INDEPENDENT STUDY

ON

CHALLENGES AND OPPORTUNITIES FOR SRI LANKAN EXPORTERS IN CONNECTING THE GLOBAL VALUE CHAIN (GVC): A SPECIFIC REFERENCE TO THE ELECTRONIC AND ELECTRICAL SECTOR

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ABSTRACT

Sri Lankan Electronic and Electrical industry made a significant progress over the past 5 years. 22% Export revenue growth was recorded from 2015 to 2022 despite the COVID-pandemic, Economic, and Political challenges. The sector's main export categories are Automobile Components, Power Generation, Telecommunication, Consumer Electronics and Industrial Application. Sri Lankan Electronic and Electrical industry is placed as the fifth largest merchandise export revenue earner of the country and has earned US$ 483 Mn in year 2022 with more than 110 companies and over 38000 employees. Most of the companies are Original Equipment Manufacturers (OEMs) and Electronics Manufacturing Service (EMS) producers.

Despite the sector's rapid growth, connecting Sri Lankan Electronic and Electrical industry to the Global Value Chains (GVC) is a difficult task. Organizational Challenges, Legal & Regulatory Challenges, Technical Challenges, Social & Cultural Challenges, Political Challenges, and Economic Challenges are some of the key factors causing this. This has made it difficult for Sri Lanka to join the GVC despite its inherent comparative advantage in this sector of global production due to its Location and Logistics, Market Access, Educated & Adaptable Workforce, Lower Cost of Manufacturing, Precision manufacturing and Labor, Quality, Continuous and uninterrupted exports, Low Lead time etc.

The study, proposes to identify factors that challenges and opportunities when connecting the GVC and strategies to overcome them. A research of this nature has not been performed previously for the Electrical and Electronic industry of Sri Lanka. So that, it is important to address the challenges and opportunities for Sri Lankan Exporters in connecting the Global Value Chain (GVC) to understand and propose successful strategies to overcome the issue and to increase the much needed export income.

Keywords: Global Value Chains, Sri Lankan Electronic and Electrical industry, Sri Lankan exports.

ABBREVIATIONS

GVC	Global Value Chains
EEC	Electronic and Electrical Sector
R&D	Research and Development
FDI	Foreign Direct Investments
EDB	Sri Lanka Export Development Board
IoT	Internet of Things
OEM	Original Equipment Manufacturers
ODM	Original Device Manufacturers
EMS	Electronics Manufacturing Service
EPZ	Export Processing Zones
GDP	Gross Domestic Production
TBT	Technical Trade Barriers
NTB	Nontariff Barriers
MNEs	Multinational Enterprises
NES	National Export Strategy of Sri Lanka
LDC	Least Developed Countries
SME	Small and Medium Enterprises
US	United States
MNC	Multinational Corporation
ISO	International Organization for Standardization
ETA	European Technical Assessment
CE	Conformite Europeenne
E&E	Electrical and Electronic
SASEC	South Asia Subregional Economic Cooperation
GPN	Global Production Networks
EC	Economic Challenges
PC	Political Challenges
TC	Technical Challenges
OC	Organizational Challenges
SC	Social & Cultural Challenges
LC	Legal Challenges

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CHAPTER 1
INTRODUCTION

1.1 Background

Sri Lanka's ability to overcome the current financial crisis depends heavily on its export revenue. Foreign Direct Investments (FDIs), High Value Addition, Business-Friendly Government Regulations, and Research and Development (R&D) initiatives are all necessary for Sri Lankan exporters to compete in other cutthroat international markets and establish connections to the GVCs. Statistics show that Sri Lankan exporters have not been able to properly connect to the Global Value Chain (GVC) despite the country's inherent comparative advantage in this area of global production due to its Geographic Advantage, Logistics, Market access, Educated and adaptable workforce, Lower cost of manufacturing, Precision manufacturing and labor, Quality, Continuous and uninterrupted supply, Low lead time, etc. Some of the major contributing causes are Organizational Challenges, Legal & Regulatory Challenges, Technical Challenges, Social & Cultural Challenges, Political Challenges, and Economic Challenges.

Over the past five years, the Sri Lankan Electronic and Electrical industry has advanced significantly. Despite the COVID pandemic, economic hardship, and political uncertainty, export revenue grew by 22% between 2015 and 2022. Automobile Components, Power Generation, Telecommunication, Consumer Electronics, and Industrial Application make up the majority of the sector's exports with over about 110 companies. The Sri Lankan Electronic and Electrical Sector (EEC), which employs more than 38,000 people and ranks fifth in terms of the country's merchandise export income earners, generated US$483 million in 2022. Original Equipment Manufacturers (OEMs) and Electronics Manufacturing Service (EMS) providers make up the majority of the businesses.

Global Value Chains have benefited emerging nations by facilitating their diversification away from primary products and toward manufactures and services. In the past, in order to export a manufactured good, a nation had to be capable of producing the entire good. A nation can specialize in one or more activities where it has a competitive advantage through value chains.

GVCs separate the various steps in the creation of a smartphone, TV, or car so that they can be completed in various nations. Today, value chains that at least one and frequently several borders are crossed during the production process are where more than two thirds of all global trade takes place.

This study suggests identifying the characteristics that present possibilities and problems when connecting the GVC as well as methods for overcoming them. To acquire both primary and secondary data and information with the goal of identifying success factors for the expansion of Sri Lankan exporters, the study will use a qualitative approach.

1.2 Problem statement

Despite the sector's rapid growth, connecting Sri Lankan Electronic and Electrical industry to the GVC is a difficult task. Organizational Challenges, Legal & Regulatory Challenges, Technical Challenges, Social & Cultural Challenges, Political Challenges, and Economic Challenges are some of the key factors causing this. This has made it difficult for Sri Lanka to join the GVC despite its inherent comparative advantage in this sector of global production.

1.3 Objectives of the study

- To determine the primary barriers preventing Sri Lankan exporters from connecting the GVC.
- To evaluate the opportunities available to increase its market share in the Global Value Chain.
- To examine the successful strategies and methods available to increase the sector growth and to enter the Global Value Chain.

1.4 Research questions addressed in the study

- What are the challenges/primary barriers when connecting to the Global Value Chain?
- What are the opportunities available in the Global Value Chain?
- What are the successful strategies available to enter the Global Value Chain?

CHAPTER 2
LITERATURE REVIEW

2.1 Different Aspects of Global Value Chains

The article elaborates the economic view of GVC mainly with consequences of economic exchange, and with mapping the governance structures/developing types of GVCs and their consequences for local upgrading. Additionally, GVCs of important businesses are probably going to be impacted by the newest technology, such 3D printing, by becoming shorter, more distributed, and closer to end consumers. Beyond cost cutting, for instance, there may be a greater demand for improved quality control or client responsiveness. (Liena, Kano., Eric, W. K., Tsang, & Henry, Wai-chung, Yeung., 2020, p.601)

2.2 Challenges and Opportunities for Sri Lankan Exporters in the German Market, a Specific Reference to the Electrical and Electronic Sector

The sector focuses on serving niche markets, but there is significant room for growth in the area of Electrical and Electronic Components. The potential for the Electrical and Electronic industry to encourage investment, R&D, and innovation in Sri Lanka is likewise recognized.
(R. T., Vidyaratne, & E. A. G., Sumanasiri, 2021, p.118)

2.3 Performance of Export Processing Zones (EPZ)

The article explained a comparative analysis of India, Sri Lanka and Bangladesh. Although EPZs have been around for a while, they have recently received more attention. They have had varying degrees of effectiveness in fostering international trade, though. Though EPZs in developing nations have a variety of goals, including luring FDI, generating foreign exchange revenues, boosting employment, establishing connections with the home economy, and disseminating new technologies and improving acquisition of skills by the national work force etc. (Aggarwal., Aradhna., 2005, p.07)

2.4 Manufacturing Exports from Sri Lanka: Opportunities, Achievements, and Policy Options

The expansion of Sri Lanka's manufacturing exports is examined, with a focus on opportunities and strategic priorities in a fast shifting global environment where global production sharing has emerged as the driving force behind cross-border production and trade. To restore international competitiveness, however, relying solely on nominal exchange rate depreciation may be counterproductive given the state of the economy. (Prema, Chandra, Athukorala., 2017, p.45)

2.5 The COVID-19 and Its Impact on the Export Sector in Sri Lanka

Sri Lanka's exporters required to concentrate on differentiation, value-adding, branding, and quality rather than quantity in this situation. Leading export companies in Sri Lanka are already doing this in the majority of sectors, but they must step up their efforts as many commodities continue to leave the nation in raw or bulk form. Sri Lankan exporters must differentiate their products along these lines as consumers' concerns about the environmental and social implications of the things they buy grow. Strengthening and promoting the export of high-quality, value-added products from the nation is crucial to achieving this goal. Many businesses have realized their over reliance on supplies from China as a result of the global closure and supply disruptions brought on by COVID-19 (Bell, 2020). Due to the rising cost of production in China, these businesses are actively looking for new suppliers and manufacturing facilities outside of China in order to diversify their supply chains and reduce risk. These industries range from textiles and apparel to auto parts and precision components to electronics and appliances. To take advantage of these supply shifts, Sri Lanka will need to articulate industry-specific strategies, identify areas for improvement in the country for investor consideration, and market Sri Lanka as a destination to particular businesses looking to diversify their supply chains. (Janaka, Wijayasiri., 2019, p. 64)

2.6 Global Value Chain Analysis

GVCs which account for an increasing portion of International Trade, global GDP, and employment, are the foundation of the world economy. Global trade, production, and employment, as well as how businesses, producers, and workers in developing countries integrate into the global economy, are significantly impacted by the evolution of GVCs in a variety of industries, including commodities, apparel, electronics, tourism, and business service outsourcing. GVCs connect businesses, workers, and customers globally and frequently serve as a stepping stone for businesses and workers in developing nations to engage in the global economy. (Gary, Gereffi., & Karina, Fernandez-Stark., July 2016, p.578)

2.7 Electrical and Electronic Products Export Growth of Malaysia

The potential for Malaysian Electrical and Electronic (E&E) products on the worldwide export market. It claims that Malaysia's economy has undergone a significant transformation as a result of the nation's quick industrialization. Due to a significant change that occurred in the late 1980s, when Malaysia saw its share of manufacturing exports double in just five years, mostly due to the Electrical and Electronic (E&E) sector in terms of exports, Malaysia is currently ranked among the top 20 trading nations in the world. Malaysia has essentially been labeled as an export-oriented nation and is considered to be a significant part of the Malaysian economy. The leading industry, in terms of export revenue and employment prospects, is the Electrical and Electronic sector. E&E has developed a very strong position in Malaysia over the past three decades, providing investors with hope for the establishment of new manufacturing activities in this sector as well as for the expansion and diversification of Malaysia's already established operations. (Al-Mamun, Abdullah, Muhammad, Khalilur, Rahman., 2015, p.330)

2.8 Exporter’s Experience from Maharashtra's Electrical and Electronic Industry

The "Made in India" Electrical products have promising futures and will increase exports by twofold over the next few years. There are currently signs of export growth in the US, Germany, Britain, Australia, Canada, United Arab Emirates, Saudi Arabia, Nigeria, Kenya, South Africa,

and many more nations. This demonstrates how there is a growing demand for Indian electrical equipment on the international market. This can be a result of the high demand in the industrial and power sectors. For ongoing, sustainable expansion and reach, India's E&E maker sector needs to organize a more competitive strategy for the global market. Despite the fact that demand is stalling in many countries, there is still a sizable market and need for electrical items in many emerging countries. As a result, these Indian players may plan export strategies that are tailored to the needs of these emerging countries. (Dr. Prashant, Warke., and Saurabh, Subhash, Patil., 2018, p.26)

2.9 Indonesia's Electronics Industry and Its Interactions with Global Supply Chains

The possibilities and obstacles for the expansion of Indonesia's electronics sector while preserving decent employment are highlighted in this article. In many countries, the electronics industry has been a major source of employment and economic prosperity. Indonesia is one of the developing nations. Being a part of the world's electronic supply chains can have a number of advantages, such as the expansion of domestic industries as competitors and suppliers as well as rising exports. ("The International Labor Organization", 2019, p. iii)

2.10 Nontariff Measures (NTMs) faced by Sri Lanka's Exporters

The main goal of this study is to determine the best way for Sri Lanka to address The Sanitary and Phytosanitary (SPS) and Technical Trade Barriers (TBT)-related Nontariff Barriers (NTBs) that stand in the way of key Sri Lankan products' access to markets in the SASEC partnering nations. Legal reforms, improving quality standards and the necessary laboratory equipment and instruments, and institution development of both accrediting agencies and the conformity assessment bodies are all possibilities and chances to improve Sri Lanka's exports to SASEC destinations. ("Asian Development Bank", 2019, p. XI)

2.11 National Export Strategy (NES) of Sri Lanka

The NES is a timely catalyst through which the export sector will be reshaped. The NES is aligned to Vision 2025 and all aim to stimulate growth and job creation by improving the ability of firms to export and compete in foreign markets. The NES builds on consensus from the entire export community about the upcoming tasks and the heaviest roadblocks to be dislodged. It defines a detailed road map for faster export growth and acknowledges that things need to be done differently to increase the contribution of trade to economic development**.** ("NATIONAL EXPORT STRATEGY OF SRI LANKA", https://www.srilankabusiness.com/pdf/nes/sri-lanka-nes-4-3-web.pdf, p.01)

2.12 Global Value Chain Analysis: Concepts and Approaches

World economies are becoming more deeply integrated and interdependent, with Global Production Networks (GPN) and GVCs among the major drivers of structural economic changes at the global, regional, national, industry, and firm levels. Leveraging advancement in transport and communication technologies, large MNEs incorporate offshoring and outsourcing as key parts of their global strategies; together with the increase in FDI and intra firm international trade. Both the development of GVCs and their economic impact on countries, industries or firms have been widely discussed in business and economics literature, using various analytical approaches. Michael Porter first presented the concept of value chains in his influential 1985 book, Competitive Advantage: Creating and Sustaining Superior Performance. Porter identifies a value chain as a set of activities that a firm performs to deliver a valuable product or service to the market. (Lin, Jones., Meryem Demirkaya., & Erika, Bethmann., 2019, p.02)

CHAPTER 3
METHODOLOGY OF DATA COLLECTION

3.1 Purpose of the study

From this research, it is expected to identify the challenges/opportunities/barriers when connecting to the Global Value Chain and also to find out successful strategies available to increase export revenue. Mainly the qualitative research method will be used in this study, using data from existing literature and empirical evidence from EDB, Customs, and other sources. Predominantly inductive approach will be used in the research to obtain data through unstructured or semi structured (free form) questionnaire. The methodology used in this study is qualitative research through Focus Group Method.

3.2 Research approach

In order to achieve the objective of this study, a qualitative study approach will be used as a tool to carry out and conduct this research. Predominantly inductive approach will be used in this research study. Furthermore, to gather data, the sources such as significant research articles and journal article, EDB Reports and other relevant sources were utilized. And also, this study has gathered data from a questionnaire.

3.3 Research strategy

Qualitative: Case study, Grounded Theory, ethnography, Action Research, Archival Research.

The study focused is on 100+ active exporters who have exported an average of more than $1mn worth of Electronic and Electrical goods annually during the last three years. Out of that, 20 exporters have been selected based on their problems/issues and opportunities. They have responded to a brief semi structured/unstructured questionnaire (free form) to assess any changes to their business and to identify any difficulties/issues/challenges they have encountered and opportunities.

The Research strategy will be based on a Qualitative Data Collection Technique, Content Analysis, and Thematic Analysis Techniques such as Review the significant literature, obtaining data from available data sources archives (EDB Database, Customs statistics, World Bank, Statista, Central Bank data etc) based on the findings on above, a questionnaire will be distributed by email among a selected sample group (20 companies) and collect data though emails, telephone interviews within the said focused group. A series of open ended questions will be created based on data gathered from the literature reviews aiming at capturing the challenges and opportunities faced by the interviewees in connecting the Global Value Chain (GVC). The questions will be used as a guideline to help keep a focus on the research questions and other emergent questions that may emerge during the study.

Figure 1 - **Challenges in connecting the Global Value Chain (GVC)**

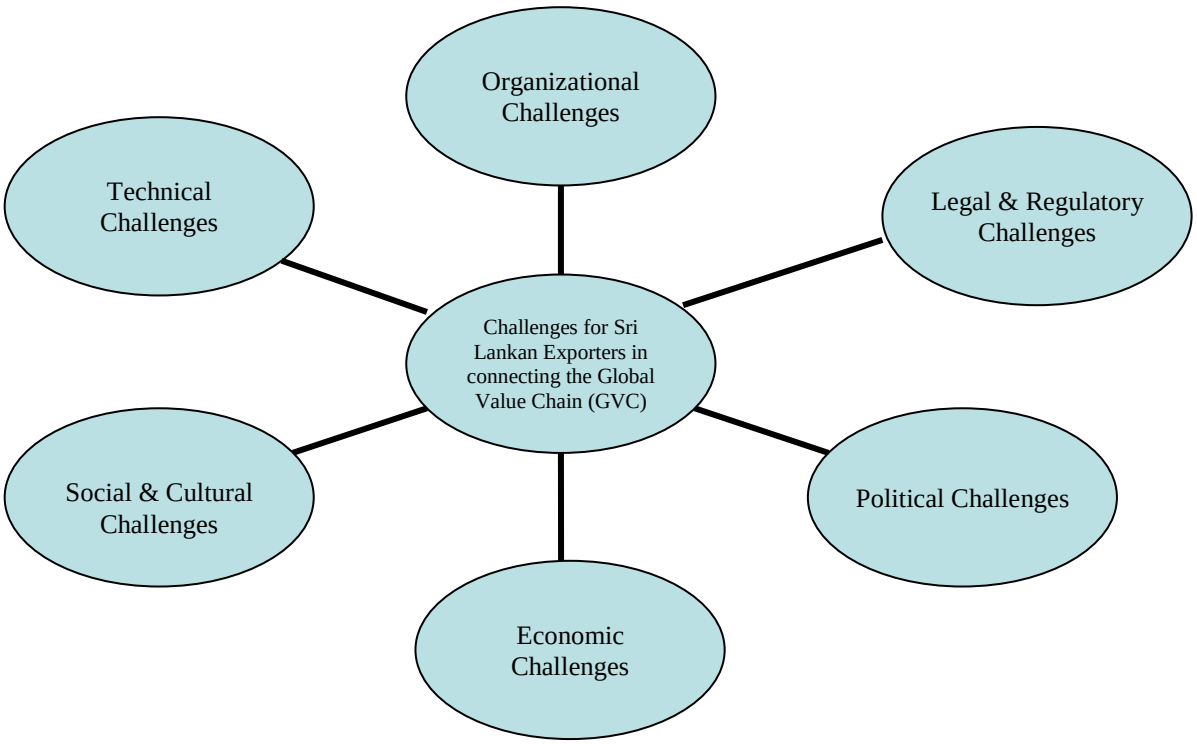


Figure 2 - **Opportunities in connecting the Global Value Chain (GVC)**

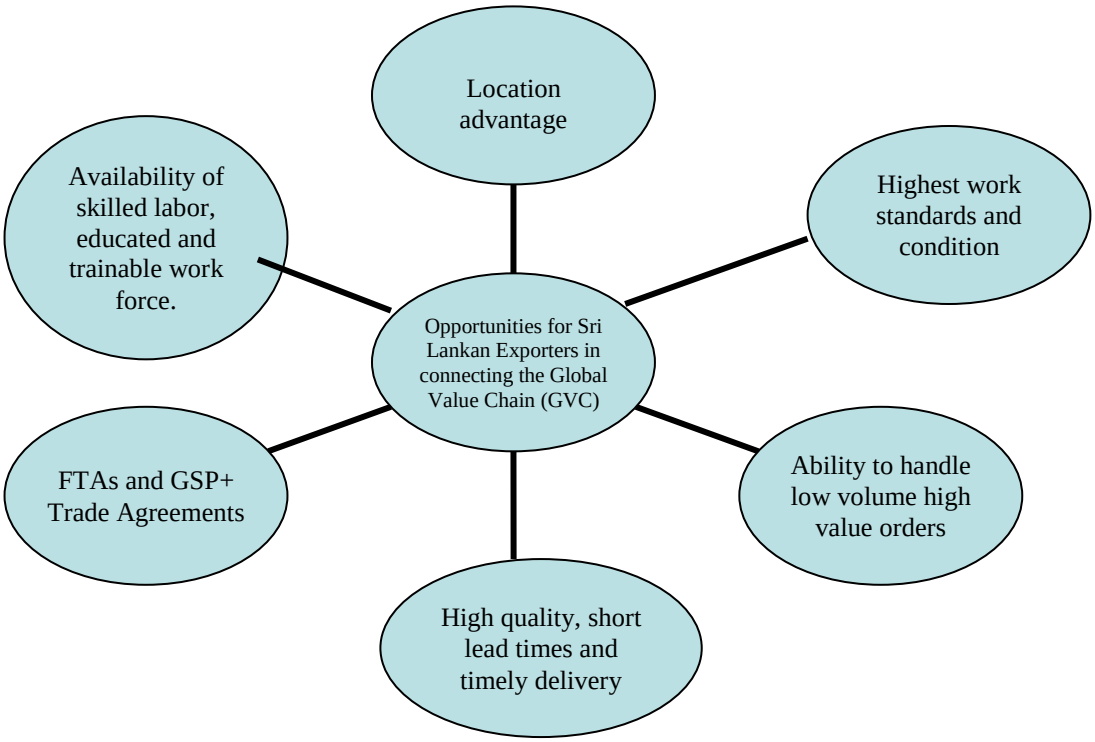


Table 1 - **The Matrix of respondents**

Respondent Code	Respondent Designation	Respondent Field of Activity	Product Sectors
C1-WP-E1	Managing Director	Manufacturing	Lead Acid Batteries
C2-WP-E2	Managing Director	Manufacturing and Assembling	Electronic Manufacturing Services (EMS) including assembling of Printed Circuit Boards (PCB), Cable Harnessing, Electromagnetic Component , Box Build
C3-WP-E3	Managing Director	Design & Manufacturing	Electro-Mechanical Force Sensors
C4-WP-E4	Managing Director	Manufacturing	AGV, Fabric Relaxing /Length Cut Machines, Cranes, Hoist, Barrier Gates

Respondent Code	Respondent Designation	Respondent Field of Activity	Product Sectors
C5-WP-E5	Managing Director	Electrical / Mechanical manufacturing	Switchgear Assemblies, Electrical Enclosure Systems
C6-WP-E6	Managing Director	Design & Manufacturing	Product Development and R&D
C7-WP-E7	Managing Director	Electronic Manufacturing	GPS, Burglar Alarm Systems etc.
C8-WP-E8	Managing Director	Design & Manufacturing	Contract Manufacturing for Electronic Products & Wire Harnesses
C9-WP-E9	Managing Director	Manufacturing and Design	Steel Fabrications for Power Generation and Construction Industries.
C10-WP-10	Managing Director	Electronics Design, IT	Design, Develop, Prototype, Deployment
C11-WP-E11	Managing Director	Manufacturing and Trading	Lighting, Data Communication, IoT Products and Online and Fintech Services.
C12-WP-E12	Managing Director	Design and Manufacturing	Industrial Electronics Product Design and Manufacturing, EMS.
C13-WP-13	Managing Director	Electronic Manufacturing	Energy Storage and Management Systems
C14-WP-E14	Managing Director	Design and Manufacturing	Load Cells (Weighing Scale Parts)

Respondent Code	Respondent Designation	Respondent Field of Activity	Product Sectors
C15-WP-E15	Managing Director	R&D and Manufacturing	Medical equipment for IVF
C16-WP-E16	Managing Director	Design and Manufacturing	Manufacturing and Assembling Electronic and Mechanical Weighing Scales
C17-WP-E17	Managing Director	Electronic Manufacturing	Quality Fiber Optical Cable Systems and Solutions
C18-WP-E18	Managing Director	Electronic Manufacturing	Cables, Cable Assemblies and Allied Accessories
C19-WP-E19	Managing Director	Electronic Engineering and Manufacturing	Electronic-based remote monitoring solutions
C20-WP-E20	Managing Director	Low Voltage Electric Cables and Enameled Winding Wires Manufacturer and distributor	Low Voltage Power Cables and Enameled Winding Wires

3.4 Data Collection Method

In order to gain a better insight, the data of this study were collected through a questionnaire. The questionnaire was conducted with 20 active exporters as shown in table 1. The questionnaire comprises of a total of 15 questions. Five (5) questions were formulated to collect general information about the company. Remaining ten (10) questions were formulated to collect the following.

1. One (1) questions regarding the economic status and challenges
2. One (1) questions regarding to the political instability of the context and challenges
3. One (1) question regarding to the legal and regulatory status and challenges
4. Two (2) questions regarding to the social and cultural aspects and challenges
5. Two (2) questions regarding to the technical aspects and challenges
6. Three (3) questions regarding the organizational structure and challenges

3.5 Analytical Methods

One of the main focused question in this study is what are the challenges and/or primary barriers when connecting to the Global Value Chain. In order to answer this question, the study has gone through a literature review thoroughly and utilized data gathered from the questionnaire. Those identified challenges can be condensed as shown in Figure 1. The questionnaire is designed based on those challenges with the purpose of finding solutions for those challenges.

To identify those challenges a questionnaire was conducted, focusing on 20 active exporters (as mentioned in Table 1) in Electrical and Electronic Sector in Sri Lanka. Those companies clearly have mentioned the challenges what they have faced when connecting the Global Value Chain and suggested some solutions to mitigate those challenges. To find out solutions for those challenges is the objective of this study.

CHAPTER 4
FINDINGS AND DISCUSSION

This section discusses findings of the data sources, literature review and the interpretive understanding of the questionnaire.

4.1 Questionnaire finding and discussion

The questionnaire results denote that the critical challenges faced by exporters in the EEC in Sri Lanka in connecting the GVC. Most of the challenges faced by exporters in EEC are common. The findings of the research are organized according to emerging themes seen in the data.

4.2 Organizational challenges

Organizational challenges are also identified as the most critical challenges faced by the respondents in the Electrical and Electronic Sector Exporters. They have faced difficulties in terms of lack of inter-coordination between government institutions, the lack of a friendly logistics infrastructure, and the inability to connect with reliable foreign clients' through trade promotion channels.

"The current increase in freight rates has adversely impacted and the difficulty in obtaining approvals also hinders the link. The government and private export development institution involvement is crucial to ensure the authenticity of the foreign customers" (C1-WP-E1)

"The government institutions' lack of inter-coordination is having an effect on the processing times. A strong and friendly logistical structure is a prerequisite for Sri Lanka being an island. The suggestion is to introduce more global logistical platforms." (C2-WP-E2)

"If the country is set with proper and firm policies and with the right efficiency level, individuals will not expect someone to grant benefits. Innovators will earn benefits by themselves with their innovations. And the environment will encourage innovations. If we are able to address the policies and efficiencies, infrastructure will be improved. If we try to improve infrastructure without addressing the linked policies and efficiency issues it will not sustain." (C3-WP-E3)

“Investor environment is low, requiring legislation, power supply continuity, political stability, and legislation stability Industry and education need more interaction with foreign clients to create opportunities.” (C4-WP-E4)

“The government institution interconnection is a must. Suggest to connect with reliable foreign clients through trade promotion channels through EDB’s knowledge-sharing systems on modern marketing trends for exporters.” (C5-WP-E5)

“Regular meetings with the sector exporters should hold to identify what are the barriers and blockers, so that government institutions can help to remove or make necessary changes to resolve those barriers. If trade promotion channels can help these companies to connect with reliable foreign clients, we can generate a good dollar income comparative to the current situation.” (C6-WP-E6)

“EDB should try to engage Sri Lankan envoys in other countries for that. Sri Lanka has become very unfriendly for local manufacturers in many ways for their existence. (C7-WP-E7)
“Government authorities should take actions to improve the infrastructure so the cost will be low when the higher number of ships sail through Sri Lanka. Same can be applicable for air freights as well. Government should improve infrastructure and digitalize systems to reduce the cycle time of import/export documentation procedures. (C8-WP-E8)

“Networking and effective communication will always cut down the matchmaking process drastically. (C9-WP-E9)

“To mitigate the government institutions’ lack of inter-coordination needs improvement. Better Logistics infrastructure will help the industry. Retaining skills is important. Suggestion for the inability to connect with reliable foreign clients through trade promotion channels is business matchmaking.” (C10-WP-E10)

“The government should prioritize inter-coordination by promoting greater collaboration, communication, and cooperation between relevant departments and agencies and establishing a dedicated coordinating body if necessary. Sri Lanka can improve its logistics infrastructure by investing in transportation, customs, capacity, and relationships with Global Value Chain partners.

Sri Lanka can create a more favorable business environment for electronic and electrical sector exporters to better connect with foreign clients." (C11-WP-E11)

"There should be a body with capacity to implement and trial the complete process." (C12-WP-E12)

"The suggestion for the government institutions' lack of inter-coordination, is to have one body to have the power to discuss matters related to manufacturers and their needs. The logistics companies in Sri Lanka may not be aware of certain condition with regard to especially hazardous cargo etc., which will impact the whole process." (C13-WP-E13)

"The government institution should have one system to feed the data then most of can get benefit from it. The suggestion for the inability to connect with reliable foreign clients would be the opportunity and marketing restrictions need to address immediately to overcome this situation." (C14-WP-E14)

"The government needs to improve its coordinating mechanisms and enhance communication between different departments and institutions. This can be done by creating a central authority to coordinate policies and activities. Suggestion to address the lack of a friendly logistics infrastructure for the government to invest in improving logistics infrastructure, such as upgrading ports and airports, streamlining customs procedures, and providing training and support to logistics service providers. Suggestion for the government to overcome the inability to connect with reliable foreign clients is to provide support for trade promotion and market development activities." (C15-WP-E15)

"There should be a close relationship with authorities and exporters, there should be live tracking of freight which will help to identify service disruptions. More avenues should be opened to get contacts with foreign clients." (C16-WP-E16)

"Suggest to overcome the government institutions' lack of inter-coordination, one powerful Institute with full authority similar to (1978 – 1992) old GCEC/BOI. Suggest more and more participants in Global Exhibitions and Business Forums to overcome the inability to connect with reliable foreign clients." (C17-WP-E17)

“Suggest assistance and better co-ordination with the overseas diplomatic bodies to reach potential markets worldwide.” (C18-WP-E18)

“The Government institutions have inter-coordinated to some extent but need to improve more. Therefore it needs to have a proper platform to work with all the institutions especially regarding the export market to improve the export as well as encourage the exporters. To address the inability to connect with reliable foreign clients, a focus could be placed on the strengthening of trade promotion channels and the building of partnerships with foreign organizations and industry associations to expand the reach in international markets.” (C19-WP-E19)

“Sri Lankan Foreign missions have to do a smart job to find reliable clients for Electrical and Electronic Sectors.” (C20-WP-E20)

4.3 Economic challenges

Economic challenge is one of the critical challenges faced by the respondent companies when connecting the Global Value Chain, especially referring to the present Sri Lankan financial situation.

“As a solution for the present Sri Lankan financial situation, opening gateways into online payment platforms can make it easier to deal with global suppliers and, organize virtual trade fairs specifically for Sri Lankan buyers.” (C1-WP-E1)

“Foreign currency deficit in local banks can impact daily vendor payments and getting credit facilities from suppliers.” (C2-WP-E2)

“If we are smart enough to open up opportunities in this environment would still be favorable. Global manufacturing leaders now been more separated. If we could manage politically in neutral condition, we may get more opportunities contribute to the GVC.” (C3-WP-E3)

“The present Sri Lankan existing financial infrastructure is not supportive at all, because high bank interest rates dragging the growth of business.” (C4-WP-E4)

“As a solution for the present Sri Lankan existing financial crisis, it is better to provide necessary testing facilities & proving development banking facilities at affordable levels.” (C5-WP-E5)

“A proper way for export companies to borrow dollars to import related goods to deliver products and services from the banks to get the export revenue coming to the country.” (C6-WP-E6)

“The present Sri Lankan existing financial infrastructure requires major changes in financial support systems, income tax systems and import tax systems and to discourage imported products to support local development.” (C7-WP-E7)

“The unstable financial situation of the country affects in a negative way. Investors don’t like to invest in Sri Lanka for next few years. Even the suppliers are not willing to provide credit terms to Sri Lanka. Customers also having their 2nd thoughts on selecting a Sri Lankan manufacturing company as their primary source.” (C8-WP-E8)

“As a remedy for the present Sri Lanka existing financial crisis, Central Bank of Sri Lanka together with all the private banks in Sri Lanka should develop and evaluate the performance of enterprises and companies and must give them financial support.” (C9-WP-E9)

“While there are challenges facing Sri Lanka’s electronic and electrical sector exporters in connecting with the Global Value Chain, there are also opportunities for improvement through targeted policy interventions and partnerships between the public and private sectors.” (C11-WP-E11)

“Development of industrial zones, and awareness on the financial sector on the industry and its capacities is not adequate. More confidence in the industry should be made within the officials of financial institutions.” (C12-WP-E12)

“The suggestion for the present Sri Lankan existing financial infrastructure is to reduce or remove duty for selected raw material that is required for manufacturing products, initially for the local market till the product is well tested and proven to take them overseas.” (C13-WP-E13)

“The residual balance-transferring mechanism needs to stop. Otherwise, the companies can’t manage their cash flow.” (C14-WP-E14)

“The government and relevant authorities take measures to reduce bureaucratic barriers, enhance trade facilitation, and promote investment in the sector.” (C15-WP-E15)

“The financial assistance given by the authority is not at an acceptable level. It should be flexible.” (C16-WP-E16)

“Irrespective of Investor (Local or Foreign) Developments, Banks must support Manufacturers.” (C17-WP-E17)

“The exporters would like to see sustained laws and policies as opposed to ad hoc changes every now and then.” (C18-WP-E18)

“Suggestion for the present financial atmosphere is to develop specialized financial products that cater to the specific needs of the electronic and electrical sectors.” (C19-WP-E19)

“Suggest that Sri Lanka has to start manufacturing at least some of the required raw materials locally to minimize imports.” (C20-WP-E20)

4.4 Technical challenges

Technical challenges are also identified as the most critical challenges faced by the respondents in the Electrical and Electronic Sector Exporters. They have faced difficulties, concerning the Sri Lanka’s lack of international quality standards, and the inability of Sri Lankan exporters to connect in the Global Value Chain as a result of the benefits of innovation and product diversity being unclear.

“Quality standards in Sri Lanka are limited and could be improved further by tying up with leading institutes. “It's difficult to find export consulting services that can help local producers export.” (C1-WP-E1)

“Sri Lanka’s international quality standards is better if we have more comprehensive lab facilities developed for the same. Suggestion for the inability of Sri Lankan exporters to connect in the Global Value Chain to improve platforms for product marketing.” (C2-WP-E2)

“Suggestion is, if the country set with proper and firm policies and with right efficiency level, individuals will not expect someone to grant benefits. Innovators will earn benefits by themselves with their innovations. And the environment will encourage for innovations.” (C3-WP-E3)

“The foreign invested companies having the quality standards. We need more interactions with global technologies and trends.” (C4-WP-E4)

“Sri Lanka’s lack of international quality standards is preventing exporters in the electronic and electrical sectors from connecting the Global Value Chain. Because lack of testing facilities makes to very expensive and unaffordable as testing need to done overseas mostly.” (C5-WP-E5)

“There is no benefits or at least tax exemptions for research and development companies to continue their innovations. Some of the raw materials cannot be brought down to Sri Lanka to continue the innovations. A proper mechanism needs to be implemented.” (C6-WP-E6)

“The manufacturing cost which make the manufacturers less competitive in the Global Value Chain.” (C7-WP-E7)

“If that is the customer requirement we have to adhere to customers standards.” (C9-WP-E9)
“Companies who require high quality standards have implemented (Ex ISO9000, 14000 by manufacturing organizations)” (C10-WP-E10)

“The government and industry stakeholders can take several steps to address this issue, including investing in quality infrastructure, developing and enforcing industry-specific regulations and standards, building workforce capacity, and promoting the quality and reliability of Sri Lankan products. Sri Lankan exporters can take several steps to address this issue, including investing in R&D, promoting a culture of innovation, diversifying product portfolios, and building strong relationships with global value chain partners.” (C11-WP-E11)

“Sri Lankan exporters being unable to connect in the Global Value Chain as a result of the benefits of innovation and product diversity being unclear.” (C12-WP-E12)

“The suggestion for Sri Lanka’s lack of international quality standards would be to have necessary connections and access to International Certification Bodies through the body that was recommended above.” (C13-WP-E13)

“The suggestion would be companies need to coordinate with international approval authorities to gain the experience.” (C14-WP-E14)

“The government should prioritize the implementation of international quality standards and certifications, such as ISO and CE, for the electrical and electronic industry. One way to overcome Sri Lankan exporters’ inability to connect with the Global Value Chain is for the government and private sector to provide training and support to businesses on the benefits of innovation and product diversity.” (C15-WP-E15)

“The product quality standards should be maintained according to the buyer’s satisfaction.” (C16-WP-E16)

“To bring down MNC with all facilities and guarantee of local sales. R&D costs lot of money and Sri Lanka cannot afford since establishing local market is too small.” (C17-WP-E17)

“There is a lack of awareness among institutions regarding decisions made by other institutions. Therefore, it is essential to establish a platform for collaboration among all relevant institutions, especially with regard to the export market, in order to improve exports and encourage exporters.” (C19-WP-E19)

“Sometimes clients ask for international certifications. If accredited laboratories could set up locally, then the testing cost will go down and majority of exporters in EEC will try to obtain same as it will be affordable.” (C20-WP-E20)

4.5 Legal & Regulatory Challenges

Legal & Regulatory challenges are also identified as one of the critical challenges faced by the respondents in the Electrical and Electronic Sector Exporters. They have faced difficulties, concerning the lack of proper legislations and laws in Sri Lanka at present is impacting the Electronic and Electrical Sector Exporters in connecting the Global Value Chain. Both C1-WP-E1 and C3-WP-E3 agreed with the statement of "the lack of proper legislations and laws in Sri Lanka at present is impacting the Electronic and Electrical Sector Exporters in connecting the GVC"

"Out dated labor rules are impacting quality manufacturing. Suggest to update Sri Lankan labor rules aligning with international standards." (C2-WP-E2)

"For assembly there is no lack of legislation. But for recycling and component manufacturing from basic materials there are no proper legislations." (C4-WP-E4)

"That is, there are no clear sustainable policies to support local manufactures." (C7-WP-E7)
"The systems should be digitalized as much as possible in order to reduce the cycle time of export documentation procedures." (C8-WP-E8)

"We already have a law in Sri Lanka with the current crisis of the country we have to be smart enough to change the rules and regulations so that we can attract more investors without being extremist to the culture and religion." (C9-WP-E9)

"Addressing the lack of proper legislation and laws in Sri Lanka is critical to ensuring that electronic and electrical sector exporters can effectively connect with the global value chain. The government and industry stakeholders can take several steps to address this issue, including updating and strengthening existing legislation, improving the efficiency and effectiveness of the legal system, protecting intellectual property rights, and promoting greater transparency and accountability in policymaking." (C11-WP-E11)

"One way to address the lack of proper legislation and laws in Sri Lanka is for the government to establish a regulatory framework that meets international standards and ensure proper enforcement." (C15-WP-E15)
"Certain regulations should be amended so that exporters will get the benefit to connect to the global market" (C16-WP-E16)

4.6 Political Challenges

Political challenges are also identified as one of the critical challenges faced by the respondents in the Electrical and Electronic Sector Exporters. They have faced difficulties, concerning the rapid change in laws and policies that comes with every change in government. According to the respondents, sudden changes in regulations & policy with each government is impacting to the companies in connecting the Global Value Chain.

“A steady policy on GVC should be governed by both Public and privately involved body.” (C1-WP-E1)

“The suggestion for rapid changes in regulations & policies is, rather than government focus on privileges and subsidiaries, government must focus on policies and efficiency on linked operations that government interact with manufactures.” (C3-WP-E3)

“Specially, tax changes effects the quoted projects and international competitions and import restrictions are barriers to get components to machines.” (C4-WP-E4)

“Suggest stable and export promoting and encouraging policies to be established, with an undisturbed environment for industries to operate.” (C5-WP-E5)

“When the newly appointed government is trying to change the TAX policies, it has a huge impact on the exports. We suggest to the governments to build a healthy investment climate in Sri Lanka.” (C8-WP-E8)

“Frequent changes in policies are considered negatively by investors.” (C9-WP-E9)

“Promoting greater stability, continuity, and transparency in government policies related to the electrical and electronic industries can help to reduce uncertainty and risk for exporters who are connected to the global value chain.” (C11-WP-E11)

“Skilled labor migrations, and priority given to export industries has affected.” (C12-WP-E12)

“The suggestion is to appoint a body that could entertain requests of the manufacturers to make policies and laws that are helpful rather than restrictive.” (C13-WP-E13)

“The suggestion would be to have reasonable time frame to adjust, before switch to new approaches, also there need a method to share our thoughts before doing these changes as an exporter.” (C14-WP-E14)

“To mitigate the impact of rapid change in laws and policies, the government should provide more stability and predictability in policy-making, maintain consistency in regulations, and engage in constructive dialogue with industry stakeholders and subject matter experts.” (C15-WP-E15)

“There should be a proper system of imposing laws and policies without changing them with every change in government” (C16-WP-E16)

“Change of Laws and Policies frequently, hinder growth and startups.” (C17-WP-E17)

“The exporters would like to see sustained laws and policies as opposed to ad hoc changes every now and then.” (C18-WP-E18)

“Rapid change in laws and policies can create uncertainty for export-oriented industries directly. Also, this uncertainty can affect business planning, investment decisions, and supply chain management, which can ultimately impact a business's ability to effectively participate in the global value chain.” (C19-WP-E19)

“Ultimate objective has to be bring down production cost. Then only the overseas markets will get opened for Sri Lanka.” (C20-WP-E20)

4.7 Social & Cultural Challenges

Social & Cultural Challenges are another critical challenge faced by the respondents in the Electrical and Electronic Sector Exporters. It is mainly based on linguistic barrier, lack of qualified staff and brain drain.

Most of respondents stated that the inability of communicate in English creates a vulnerability for many exporters. And also, they stated that the negative aspects of lack of qualified staff and brain drain.

“Linguistic barriers impacting the cross boarder business environment for Electronic and Electrical Sector Exporters, although google translate and other apps can be used to minimize the linguistic gap. In the future, the brain drain will heavily impact especially in the Electronic sector and the only suggestion is to make the country’s situation better so that the talent will not consider migrations.” (C1-WP-E1)

“In the Electronic and Electrical Sector major supplier base is from China and language can be a barrier for communication and negotiation directly with Chinese manufacturers and 3rd party support may have needed. Also sometimes customers from Europe might prefer to deal with suppliers speaks their own language. Brain drain certainly impacts the sustainability of the local Electronic manufacturing sector due to the fact this industry needs specialized knowledge.” (C2-WP-E2)

“Linguistic barriers impacting the cross boarder business environment for Electronic and Electrical Sector Exporters” (C3-WP-E3)

“Although there are many translation apps, linguistic barriers impacting the cross boarder business environment for Electronic and Electrical Sector Exporters.” (C4-WP-E4)

The suggestion for brain drain is that better economic management and ample higher educational facilities with foreign universities need to be established here as most people migrate to educate their children.” (C5-WP-E5)

Due to the current economic crisis in Sri Lanka there is a huge brain drain in Sri Lanka. There is still a lot of potential and unused resources and qualified people work in Sri Lanka. (C6-WP-E6)

The lack of qualified staff and brain drain affect severely at the moment and will be going bad to worse in few years. (C7-WP-E7)

Due to the country situation, these a huge outflow of qualified staff from the country. The suggestion for this is to provide not only academic qualification but also industry exposure.” (C8-WP-E8)

"People should have profession all staff the companies should have the will power to seek minor tasks such as language. The lack of qualified staff and brain drain is quite debatable this can be unique for each company as per the method they treat their employees." (C9-WP-E9)

"Linguistic barriers may have an impact in convincing customers. Addressing the lack of qualified staff and brain drain is critical to ensuring that electronic and electrical sector exporters in Sri Lanka can effectively connect with the global value chain. Sri Lanka can take several steps to address this issue, including investing in education and skills development, promoting innovation and entrepreneurship, building the capacity of public sector institutions, and building strong relationships with global value chain partners." (C10-WP-E10)

"In today's globalized economy, English has emerged as the dominant language of international business, and companies that are not proficient in this language may struggle to communicate effectively with potential customers, suppliers, and partners in other countries." (C11-WP-E11)

"English education needs to be improved. It is difficult to find talented people to do the technical content development for foreign markets. As a quicker solution for brain drain, an industrial zone, with all the best facilities around, the explorers could build the factories around it." (C12-WP-E12)

"The suggestion for Linguistic barriers would be to have necessary education facilities to uplift the English education mainly verbal communication. The suggestion for lack of qualified staff and brain drain would be to create more hands on education and training programs locally to compensate for the lack of qualified staff." (C13-WP-E13)

The suggestion for the lack of qualified staff and brain drain would be the education system needs to more practical and business orient. (C14-WP-E14)

Suggestion to address lack of quality staff is for the government and private sector to invest in training and capacity-building programs that can develop local talent. (C15-WP-E15)

"Everyone should have language proficiency, especially in English, to communicate with potential customers, suppliers and partners in other countries without any obstacle. There should be qualified, well-trained staff to deal with any situation. Therefore, proper training sessions should be organized." (C16-WP-E16)

“Linguistic barrier is not an issue, but everyone should have language proficiency, especially in English and Chinese. Suggest to create more opportunities to overcome the lack of qualified staff.” (C17-WP-E17)

“The present level of brain drain is going to have a severe impact in all industries. In the absence of any structured arrangements, we have to make use of our own resources to achieve the desired results.” (C18-WP-E18)

“To address the lack of quality staff and brain drain, Sri Lanka could invest in education and training programs to help build a skilled workforce that is equipped with the necessary technical knowledge and expertise.” (C19-WP-E19)

“There is still enough of qualified staff in this sector what we need is the market. But brain drain is drastically impacting the organization in connecting the Global Value Chain for Electronic and Electrical Sector Exporters.” (C20-WP-E20)

4.8 Data Sources Archives Findings

4.8.1 The Electronic and Electrical Manufacturing Industry

New technology that is currently used or will be used by all consumers was developed by the EEC. A Semiconductor company that designs Chips or Integrated Circuits is where the EEC supply chain begins. Some sorts of electronics businesses design passive parts like Capacitors and Resistors or produce Silicon itself. The Chips and other components are then used by Consumer Electronics Businesses to develop goods like Washing Machines, Microwaves, Smartphones, and Tablets, among others.

4.8.2 Global Value Chains (GVCs)

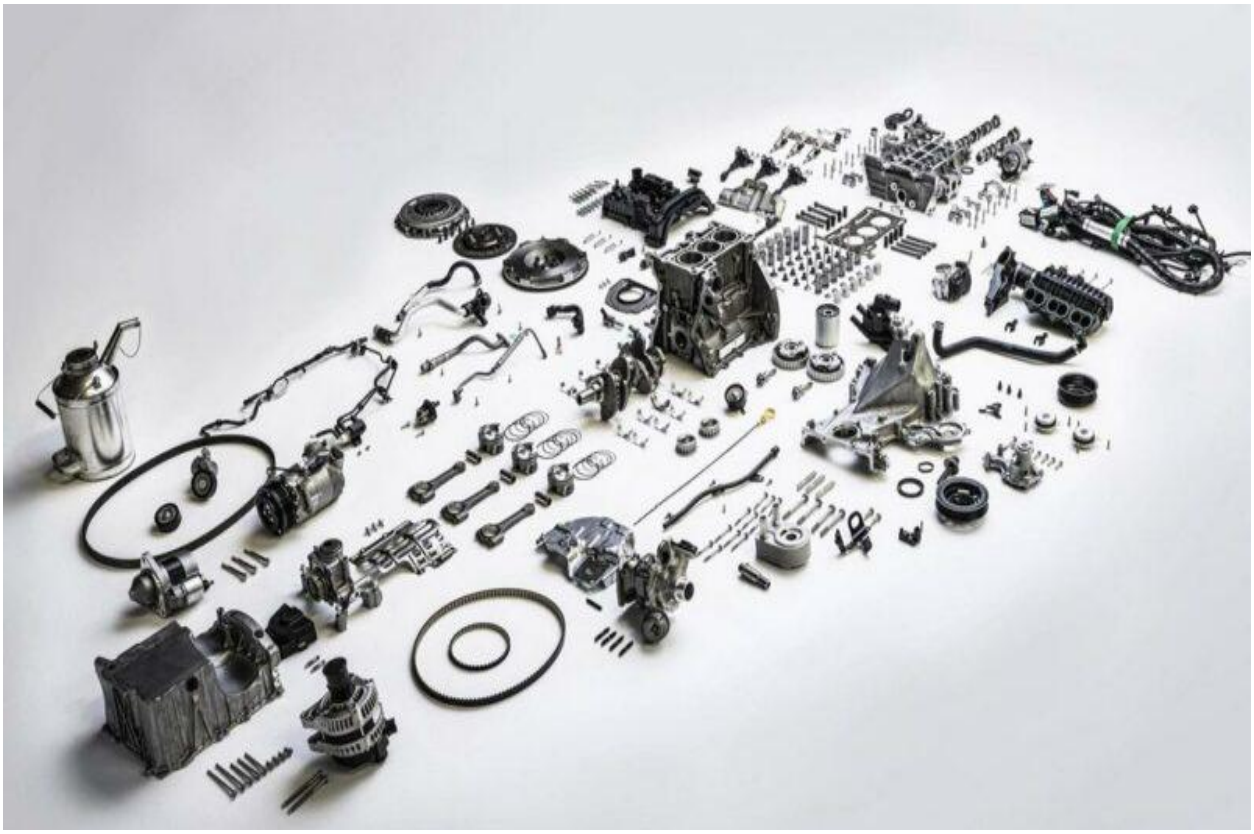
GVC separate the many parts of the production process so that they can be completed in other nations, whether it be for a Smartphone, TV, or Car. Today, more than two thirds of all trade occurs within value chains, which frequently span many different borders throughout the production phase. Because they make it simpler for those nations to diversify away from primary products and toward manufactures and services, GVC have been a godsend to emerging nations.

An entire manufactured good had to be produced in-house in the past for a nation to export it. Value chains enable a nation to specialize in one or more activities where it has a Comparative Advantage.

4.8.3 An example from Sri Lanka context

An exploded view of a car is seen in figure 3 below. This GVC phenomena also called as Pure Backward GVC Participation (GVCPB), allow Sri Lanka to export items like Air Bag Sensors, Wire Harness, Plastic and Rubber Parts, Tires, EMS, PCB assembly, and other items for the Automotive Industry. The majority of the high-end, low-volume products produced in Sri Lanka are exported together with OEM and ODM components. Low wages, high quality, on-time delivery, and a skilled workforce are what contribute most to Sri Lanka's value added in the EEC. All high value to low value components, designs, and financial inputs come from advanced economies as well as from emerging nations, when viewed as a comprehensive production chain. For example, the inputs are sent to China, the United States, Europe, or Japan where the final assembly and finished product are produced. This has significantly aided in the rise of foreign income and decrease of poverty in a nation, especially low-income ones.

Figure 3 - An exploded view of a car



Another excellent example of a developing nation that is heavily integrated into GVC is Vietnam. Vietnam has received a significant amount of Foreign Investment through its reform and opening, with much of it going toward labor-intensive assembly. Input-output research reveals that there are more backward links than is typically thought, easing policymakers' concerns that they will be limited to low-end assembly. (David, Dollar., Senior Fellow - Foreign Policy, Global Economy and Development, John L. Thornton China Center., April 15, 2019)

4.8.4 GVC-Related Output - % output

The output of a nation or industry that directly or indirectly crosses more than one border is referred to as GVC-related output. The sector purchases domestic and foreign inputs, sells them across borders to other domestic or foreign industries as inputs. Its output is located in the sector that buys and sells inputs simultaneously, placing it in a more central position in the supply chain. The top 10 countries in terms of GVC-related output are included in table 2 in Appendix 1. Sri Lanka is now ranked 49th out of 62 nations. (Source: Worldbank.org)

4.8.5 Pure Forward GVC Participation (GVCPF)

Value contributed domestically created by a sector that ultimately crosses more than one border. This output is tracked back to the industry that creates the value, which is the very first link in a chain. The percentage of forward GVC participation is determined by the domestic value added sent to Third Economies in relation to the nation's overall gross exports. Inputs sent to Third Economies for additional processing and export through supply chains are captured together with the local value added. According to Pure forward GVC participation, the top 10 countries are listed in table 3 in Appendix 1. Out of 62 nations, Sri Lanka is ranked 41st. (Source: Worldbank.org)

4.8.6 Pure Backward GVC Participation (GVCPB)

Output from the sector that completes the final goods or services, the last link in a chain, is tracked when it crosses more than one border. The term GVCPB describes the proportion of "Foreign Value-Added Content of Exports" to the overall gross exports of the economy. When an economy imports intermediates to manufacture its exports, this is the "Buyer" perspective or sourcing side in GVCs. Based on Pure backward GVC participation, the top 10 nations are listed in Table 4 in the appendix 1. Out of 62 nations, Sri Lanka is on position 31. (Source: worldbank.org)

4.8.7 Other findings

The table 5 in the appendix 1 shows the total EEC exports during 2018-2022 country wise. As you can clearly see, highest exports were generated from exports to Switzerland, followed by United States, India, Germany, Bangladesh, Hong Kong, Maldives, China, United Kingdom, and Mexico.

The table 6 in the appendix 1 shows the top 10 products exported by Sri Lanka for the past 5 years. Insulated Wires and Cables was the highest followed by Switches, Boards & Panels, Electrical Transformers, Tea Bagging, Packing, Cleaning, Weighing Machines, Telephone Sets,, Audio/Video Equipment & Parts, Printed Circuits, Electronic Circuits, Transistors, Valves,, Cathode Tubes, Refrigerators & Freezers, and Lamps and Lighting Fittings.

In addition, the table 7 in the appendix 1 shows the breakdown of each of the top 10 products to each of the above markets.

The following factors are analyzed in the appendix from table 8 to table 12 in the appendix 1.

- World imports and Sri Lanka exports for each top 10 products mentioned above in 2021
- SL product share in the world market, potential export markets and their import tax rates
- New/untapped export markets and their import tax rates.
- Top local and global players in the specific product sectors

Table 13 sows the benchmarks for Sri Lanka EEC Companies and Manufacturers in Sri Lanka.
Table 14 shows the top EEC Products from SL
Table 15 shows the top 20 Exporting countries

The author discovered some EEC items with excellent export potential in the global market **(Table 16)** during the online interviews performed with the companies. These include:

Drones and Unmanned Arial Vehicles	Machine firmware	Fully Electric Vehicles (Ex: Vega EVX Super Car)	Internet of Things (IoT)
Smart Homes	Mechatronics	Solar Cells	Design and Development
Automatic Guided Vehicles	Artificial Intelligence (AI)	Medical Devices	Automobile Hybrid batteries
Consumer Electronics	Robot scanners	Semi-conductors	Embedded systems
Organic Electronics	Electronic Manufacturing Services (EMS)		

CHAPTER 5
CONCLUSION

This study predominately aims to identify the challenges/opportunities/barriers when connecting to the GVC and also to find out successful strategies available to increase export revenue. The objectives of this study is to determine the primary barriers preventing Sri Lankan exporters from connecting the Global Value Chain (GVC); to evaluate the opportunities available to increase its market share in the GVC; to examine the successful strategies and methods available to increase the sector growth and to enter the GVC.

As you can see clearly, Sri Lanka has more comparative advantage over Pure Backward GVC Participation (GVCPB) as it stands 31st position in the world (Table 4 in the appendix 1) compared to 49th and 41st positions in GVC-Related Output - % output and Pure Forward GVC Participation (GVCPF) as shown in tables 2 and 3 in appendix 1 respectively. So that, the author recommend to approach the GVCPB strategy when connecting to the GVC with utilizing the opportunities shown in figure 2.

Qualitative methodology and Exploratory Research technique have been used in this study with predominantly inductive approach to garner the opinions of the relevant companies on the challenges faced by exporters in connecting to the GVC. Data was gathered through two channels. First channel is primary data through a questionnaire which was shared among 20 active exporters in the Electronic and Electrical Sector in Sri Lanka. The second channel is secondary sources such as Literature Reviews, Journals, Web Articles, EDB and Customs Databases, International Trade Databases, Trade Maps, Statista Database, Central Bank and World Bank data, and Atlas of Economic Complexity Database etc.

The study focused is on 100+ active exporters who have exported an average of more than $1mn worth of Electronic and Electrical goods annually during the last three years. Out of that, 20 exporters have been selected based on their problems/issues and opportunities. They have responded to a brief semi structured/unstructured questionnaire (free form) to assess any changes to their business and to identify any difficulties/issues/challenges they have encountered and opportunities.

5.1 Identified Issues and Recommendations

5.1.1 Identified Issues

The semi structured/unstructured questionnaire (free form) was designed based on 6 major issues faced by exporters. Accordingly, the following summary of feedbacks were given by the companies for each issue which is further elaborated in 4.2 to 4.7.

Organizational Challenges	**Economic Challenges**
Increase in freight rates. Difficulty in obtaining approvals from various government institutions No way to check the authenticity of the foreign customers The government institutions' lack of inter-coordination Lack of sustainable and firm government policies Investor unfriendly environment High energy cost	Lack of online payment platforms Lack of virtual and physical trade fairs Foreign currency deficit in local banks Sri Lankan existing financial infrastructure is not supportive The unstable financial situation of the country Reduce or remove duties for selected raw material that is required for manufacturing Reduce bureaucratic barriers, enhance trade facilitation, and promote investment in the sector The financial assistance given by the authority is not at an acceptable level. It should be flexible.

Technical Challenges	**Legal & Regulatory Challenges**
Quality standards in Sri Lanka are limited. Lack of proper and firm policies No benefits or at least tax exemptions for Research and Development companies. Import restrictions for some raw materials that hinder innovations. High manufacturing cost which make the manufacturers less competitive in the Global Value Chain. Lack of awareness among institutions.	Out dated labor rules are impacting quality manufacturing There are no proper legislations for recycling and component manufacturing from basic materials No clear sustainable policies to support local manufactures
Political Challenges	**Social & Culture Challenges**
Frequent changes in policies are considered negatively by investors. Sudden tax changes effects the quoted projects and international competitions. Sudden import restrictions are barriers to import components and raw materials. Skilled labor migrations has affected the export industries. Uncertainty can affect business planning, investment decisions, and supply chain management, which can ultimately impact a business's ability to effectively participate in the Global Value Chain.	Inability of communicate in English creates a vulnerability for many exporters. Linguistic barriers impacting the cross boarder business environment for Electronic and Electrical Sector Exporters. Brain drain has heavily impacted the sector The lack of qualified staff Linguistic barriers may have an impact in convincing customers

5.1.2 Recommendations

The following summary of suggestions/solutions were given by the companies for each issue which is further elaborated in 4.2 to 4.7.

Suggestions/Solutions for Organizational Challenges	Suggestions/Solutions for Economic Challenges
Setting up, one powerful Institute with full authority similar to (1978 – 1992) old Greater Colombo Economic Commission (GCEC) to overcome the Government institutions' lack of inter-coordination. EDB to implement an international buyer searching mechanism to connect exporters with reliable foreign clients. Suggest more and more participants in Global Exhibitions and Business Forums to overcome the inability to connect with reliable foreign clients. Regular meetings with government institutions to identify resolve barriers. Government should improve infrastructure and digitalize systems to reduce the cycle time of import/export documentation procedures. Government to invest in improving logistics infrastructure, such as upgrading Ports and Airports, streamlining Customs procedures, and providing training and support to logistics service providers. Sri Lankan Foreign missions have to do a smart job to find reliable clients.	Opening gateways into online payment platforms can make it easier to deal with global suppliers Provide development banking facilities at affordable levels to overcome the existing financial crisis for companies. The present Sri Lankan existing financial infrastructure requires major changes in financial support systems, income tax systems and import tax systems and to discourage imported products to support local development. Development of industrial zones. A suggestion for the present Sri Lankan existing financial infrastructure is to reduce or remove duty for selected raw material that is required for manufacturing products The residual balance-transferring mechanism needs to stop. Otherwise, the companies can't manage their cash flow. Suggest that Sri Lanka has to start manufacturing at least some of the required raw materials locally to minimize imports to save foreign exchange.

Suggestions/Solutions for Technical Challenges	Legal & Regulatory Challenges
The product quality standards should be maintained according to the buyer's satisfaction to connect to GVCs. To bring down MNCs with all facilities and guarantee of local sales. Establish export consulting services that can help local producers export. Establish comprehensive Lab Facilities, Accredited Laboratories to cater Sri Lanka's international quality standards More interactions with global technologies and trends Tax exemptions for Research and Development companies to continue their innovations. Enforcing industry-specific regulations and standards, building workforce capacity, and promoting the quality and reliability of Sri Lankan products. Provide access to International Certification Bodies like ISO, CE, Applus+, IPC, ETA, SGS etc. Provide training and support to businesses on the benefits of innovation and product diversity	Update Sri Lankan labor rules aligning with international standards The systems should be digitalized as much as possible in order to reduce the cycle time of export documentation procedures. Protect intellectual property rights, and promote greater transparency and accountability in policymaking Establish a regulatory framework that meets international standards and ensure proper enforcement.

Political Challenges	Social & Culture Challenges
A steady policy on GVC should be governed by a both Public and privately involved body. Suggest stable and encouraging policies to be established, with an undisturbed environment for industries to operate. Promoting greater stability, continuity, and transparency in government policies related to the Electrical and Electronic industries can help to reduce uncertainty and risk for exporters who are connected to the GVC.	Use translation apps to overcome linguistic barriers. Establish ample higher educational facilities with foreign universities in Sri Lanka as most people migrate to educate their children. Provide not only academic qualification but also industry exposure, training and capacity-building programs to students to overcome lack of qualified staff and brain drain. Investing in education and skills development, promoting innovation and entrepreneurship, building the capacity of public sector institutions, and building strong relationships with GVC partners. Everyone should have language proficiency, especially in English and Chinese to communicate with potential customers, suppliers and partners in other countries without any obstacle. There should be qualified, well-trained staff to deal with any situation. Therefore, proper training sessions should be organized.

It was revealed that Trade Fairs and Business to Business meetings were the most successful trade promotional practices in connecting GVCs. Therefore, the research identified the importance of Trade Fair participation and Business to Business meetings to promote the GVCs in the host country. Internet, e-mail, Zoom, Teams and video conferences make it possible for trade partners to communicate and exchange information effectively in real time.

A drawback of these virtual platforms is that personal connection and product testing are not available physically. It is crucial to be physically present when communicating across cultures since it helps break down linguistic barriers. Very important are quick feedback and communication adaptability. As a result, trade depends on interpersonal relationships and strategic alliances between parties. Trade shows bring buyers and sellers together and typically have the biggest concentration of these decision-makers. In reality, they offer a chance to get in touch with particular people who might otherwise be hard to find. Because attending a Trade Show is the main point, it has the advantage that attendees are receptive to fresh information. So, having access to information is essential. In real life, people do business transactions. Yet, for such an arrangement to be made, the persons concerned must develop a relationship of trust and confidence. Trade Fairs are the perfect setting for getting to know one another and developing trust via communication. A productive business meeting at a Trade Show can serve as the foundation of a long-lasting company partnership.

In addition, the main trade promotion body like EDB should implement an international buyer search mechanism or on the other hand a comprehensive buyer database that can connect exporters with reliable foreign clients without much hassle and cost with a click of a button. This could be done through partnering with a global buyer/importer search assistant companies. The buyer information should be up to date and reliable.

Additionally, officers who have not yet developed an understanding of International Commerce may encounter novel and difficult circumstances, attitudes, and/or processes. As a result, these officers should get familiar with the host nation's environment, Customs, Lexicon, and standards of verbal and nonverbal communication. Business customs in one nation may differ from those in another, particularly when it comes to commerce. Several European business partners have high expectations for excellent products and efficient, committed, and precise relations. The most efficient strategy is to meet trading partners in person at Trade Fairs and follow up on these contacts through business-to-business meetings in order to ensure confident and trustworthy relationships with stakeholders to expand trade links, particularly in the host market.

This study discusses certain management and policy ramifications, such as the need for Proactive Government Institutions, Stable policies, Investment friendly laws and regulations, Tax eco system, Flexible import-export system, and Reliable strategic connections between nations. The study comes to the conclusion that present government initiatives and diplomatic missions in Sri Lanka do not meet the needs and expectations of exporters. The recommendations of this study are made available to their peers as well as the Sri Lankan governments and diplomatic offices abroad.

5.2 Limitations and Further Research Opportunities

- Approaches to qualitative research frequently ignore contextual sensitivity in favor of emphasizing meanings and experiences.
- Policymakers might not view the findings of a qualitative method with much credibility.
- Smaller sample sizes may raise concerns about generalizability to the research's entire population.
- Data interpretation and analysis could be more challenging or intricate.
- It takes a long time to analyze each instance, and there are relatively few ways to generalize the findings to a wider population.

5.3 Summary

A summary of the findings was given in a way that elaborated on the conclusions under the goals of the independent study. Then recommendations, limitations, and potential areas for future research were given. The following areas can be recognized as potential areas for further research based on the aforementioned limitations. Some of these areas were discovered in this study, while others require further analysis utilizing using mixed-method research. These are the relationship between trade promotion and the leadership of a foreign mission, communication gaps existing between foreign missions and home country counterparts, role played by the leadership of a foreign mission in promoting international trade, role of Government officials in promoting international trade, effect of business-to-business training given to Sri Lankan exporters in promoting international trade, effectiveness of Trade Fairs in promoting Sri Lankan international trade,

strategies to reduce entry barriers to countries, the mediating role of leadership and communication, strategies to carry out successful Trade Fair participation, proper logistical infrastructure, proper and investor friendly policies and legislations, investment friendly tax eco system, one stop shop strategy, and the impact of the Government of the host country on effective trade promotion.

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Appendix 1 – Tables and Graphs

Table 2 - GVC-related output - % output

Rank	Country Name	2017	2018	2019	2020	2021
1	Estonia	91.49	76.84	77.35	78.14	81.21
2	Malta	84.15	85.46	76.97	75.33	75.56
3	Hong Kong	82.47	72.77	71.27	76.74	81.91
4	Hungary	79.99	76.84	72.99	73.38	73.71
5	Viet Nam	78.21	75.07	70.14	72.36	76.10
6	Slovakia	77.09	72.57	70.89	73.05	74.77
7	Czech Republic	75.12	64.08	62.90	62.99	68.13
8	Mexico	74.84	72.62	68.20	69.33	72.45
9	Netherlands	74.50	60.74	59.62	57.01	59.55
10	Luxembourg	74.36	74.17	76.69	75.26	76.69
49	**Sri Lanka**	**25.56**	**35.15**	**32.23**	**30.42**	**36.59**

(Source: worldbank.org)

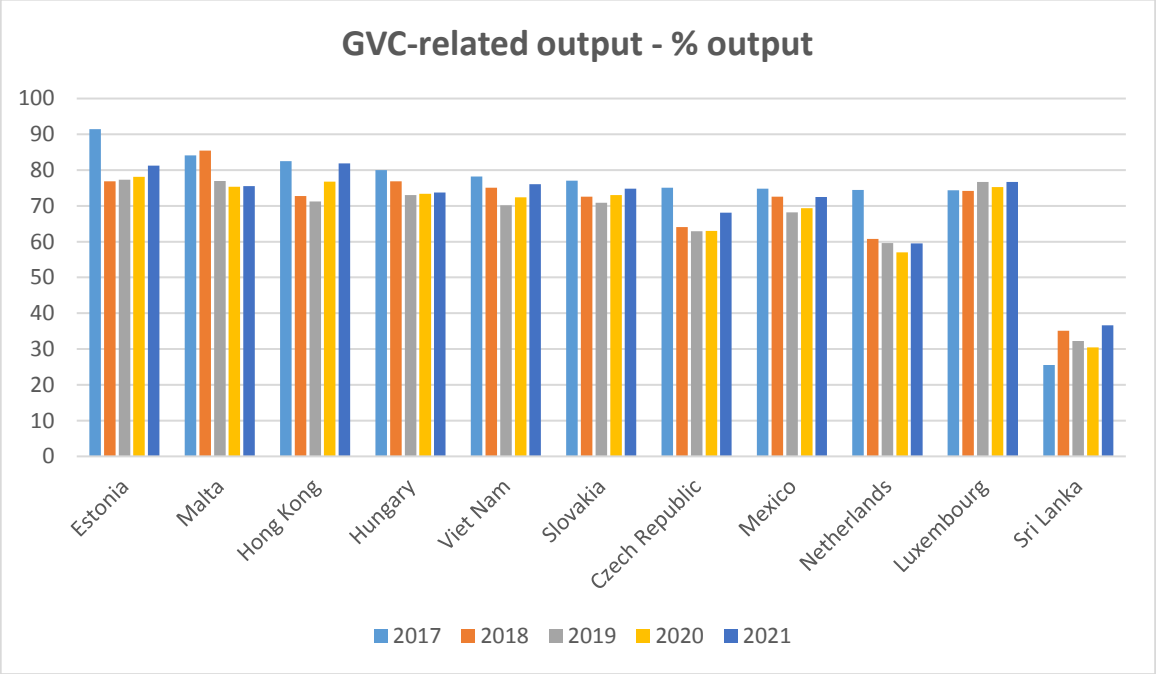


Table 3 - Pure forward GVC participation (GVCPF)

Rank	Country Name	2017	2018	2019	2020	2021
1	Taipei,China	14.48	13.78	11.63	10.65	11.60
2	Malta	14.26	10.45	8.08	6.05	5.22
3	Romania	13.72	13.16	13.89	13.78	13.76
4	Austria	13.35	12.95	11.66	12.08	12.24
5	Germany	12.49	11.32	10.48	10.21	11.14
6	Lithuania	12.46	12.79	13.41	13.62	14.43
7	France	12.22	11.59	10.41	10.33	11.04
8	Cyprus	12.18	14.30	15.42	12.08	14.93
9	Denmark	11.15	7.58	6.87	8.58	8.62
10	Norway	10.52	9.41	9.17	9.48	9.35
41	**Sri Lanka**	**3.73**	**8.21**	**8.85**	**8.40**	**12.06**

(Source: worldbank.org)

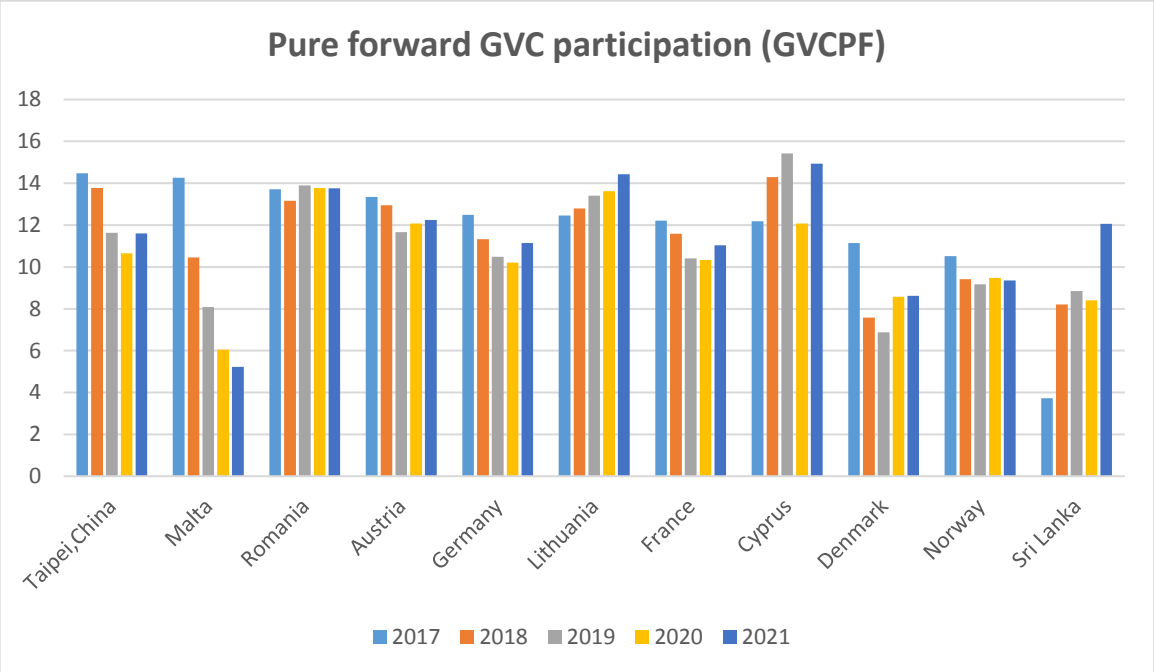


Table 4 - Pure backward GVC participation (GVCPB)

Rank	Country Name	2017	2018	2019	2020	2021
1	Slovakia	47.53	34.86	35.65	30.09	31.98
2	Mexico	45.98	40.47	37.91	38.70	38.82
3	Hungary	41.89	35.89	31.10	25.97	25.01
4	Estonia	37.65	47.69	41.51	41.06	45.93
5	Ireland	35.27	19.54	24.15	26.92	19.70
6	Hong Kong	31.66	29.50	30.27	28.90	32.19
7	Luxembourg	29.31	36.80	37.38	26.22	27.33
8	Poland	28.48	29.63	29.73	27.22	27.39
9	Czech Republic	28.42	25.86	26.67	22.86	23.87
10	Netherlands	26.97	27.25	34.42	31.75	33.26
31	**Sri Lanka**	**11.27**	**7.76**	**4.66**	**4.82**	**4.36**

(Source: worldbank.org)

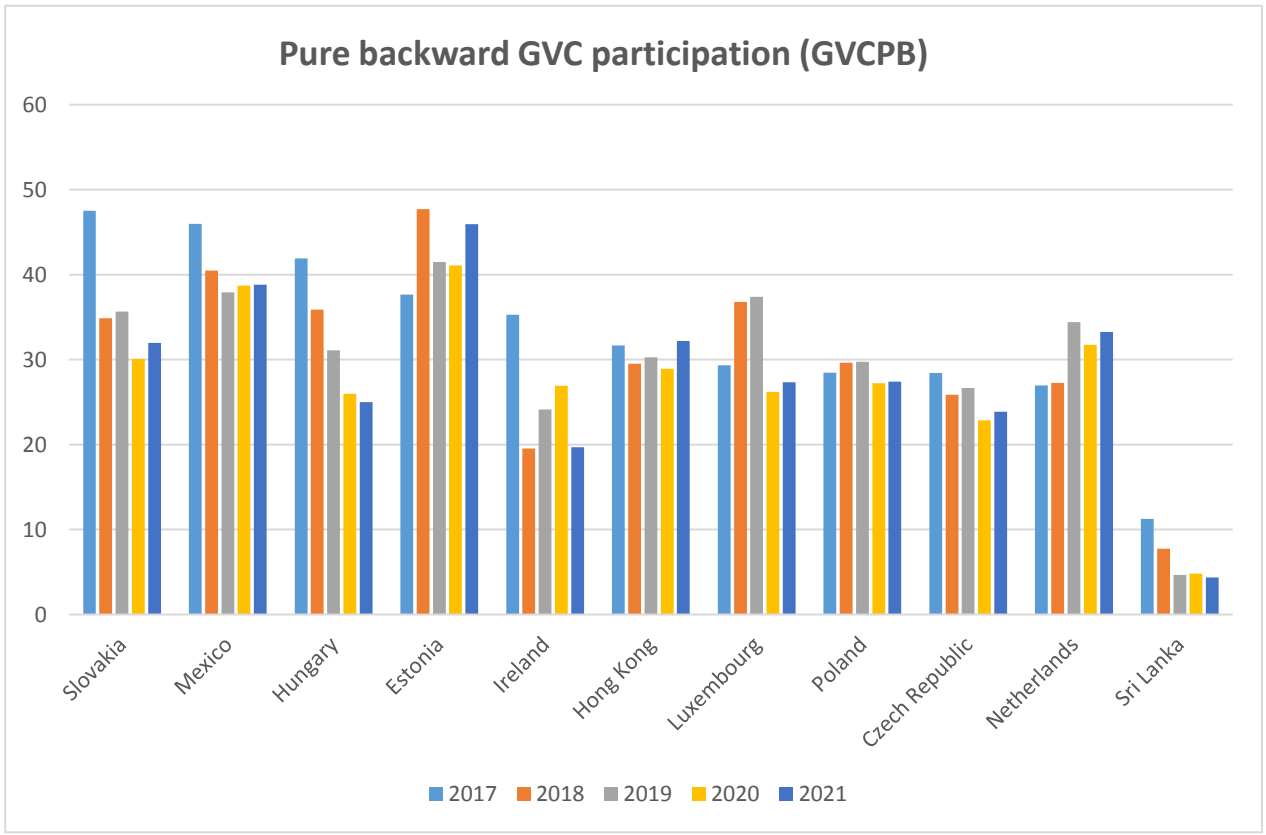
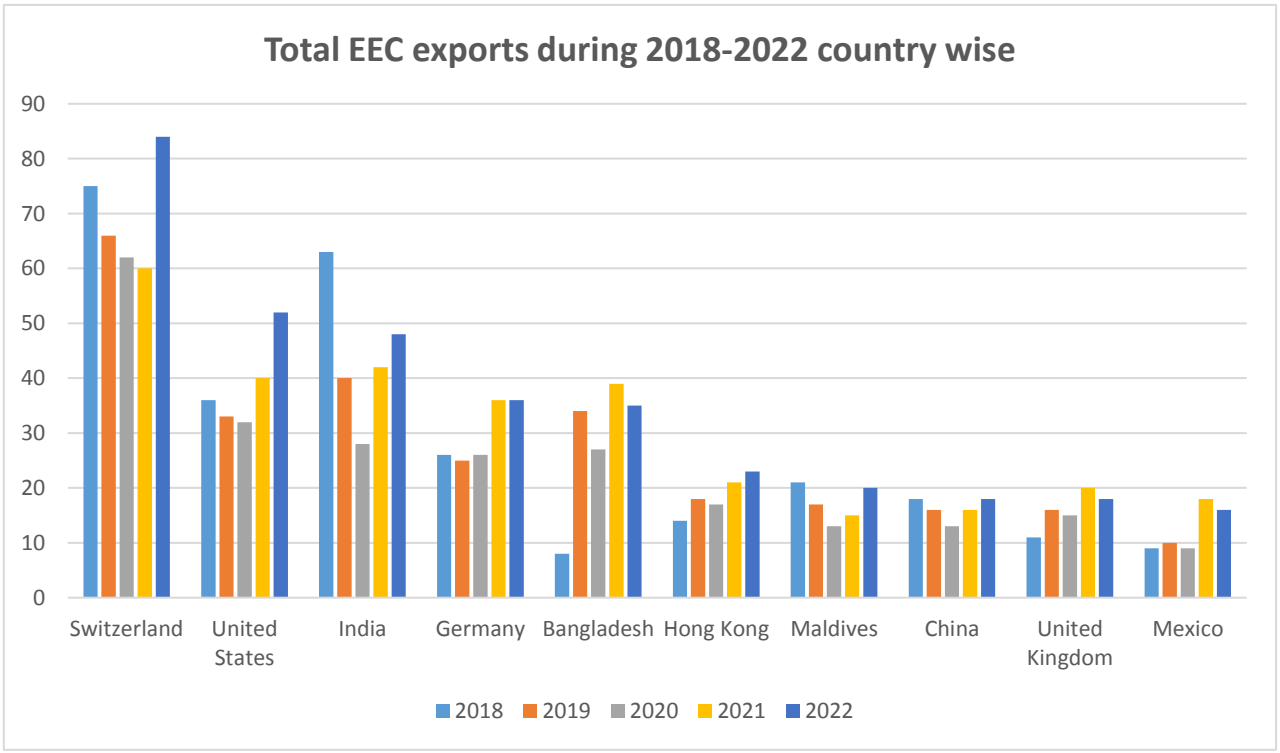


Table 5 - Total EEC exports during 2018-2022 country wise

Rank	Description	2018	2019	2020	2021	2022
		Value	Value	Value	Value	Value
1	Switzerland	75	66	62	60	84
2	United States	36	33	32	40	52
3	India	63	40	28	42	48
4	Germany	26	25	26	36	36
5	Bangladesh	8	34	27	39	35
6	Hong Kong	14	18	17	21	23
7	Maldives	21	17	13	15	20
8	China	18	16	13	16	18
9	United Kingdom	11	16	15	20	18
10	Mexico	9	10	9	18	16
	Other Markets	128	106	88	117	134
	Total :	**410**	**382**	**329**	**422**	**484**

Value in US$ - US Dollars Millions
Source: Sri Lanka Customs/EDB



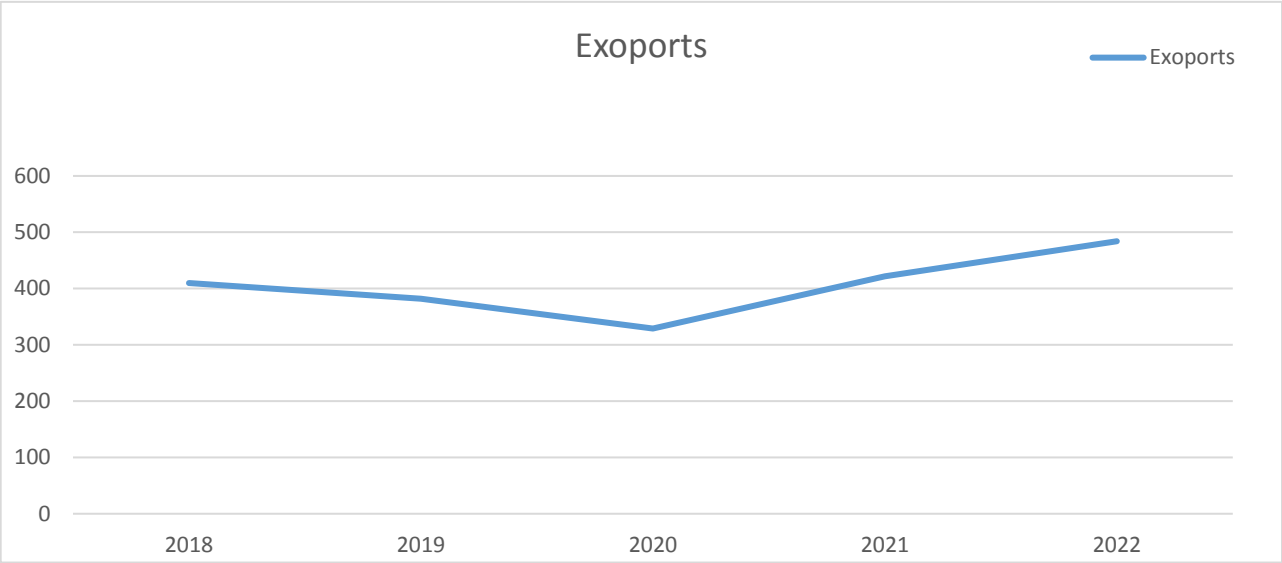


Table 6 - The top 10 products exported by Sri Lanka for the past 5 years

Rank	Description	2018	2019	2020	2021	2022
		Value	Value	Value	Value	Value
1	Insulated Wires and Cables	70	64	49	71	81
2	Switches, Boards & Panels	51	44	42	57	64
3	Electrical Transformers	38	28	22	36	38
4	Tea Bagging, Packing, Cleaning, Weighing Machines	25	23	20	22	24
5	Telephone Sets, Audio/Video Equipment & Parts	9	6	6	6	7
6	Printed Circuits	10	9	5	4	7
7	Electronic Circuits, Transistors, Valves, Cathode Tubes etc.	1	2	1	2	3
8	Refrigerators & Freezers	4	2	...	2	2
9	Lamps and Lighting Fittings	5	3	1	3	2
10	Boilers, Piston Engines, Pumps & Vacuum Pumps	2	1	1	1	2
	Other Products	196	200	180	219	253
	Total :	**410**	**382**	**329**	**422**	**484**

Value in US$ - US Dollars Millions
Source: Sri Lanka Customs/EDB

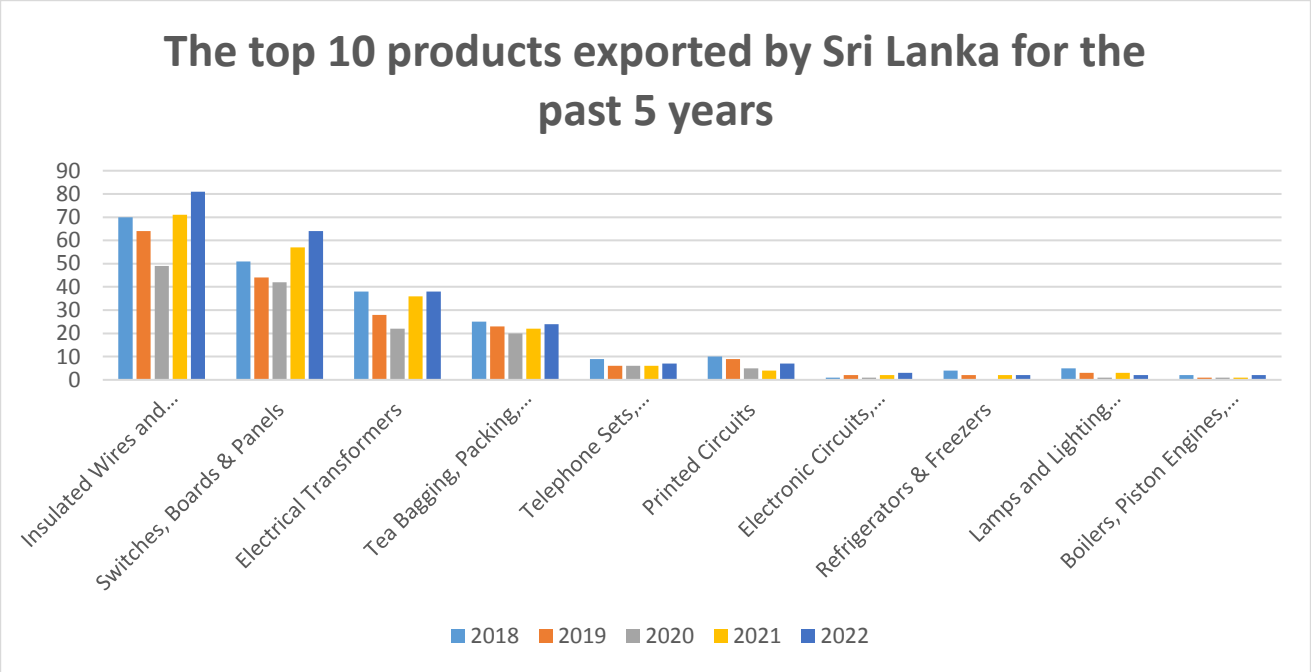


Table 7 - The breakdown of each of the top 10 products export to each market from Sri Lanka

Rank	Description	2018	2019	2020	2021	2022
	Insulated Wires and Cables	**70**	**64**	**49**	**71**	**81**
1	India	27	21	15	22	27
2	Maldives	12	10	9	12	15
3	Mexico	7	9	6	13	12
4	Austria	3	3	3	4	6
5	Japan	5	5	3	4	3
6	Romania	5	4	4	3	3
7	Norway	2	1	2	2	2
8	Mauritius	1	2	...	...	1
9	Switzerland	1	1	1	3	2
10	United States	...	1	1	1	1
	Other Markets	7	7	7	9	9

Rank	Description	2018	2019	2020	2021	2022
	Tea Bagging, Packing, Cleaning, Weighing Machines	**25**	**23**	**20**	**22**	**24**
1	United States	8	8	6	6	9
2	Denmark	3	2	3	3	3
3	India	5	3	4	2	2
4	France	3	3	1	3	3
5	Germany	1	1	1	1	1
6	Australia	1	1	1	1	1
7	Hungary	2	2	3	2	1
8	Mexico		...	...	1	1
9	Singapore	...	...	...	...	...
10	Malaysia	...	...	...	...	...
	Other Markets	2	3	1	3	3

Rank	Description	2018	2019	2020	2021	2022
	Electrical Transformers	**38**	**28**	**22**	**37**	**38**
1	United States	5	5	4	6	9
2	Germany	5	5	4	6	7
3	Sweden	4	4	3	4	5
4	Hong Kong	4	4	3	5	5
5	United Kingdom	3	3	2	3	4
6	Switzerland	2	1	1	1	2
7	Norway	1	1	1	1	1
8	India	4	1	1	3	1
9	Thailand	1	1	1	...	1
10	China	1	1	...	1	...
	Other Markets	8	2	2	7	3

Rank	Description	2018	2019	2020	2021	2022
	Switches, Boards & Panels	**51**	**44**	**42**	**57**	**64**
1	Switzerland	20	16	15	14	16
2	Hong Kong	6	10	9	12	12
3	Netherlands				4	9
4	China	2	1	3	5	7
5	United States	2	1	2	3	5
6	Maldives	4	4	2	2	4
7	United Kingdom	...	...	...	2	2
8	India	1	1	...	1	1
9	Austria	1	1	1	1	1
10	Germany	...	...	...	5	1
	Other Markets	15	10	10	8	6

Rank	Description	2018	2019	2020	2021	2022
	Telephone Sets, Audio/Video Equipment & Parts	**9**	**6**	**6**	**6**	**7**
1	Jordan		...	1	1	1
2	Switzerland	2	2	2	1	1
3	Bangladesh	2	2	1	1	1
4	Singapore	...	1	1	...	1
5	Indonesia	...	...	...	...	1
6	Nepal	...	...	...	1	1
7	United Arab Emirates	1	...	...	...	1
8	India	1	...	...	1	...
9	Ethiopia	...	...	...	...	...
10	Kenya		...	...	...	...
	Other Markets	3	1	1	1	...

Rank	Description	2018	2019	2020	2021	2022
	Printed Circuits	**10**	**9**	**5**	**4**	**7**
1	Canada	9	8	4	3	5
2	United States	...	...	...	...	1
3	Germany	1	1	1	1	1
4	Korea South (Korea, Republic of)	...	...	...	...	...
5	Japan	...	...	...	...	...
6	Estonia					...
7	Hungary	...	...			...
8	China	...	...	...	...	...
9	Switzerland			...	...	...
10	Maldives	...	...	...	...	...
	Other Markets	...	...	...	...	...

Rank	Description	2018	2019	2020	2021	2022
Electronic Circuits, Transistors, Valves, Cathode Tubes etc.		**1**	**2**	**1**	**2**	**3**
1	Japan	1	1	1	1	1
2	Pakistan					1
3	Singapore	...	...	...	1	...
4	India	...	...	...	...	1
5	China	...	1	...	...	...
6	Switzerland	...	...	...	...	...
7	Malaysia					...
8	United States	...	...	...	...	...
9	Bangladesh					...
10	United Arab Emirates	...	...	...	...	...

Rank	Description	2018	2019	2020	2021	2022
	Lamps and Lighting Fittings	**5**	**3**	**1**	**3**	**2**
1	United Arab Emirates	3	2	1	2	1
2	United Kingdom	1	1	...	1	1
3	United States	...	...	...	...	...
4	Kenya	...	...	...	...	...
5	Maldives	...	...	...	...	...
6	Dominican Republic					...
7	Haiti	...	...		...	...
8	Singapore	...	...	...	...	...
9	Mauritius		...	...	...	...
10	Ghana		...			...
	Other Markets	1	...	...	...	...

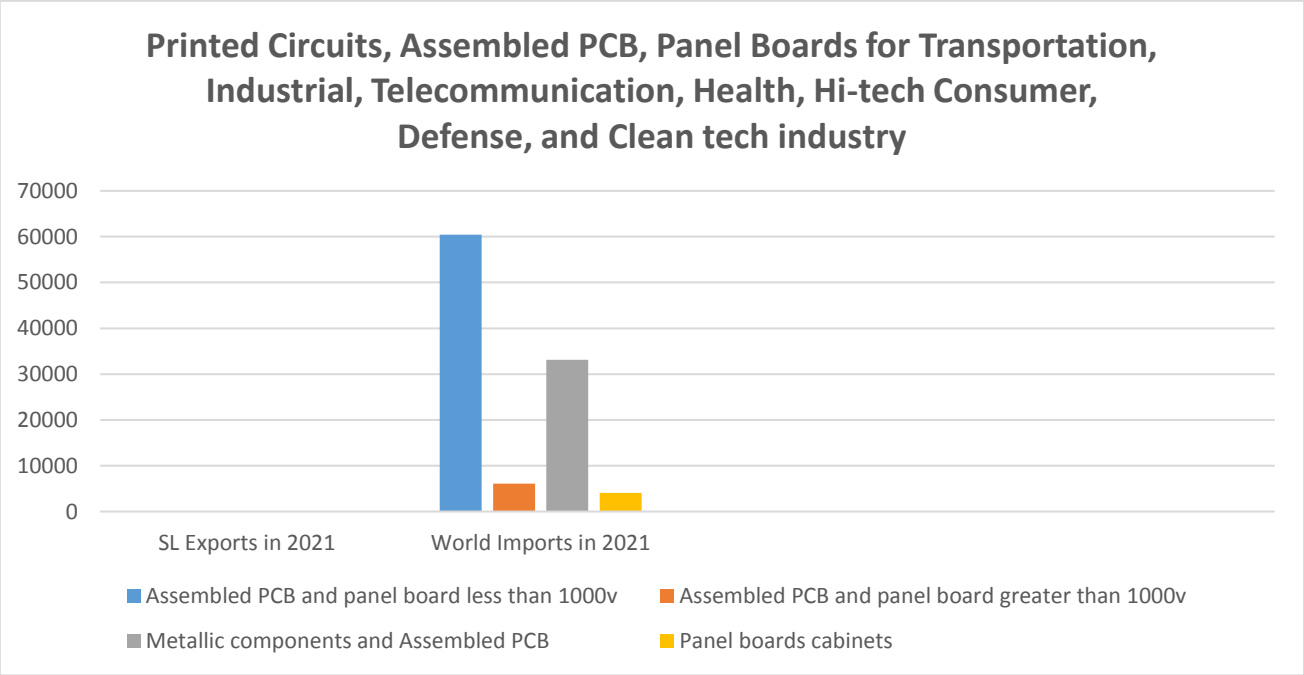
Rank	Description	2018	2019	2020	2021	2022
Boilers, Piston Engines, Pumps & Vacuum Pumps		**2**	**1**	**1**	**1**	**2**
1	Germany	...	...	...	1	1
2	India	1	1	1	...	1
3	Denmark	...	...	...	...	...
4	Maldives	1	...	...	...	...
5	Not Specified		...	...	...	...
6	Bangladesh	...	...	...	...	...
7	Singapore	...	...	...	...	...
8	Canada					...
9	Ghana					...
10	United Arab Emirates	...	...	...		...
	Other Markets	...	...	...	...	...

Value in US$ - US Dollars Millions Source: Sri Lanka Customs/EDB

Table 8 - Printed Circuits, Assembled PCB, Panel Boards for Transportation, Industrial, Telecommunication, Health, Hi-tech Consumer, Defense, and Clean tech industry

Product	HS Code	SL Exports in 2021	World Imports in 2021	SL Product Share 2021	Potential Markets and Tax	New Markets and Tax
Assembled PCB and panel board less than 1000v	853710	54.4	60,413	0.090 %	China 3% Malaysia 0% South Korea 8%	Nigeria5% Qatar 0% Kuwait0%
Assembled PCB and panel board greater than 1000v	853720	17.5	6,101	0.287 %	USA 0% Singapore 0% Germany 0%	Chile 6% Malaysia 0% Qatar 5%
Metallic components and Assembled PCB	853890	18.2	33,105	0.055 %	Russia 4% Switzerland 0 Germany 0%	Colombia 5% Thailand 10% Italy 0%
Panel boards cabinets	'853810	12.5	4,027	0.311 %	Russia 5% Switzerland 0% Belgium 0%	Portugal 0% Turkey 0%

Value in US$ - US Dollars Millions
Source: Sri Lanka Customs/EDB/Trade Map

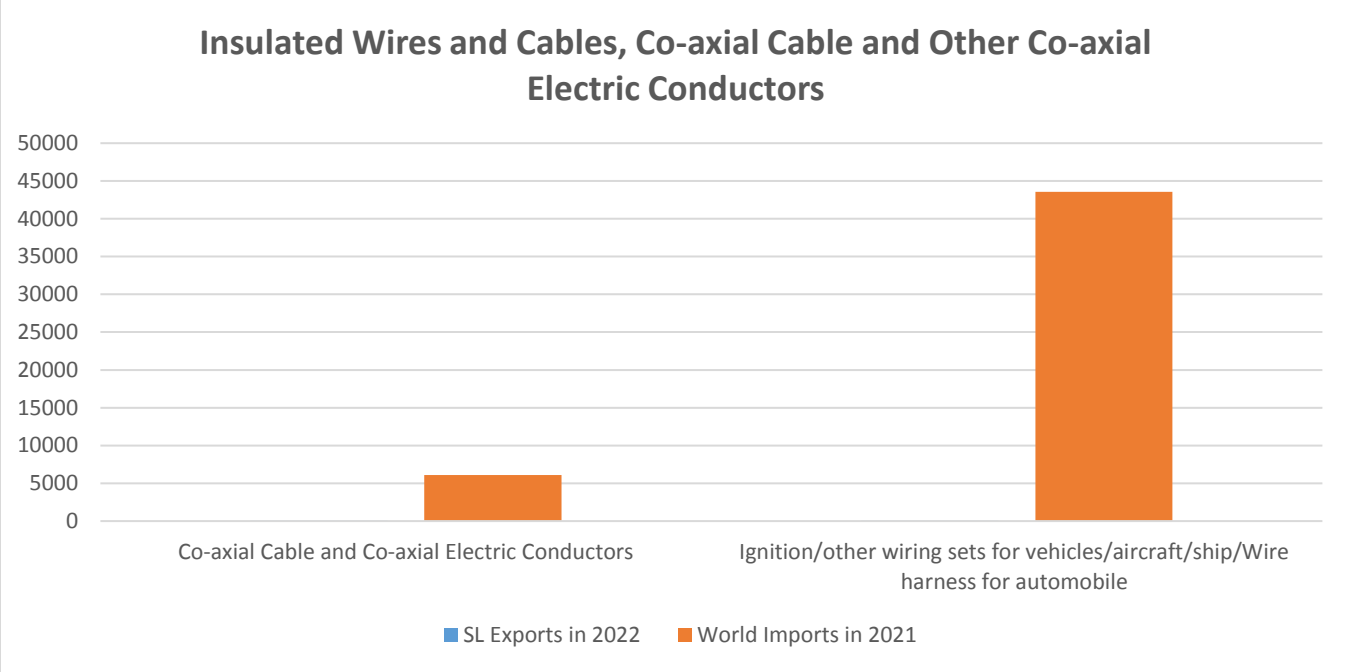


Top Local Players - VarioSystems, GPV Lanka, TOS Lanka, Contrinex Ceylon, KIK Lanka.
Top Global Players - FLEX Ltd (USA and Singapore), Eltek Ltd (Norway), SCHMID Group (UK), Corintech Ltd (UK), and ES & S Solutions (Germany)

Table 9- Insulated Wires and Cables, Co-axial Cable and Other Co-axial Electric Conductors

Product	HS Code	SL Exports in 2022	World Imports in 2021	SL Product Share 2021	Potential Markets and Tax	New Markets And Tax
Co-axial Cable and Co-axial Electric Conductors	854420	4	6083	0.064 %	China 8% India 0% Austria 0%	S/Africa 5% Indonesia 10% Thailand 10%
Ignition/other wiring sets for vehicles/aircraft/ship/Wire harness for automobile	854430	32	43,550	0.072 %	Bangladesh 3% Maldives 5%	France 0%

Value in US$ - US Dollars Millions
Source: Sri Lanka Customs/EDB/Trade Map



Local Players - Kelani Cables, ACL Cables, Sierra Cables, Orel Corporation, Lanka Harness, Variosystems.

Global Players - 3M (USA), Hellermann Tyton (UK), Legrand Electric Ltd (France)

Table 10 - Electrical Transformers, Static Convertors, and Inductors

Product	HS Code	SL Exports in 2021	World Imports in 2021	SL Product Share 2021	Potential Markets and Tax	New Markets and Tax
Inductors and Inductors for PCBs	'850450	8	12,731	0.066%	China 0% Switzerland 0% Japan 0% Malaysia 0%	-
Parts of transformers/Static convertors/Inductors	'850490	22	11,502	0.192%	China 2% Hong Kong 0% Switzerland 0% Germany 0%	Canada 0% Indonesia 5% Japan 0%
Transformers Power handling capacity greater than 650v / Transformers Power handling capacity less than 650v	'850421	5	1,581	0.333%	Pakistan 0%	Chile 6% Peru 0% Italy 0% UK 0%
Transformers Power handling capacity 1kVA-16KVA	'850432	6	741	0.864%	Germany 0% USA 0%	Nigeria 5%

Value in US$ - US Dollars Millions
Source: Sri Lanka Customs/EDB/Trade Map

Local Players

Lanka Transformers LTD, Noratel, International, Esjay Electronics, ETAL Group, Okaya Lanka Pvt Ltd

Global Players

ABB (Switzerland), Siemens (Germany), General Electric (USA)

Table 11 - Electrical Switches, Plugs and Sockets, Lamp Holders

Product	HS Code	SL Exports in 2018	World Imports in 2018	SL Product Share 2018	Potential Markets and tax	New Markets and Tax
Switches, Plugs and Sockets, less than 1000v Main switches Starters for lamps	853650	17	21,913	0.077	Mexico 0% Singapore 0% Germany 0%	Nigeria10% Indonesia 3% Malaysia 0% Colombia 1%

Value in US$ - US Dollars Millions

Source: Sri Lanka Customs/EDB/Trade Map

Local Players - Orel Corporation, ACL Cables PLC, KIK Lanka, Kramski Lanka

Global Players – ABB (Switzerland), Schneider Electric (France), Legrand (France), Hubbell (USA)

Table 12 - Weighing Machines and parts

Product	HS Code	SL Exports in 2018	World Imports in 2018	SL Product Share 2018	Potential Markets	New Markets
Weighing machines and parts	842390	21	17,960	2.237%	USA 0% Mexico 0% Germany 0%	-

Value in US$ - US Dollars Millions

Source: Sri Lanka Customs/EDB/Trade Map

Local Players - Rinstrum Pvt. Ltd, 3S Fabrications, kelipacking, Flintec Transducers Pvt Ltd, EDNA Group, Singer Sri Lanka.

Global Players - AandD Weighing (USA),, ATRAX Group (New Zealand), Avery Weigh-Tronix, Bilwinco (UK),CI Precision (UK), D Brash and Sons(UK), Easiweigh (UK)

Table 13 - Benchmarks for Sri Lanka EEC Companies and Manufacturers

Category	Total Employees	Number of Companies	Turnover
Micro	0 to10	25	Rs. 16 Mn - Rs. 750 Mn
Small	11 to 50	24	
Medium	51 to 300	32	
Large	301 & above	29	Rs 750 Mn
Total		110	

(Source: Sri Lanka Customs/EDB)

Table 14 - Top EEC Products from SL

Insulated Wires and Cables	Electronic Circuits, Transistors, Valves, Cathode Tubes etc.
Switches, Boards & Panels	Refrigerators & Freezers
Electrical Transformers	Air-Condition Machines
Tea Bagging, Packing, Cleaning, Weighing Machines	Boilers, Piston Engines, Pumps & Vacuum Pumps
Printed Circuits	Automatic Data Processing Machines
Telephone Sets, Audio/Video Equipment & Parts	Lamps and Lighting Fittings

(Source: Sri Lanka Customs/EDB)

Table 15 - Top 20 Exporting Countries (Source: Sri Lanka Customs/EDB)

Switzerland	United Kingdom	Hong Kong	Thailand
India	Mexico	Maldives	Romania
Bangladesh	Canada	China	Australia
United States	Japan	Singapore	Sweden
Germany	Hungary	Austria	Denmark

(Source: Sri Lanka Customs/EDB)

Appendix 2 – Thematic Analysis

Respondent Code	Interview responds	Code
C1-WP-E1	As a solution for the present Sri Lankan financial situation, opening gateways into online payment platforms can make it easier to deal with global suppliers and, organize virtual trade fairs specifically for Sri Lankan buyers.	EC
	A steady policy on GVC should be governed by both Public and privately involved body	PC
	Quality standards in Sri Lanka are limited and could be improved further by tying up with leading institutes.	TC
	The current increase in freight rates has adversely impacted and the difficulty in obtaining approvals also hinders the link.	OC
	Linguistic barriers impacting the cross boarder business environment for Electronic and Electrical Sector Exporters.	SC
	The lack of proper legislations and laws in Sri Lanka at present is impacting the Electronic and Electrical Sector Exporters in connecting the GVC	LC
C2-WP-E2	The present Sri Lankan existing financial infrastructure is not much supportive.	EC
	The rapid change in laws and policies that comes with every change in government has an effect on the exporters in the electrical and electronic industries who connect the Global Value Chain.	PC
	Sri Lanka's lack of international quality standards is not a issue for our sector. However, it is better if we have more comprehensive lab facilities developed for the same.	TC
	The government institutions' lack of inter-coordination is having an effect on the exporters in the electrical and electronic sectors' ability to link the Global Value Chain.	OC
	In the Electronic and Electrical Sector major supplier base is from China and language can be a barrier for communication and negotiation directly with Chinese manufacturers and 3rd party support may have needed.	SC
	Out dated labor rules are impacting quality manufacturing.	LC
C3-WP-E3	Yes, the present Sri Lankan existing financial infrastructure is not supportive to the Electronic and Electrical Sector Exporters in connecting the Global Value Chain.	EC
	The suggestion for rapid changes in regulations & policies is, rather than government focus on privileges and subsidiaries, government must focus on policies and efficiency on linked operations that government interact with manufactures	PC

	Yes, Sri Lankan exporters being unable to connect in the Global Value Chain as a result of the benefits of innovation and product diversity being unclear.	TC
	Yes, the government institutions' lack of inter-coordination is having an effect on the exporters in the electrical and electronic sectors' ability to link the Global Value Chain.	OC
	Linguistic barriers impacting the cross boarder business environment for Electronic and Electrical Sector Exporters	SC
	The Lack of proper legislations and laws In Sri Lanka at present is impacting the Electronic and Electrical Sector Exporters in connecting the Global Value Chain.	LC
C4-WP-E4	The present Sri Lankan existing financial infrastructure is not so supportive to the Electronic and Electrical Sector Exporters in connecting the Global Value Chain.	EC
	The rapid change in laws and policies that comes with every change in government has an effect on the exporters in the electrical and electronic industries who connect the Global Value Chain.	PC
	The foreign invested companies having the quality standards. But the growing companies having lack of knowledge and resources (HR and Finance) to reach the quality standards.	TC
	The investor environment is very low. Such as legislation, Power supply continuity, Political stability and legislation stability.	OC
	Although there are many translation apps, linguistic barriers impacting the cross boarder business environment for Electronic and Electrical Sector Exporters.	SC
	For assmbly there is no lack of legislation. But for recycling and component manufacturing from basic materils there are no proper legislations.	LC
C5-WP-E5	Yes, the present Sri Lankan existing financial infrastructure is not supportive to the Electronic and Electrical Sector Exporters in connecting the Global Value Chain.	EC
	The rapid change in laws and policies that comes with every change in government has an effect on the exporters in the electrical and electronic industries who connect the Global Value Chain.	PC
	Sri Lanka's lack of international quality standards is preventing exporters in the electronic and electrical sectors from connecting the Global Value Chain.	TC
	The government institutions' lack of inter-coordination affects all business operations.	OC
	Although there are many translation apps, linguistic barriers impacting the cross boarder business environment for Electronic and Electrical Sector Exporters.	SC
	As experienced, the lack of proper legislations and laws in Sri Lanka at present is impacting the Electronic and Electrical Sector Exporters in connecting the Global Value Chain.	LC

C6-WP-E6	The present Sri Lankan existing financial infrastructure is not supportive to the Electronic and Electrical Sector Exporters in connecting the Global Value Chain.	EC
	The rapid change in laws and policies that comes with every change in government has an effect on the exporters in the electrical and electronic industries who connect the Global Value Chain.	PC
	Sri Lanka's lack of international quality standards is preventing exporters in the electronic and electrical sectors from connecting the Global Value Chain.	TC
	The government institutions' lack of inter-coordination is having an effect on the exporters in the electrical and electronic sectors' ability to link the Global Value Chain.	OC
	Definitely, there are linguistic barriers impacting the cross boarder business environment.	SC
	The Lack of proper legislations and laws in Sri Lanka at present is impacting the Electronic and Electrical Sector Exporters in connecting the Global Value Chain.	LC
C7-WP-E7	The present Sri Lankan existing financial infrastructure is not supportive at all.	EC
	The rapid change in laws and policies that comes with every change in government has an effect on the exporters in the electrical and electronic industries who connect the Global Value Chain.	PC
	The manufacturing cost which make the manufacturers less competitive in the global value chain.	TC
	The government institutions' lack of inter-coordination is having an effect on the exporters in the electrical and electronic sectors' ability to link the Global Value Chain.	OC
	When dealing with other countruies, linguistic barriers impacting the cross boarder business environment.	SC
	The lack of proper legislations and laws In Sri Lanka at present is impacting the Electronic and Electrical Sector Exporters in connecting the Global Value Chain.	LC
C8-WP-E8	The unstable financial situation of the country affects in a negative way. Investors don’t like to invest in Sri Lanka for next few years. Even the suppliers are not willing to provide credit terms to Sri Lanka.	EC
	When the newly appointed government is trying to change the TAX policies, it has a huge impact on the exports.	PC
		TC

	Government institutes are supposed to showcase our strengths to the world and attract the investors. But we don't see any strong campaigns on this perspective. Even they try to initiate something, there's no proper follow-up plans until the outcome. Even when the companies are willing to invest in Sri Lanka, government is not providing a healthy investment climate.	OC
		SC
	The systems should be digitalized as much as possible in order to reduce the cycle time of export documentation procedures.	LC
C9-WP-E9	Despite of the sector due to the post pandemic economic crisis many businesses and entrepreneurs and suffering.	EC
	The rapid change in laws and policies that comes with every change in government is debatable.	PC
	Sri Lanka's lack of international quality standards is preventing exporters in the electronic and electrical sectors from connecting the Global Value Chain.	TC
	The government institutions' lack of inter-coordination is having an effect on the exporters in the electrical and electronic sectors' ability to link the Global Value Chain.	OC
	People should have profession all staff the companies should have the will power to seek minor tasks such as language.	SC
	We already have a law in Sri Lanka with the current crisis of the country we have to be smart enough to change the rules and regulations so that we can attract more investors without being extremist to the culture and religion.	LC
C10-WP-E10	The present Sri Lankan existing financial infrastructure is not so supportive to the Electronic and Electrical Sector Exporters in connecting the Global Value Chain.	EC
	Frequent changes in policies are considered negatively by investors.	PC
	Companies who require high quality standards have implemented (Ex ISO9000, 14000 by manufacturing organizations)	TC
	The inability of the Electronic and Electrical Sector Exporters to link to the Global Value Chain is due to the lack of a friendly logistics infrastructure.	OC
	Linguistic barriers impacting the cross boarder business environment for Electronic and Electrical Sector Exporters. It may have an impact in convincing customers	SC
	The lack of proper legislations and laws In Sri Lanka at present is negatively impacting not only the Electronic and Electrical Sector Exporters, but also all who are in connecting the Global Value Chain.	LC
C11-WP-E11	Some of these challenges include high transaction costs, limited access to finance, lack of financial literacy, and inadequate digital infrastructure.	EC

	Rapid changes in laws and policies can create uncertainty and risk, which can discourage foreign investment and disrupt established business relationships.	PC
	International quality standards are critical for ensuring that products meet the requirements of global markets and are safe and reliable for consumers.	TC
	Exporters in these industries require a range of government services and support, including trade promotion, customs clearance, licensing and certification, and access to financing. When government institutions are not adequately coordinated, it can create unnecessary delays, bureaucracy, and confusion for exporters, which can lead to lost business opportunities and reduced competitiveness.	OC
	Yes, linguistic barriers can certainly impact the cross-border business environment for Electronic and Electrical Sector Exporters. In today's globalized economy, English has emerged as the dominant language of international business, and companies that are not proficient in this language may struggle to communicate effectively with potential customers, suppliers, and partners in other countries.	SC
	Appropriate legislation and laws are critical for creating a conducive business environment, protecting intellectual property rights, and ensuring that businesses can operate within a transparent and predictable regulatory framework.	LC
C12-WP-E12	Development of industrial zones, awareness on the financial sector on the industry and its capacities is not adequate.	EC
	The change in laws and policies, does not directly affect the industry. In a way it has effected, skilled labor migrations, and priority given to export industries has affected.	PC
	Yes, it has once affected us when exporting to Europe. That’s some sustainability certification that Chamber of commerce claims they are providing, but does not.	TC
	Yes, brain drain is a huge issue. Every sector in the country needs development to make people live here.	OC
	Yes, Linguistic barriers impacting the cross boarder business environment for Electronic and Electrical Sector Exporters. English education needs to be improved.	SC
	The lack of proper legislations and laws In Sri Lanka at present is impacting the Electronic and Electrical Sector Exporters in connecting the Global Value Chain to some extend.	LC
C13-WP-E13	Current economic conditions in the country are not conducive at all as there is no clear understanding of import restrictions. We need essential raw material for our production and manufacturing and the forex cost and duty and taxes add a huge portion to the selling price, due to which, products manufactured may not be competitive in the overseas markets.	EC

	The policies and laws should not change rapidly and they should be established with the objective of helping the manufacturing segment.	PC
	Sri Lanka's lack of international quality standards is a large problem as there are no offices or representatives of international certification bodies in the country.	TC
	The government institutions' lack of inter-coordination is a major problem as manufacturers are terribly affected by the detached operations of Customs, Import & Export, and Inland Revenue etc.	OC
	Yes, The linguistic barrier is a large problem and it is one of the key problems in the country. The suggestion would be to have necessary education facilities to uplift the English education mainly verbal communication.	SC
	Our manufacturing is not governed by sufficient laws and legislation as I believe, there are no governing laws. This will eventually impact the manufacturers when trying to export to other countries as they will be asked for compliance with regard to laws in their countries, which we may not comply.	LC
C14-WP-E14	Residual balance transferring mechanism need to stop. Otherwise company can't manage their cash flow.	EC
	Rapid change in laws and policies, tax changes, shipping restrictions can effect to provide our product & services to other countries. Also it may effect when we import the required materials as well.	PC
	Companies need to coordinate with international approval authorities to gain the experience.	TC
	The government institutions should have one system to feed the data then most of can get benefit from it.	OC
		SC
	Yes, the lack of proper legislations and laws In Sri Lanka at present is impacting the Electronic and Electrical Sector Exporters in connecting the Global Value Chain	LC
C15-WP-E15	The government and relevant authorities take measures to reduce bureaucratic barriers, enhance trade facilitation, and promote investment in the sector. Additionally, the government can provide more tax incentives especially at the development stage, lower interest rates, and offer financial assistance to exporters.	EC
	To mitigate the impact of rapid change in laws and policies, the government should provide more stability and predictability in policy-making, maintain consistency in regulations, and engage in constructive dialogue with industry stakeholders and subject matter experts.	PC
	The government should prioritize the implementation of international quality standards and certifications, such as ISO and CE, for the electrical and electronic industry. .	TC

	The government needs to improve its coordination mechanisms and enhance communication between different departments and institutions. This can be done by creating a central authority to coordinate policies and activities related to the electrical and electronic industries.	OC
	Inability of companies to communicate effectively with foreign customers or partners can hinder business interactions and negotiations.	SC
	For example, if regulations related to product safety, labeling, and certification are not in place or are not enforced, it can lead to difficulties in exporting products to foreign markets.	LC
C16-WP-E16	The present Sri Lankan existing financial infrastructure is not supportive at all., because we feel the financial assistance given by the authority is not at an acceptable level. It should be flexible.	EC
	There should be a proper system of imposing laws and policies without changing them with every change in government	PC
	Product quality standards should be maintained according to the buyer's satisfaction. Yes, this should be recognized well as this is a critical step in market growth.	TC
	There should be a close relationship with authorities and exporters. There should be live tracking of freight which will help to identify service disruptions.	OC
	Everyone should have languagae proficiency, especially in English, to communicate with potential customers, suppliers and parters in other countries without any obstacle.	SC
	Certain regulations should be amended so that exporters will get the benefit to connect to the global market	LC
C17-WP-E17	Irrespective of Investor (Local or Foreign) Developments, Banks must support Manufacturers.	EC
	Change of Laws and Policies frequently, hinder growth and startups.	PC
	Sri Lanka's lack of international quality standards is preventing exporters in the electronic and electrical sectors from connecting the Global Value Chain.	TC
	Air Cargo is too expensive. The lack of qualified staff and brain drain is impacting the organization in connecting the Global Value Chain for Electronic and Electrical Sector Exporters.	OC
	It is not an issue, but everyone should have languagae proficiency, especially in English and Chinese, to communicate with potential customers, suppliers and parters in other countries without any obstacle.	SC
	Yes, lack of proper legislations and laws In Sri Lanka at present is impacting the Electronic and Electrical Sector Exporters in connecting the Global Value Chain.	LC

C18-WP-E18	The present Sri Lankan existing financial infrastructure is not supportive at all to the Electronic and Electrical Sector Exporters in connecting the Global Value Chain.	EC
	The rapid change in laws and policies that comes with every change in government certainly has an effect on the exporters. The exporters would like to see sustained laws and policies as opposed to ad hoc changes every now and then.	PC
		TC
	Suggest assistance and better co-ordination with the overseas diplomatic bodies to reach potential markets worldwide. The lack of qualified staff and brain drain is impacting the organization in connecting the Global Value Chain for Electronic and Electrical Sector Exporters. Specially, considering the present level of brain drain, this is going to have a severe impact in all industries.	OC
		SC
		LC
C19-WP-E19	Sri Lanka's current financing infrastructure is supporting the electronic and electrical sector to some extent, however, there are still some challenges that need to be addressed, particularly in terms of financing and access to credit for small and medium-sized enterprises (SMEs) in the electronic and electrical sector.	EC
	Rapid change in laws and policies can create uncertainty for export-oriented industries directly. Also, this uncertainty can affect business planning, investment decisions, and supply chain management, which can ultimately impact a business's ability to effectively participate in the global value chain.	PC
	In some cases, there is a lack of awareness among institutions regarding decisions made by other institutions. Therefore, it is essential to establish a platform for collaboration among all relevant institutions, especially with regard to the export market, in order to improve exports and encourage exporters.	TC
	The Government institutions support and have inter-coordinated to some extent but need to improve more. For instance, some Institutions don't know the decisions of other institutions. Therefore it needs to have a proper platform to work with all the institutions especially regarding the export market to improve the export as well as encourage the exporters.	OC
	Language barriers can create communication problems and make it difficult to build relationships with international customers and partners. It can also lead to misunderstandings and errors in business transactions.	SC
	limits the ability of the electronic and electrical sector exporters to connect to the global value chain. To address this issue, relevant authorities can consider reviewing and updating their legislation and laws related to the electronic and electrical sectors.	LC

C20-WP-E20	Yes, present financial atmosphere is not suitable at all. That's why Sri Lanka struggles to find overseas market for Electrical & Electronic components while having a very small overseas market. Suggest that Sri Lanka has to start manufacturing at least some of the required raw materials locally to minimize imports.	EC
	Rapid changes in laws and policies are definitely effect exporters in Electrical and Electronic sector (E &E). Ultimate objective has to be bring down production cost. Then only the overseas markets will get opened for Sri Lanka.	PC
	Sometimes clients ask for international certifications. If accredited laboratories could set up locally, then the testing cost will go down and majority of exporters in E&E will try to obtain same as it will be affordable.	TC
	There is still enough of qualified staff in this sector what we need is the market. But brain drain is drastically impacting the organization.	OC
	Yes, linguistic barriers impacting the cross boarder business environment up to a certain extent.	SC
	Yes, lack of proper legislations and laws in Sri Lanka at present is impacting the Electronic and Electrical Sector Exporters in connecting the Global Value Chain	LC

APPENDIX 3

Research Study on Challenges and Opportunities for Sri Lankan Exporters in connecting the Global Value Chain (GVC): A Specific Reference to the Electronic and Electrical Sector

Survey Questionnaire

1. Company name and address:

2. Business entity type:

3. Products manufactured/services offered:

4. Export details: (Approximate figures are sufficient)

	Exports	
Turnover and Exports for last 3 years [USD Mn] :	2020	
	2021	
	2022	

5. How your business contributes to the Global Value Chain (GVC) and in what ways?

6. In your opinion do you think that the present Sri Lankan existing financial infrastructure is supportive to the Electronic and Electrical Sector Exporters in connecting the Global Value Chain? What do you suggest?

7. Do you believe that the rapid change in laws and policies that comes with every change in government has an effect on the exporters in the electrical and electronic industries who connect the Global Value Chain? What do you suggest?

8. Do you think that the government institutions' lack of inter-coordination is having an effect on the exporters in the electrical and electronic sectors' ability to link the Global Value Chain? What do you suggest?

9. Do you think Sri Lanka's lack of international quality standards is preventing exporters in the electronic and electrical sectors from connecting the Global Value Chain? What do you suggest?

10. Do you believe that Lack of proper legislations and laws In Sri Lanka at present is impacting the Electronic and Electrical Sector Exporters in connecting the Global Value Chain? What do you suggest?

11. Do you believe that Sri Lankan exporters being unable to connect in the Global Value Chain is a result of the benefits of innovation and product diversity being unclear? What do you suggest?

12. Do you think that the inability of the Electronic and Electrical Sector Exporters to link to the Global Value Chain is due to the lack of a friendly logistics infrastructure? What do you suggest?

13. Do you believe that the lack of qualified staff and brain drain is impacting the organization in connecting the Global Value Chain for Electronic and Electrical Sector Exporters? What do you suggest?

14. Do you think that the inability to connect with reliable foreign clients through trade promotion channels has an impact on the business climate for exporters in the electrical and electronic sector? What do you suggest?

15. Do you believe that Linguistic barriers impacting the cross boarder business environment for Electronic and Electrical Sector Exporters? What do you suggest?

APPENDIX 4 - SWOT Analysis of the EEC Sector in Sri Lanka

Strengths;

1. Location; situated on the main sea routes is an attraction for manufacturers.
2. Availability of skilled labor, educated and trainable work force.
3. Some of the most modern factories to be found in South Asia.
4. A significant competitive advantage in terms of certain types: eg; Wires and Cables, PCB Designing, Automotive Components, Electrical Panel Boards and Enclosures, Research and Development etc.
5. Ability to handle low volume orders.
6. A reputation for quality short lead times and on time delivery.
7. A reputation for conforming to the highest standards of working practices, working conditions.
8. Quality Infrastructure/Telecommunications network
9. Language competences - English as the Business Language
10. The emergence of a new breed of young ambitious entrepreneurs
11. Weak Exchange rate
12. Vibrant ICT industry

Weaknesses;

1. Lack of marketing skills and a low level of marketing information, and knowledge about export marketing.
2. The need to import almost all raw materials.
3. Labor shortage
4. Linguistic barrier
5. Lack of government support
6. Absence of a one stop shop for approvals
7. Availability of employment in other industries and foreign employment opportunities.

Opportunities;

1. Free Trade Agreements with India, Pakistan, and Singapore.(Proposed China, Thailand)
2. Trade relations with Europe and proximity to Indian booming Electronic and Automotive Markets.
3. GSP and GSP plus advantage
4. Size of the economy / potential for growth

Threats;

1. Increasing competition especially in terms of lower labor cost from India, Bangladesh, Cambodia, Laos, Vietnam, Myanmar, and Thailand.
2. Customs duty and taxes for electronic basic components
3. Sri Lanka’s labor costs are increasing at a faster pace than productivity
4. Continuously changing government policies