubber product exporting industry in Sri Lanka.

The research had simulated for many research areas such as to get customer perception of Sri Lankan value-added rubber product export performance and develop a rubber product export performance function. There were several other manufacturing and

exporting industries in Sri Lanka. Those industries were not considered under this research and therefore, those industries could be count for further study and obtain common set of determinants that are impacting on the performance of the whole exporting sector in Sri Lanka.

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