

The Usage of E-Procurement in Sri Lanka Apparel Supply Chain and its Impact: A Case Study

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Abstract - Advances in the supply chain can improve the quality and efficiency of physical, informational, and financial flows. Technical innovation brings significant changes to the structure of connections between vendors, manufacturers, distributors, intermediaries, consumers, and organizations, as well as productivity benefits. Organizations must maintain an effective procurement process to reduce overheads, stay updated on market conditions, and purchase products and services at the best prices. E-Procurement; is a technology that facilitates corporate buying through the Internet. Which offers an organization a bunch of advantages and performance improvements. However, Organizations must overcome obstacles to successfully use E-procurement functions. Even though there has been a lot of research done on e-procurement, the Sri Lankan context was not common. The Apparel sector was chosen as it has been regarded as one of Sri Lanka's most vital industries. This paper focused on the usage of E-procurement and its impact on the development of the industry. Data gathered from industry professionals to inspire medium and small-scale (SME) apparel manufacturers to improve their productivity via E-procurement and to enter the market as well. The article further elaborates on the factors affecting implementation, challenges in usage, and the impact of E-Procurement strategies on the performance of the apparel supply chain. The findings of this research will elaborate the how leading apparel manufacturers have implemented E-procurement and the benefits and challenges they have identified throughout the usage. Also, this article will discuss how to overcome the challenges of E-procurement and how SMEs can inspire to increase their productivity and efficiency.

Keywords: *E-procurement, Apparel, Sri Lanka, SME*

I. INTRODUCTION

The management of physical, informational, and financial flows can be improved in terms of quality and efficiency because of advances in the supply chain. The changes that technical innovation brings about in the structure of connections between vendors, manufacturers, distributors, intermediaries, consumers, and in the strategic decisions of organizations are enormously significant in addition to productivity benefits. Hence, every organization must maintain an effective procurement process in the current, intensely competitive marketplace to reduce overheads, keep engaged in market conditions, and purchase products

and services at the best possible rates for quality, quantity, and time.

A. What is E-procurement?

E-Procurement is a technological solution that facilitates corporate buying through the Internet. E-procurement implementation offers an organization a bunch of advantages and performance improvements. However, the trail to implementation is filled with obstacles and difficulties that must be overcome for the organization to successfully use E-procurement functions. E-procurement is a term used to describe a digital B2B business process that streamlines and centralizes business operations like the acquisition of goods and services to minimize costs and enhance purchasing procedures (Simfoni, 2023). By automating conventional procurement processes, E-Procurement software eliminates paper-based operations and aids in the analysis of spending for tactical cost-saving activities between finance and procurement. Spend analysis, e-sourcing, e-auctions, procure-to-pay (P2P), marketplaces, and contract administration are all integrated by eProcurement software. The unified method boosts productivity and lowers total procurement costs. A purchasing company's procurement management can greatly benefit from E-procurement, which includes.

i. Savings

Built-in technology for cost management and performance improvement assists in minimizing costs and paperwork while boosting productivity. The production and order fulfillment processes can be accelerated by fully automated systems. Additionally, a greater selection of goods and services may be offered.

ii. Shorter Purchasing Cycles

Centralized transaction monitoring ensures contract compliance, facilitates reporting on orders, payments, and requisitions, all of which may speed up delivery. On a computer screen, buyers can view the offered goods, services, and prices.

iii. Enhanced Inventory Management

Improved inventory control is made possible by procurement experts' quick identification of products from favored vendors and their restriction on the number of purchases they can make.

iv. Transparency

All data is consolidated and may be shared with management, stakeholders, shareholders, or the public as needed.

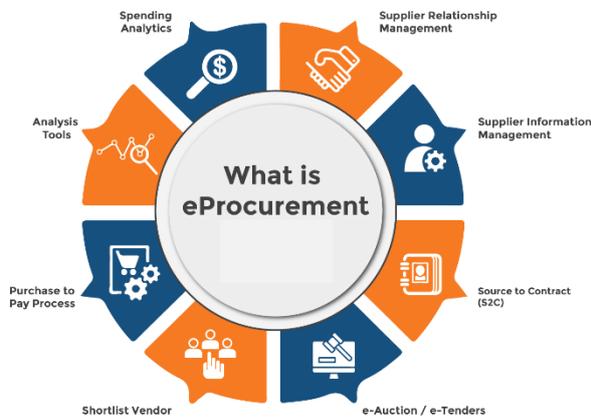


Figure 1: What is E- procurement
Source: Simfoni (2023)

Various researchers have explored the factors affecting the implementation of E- Procurement in different industries such as Government sector (Premathilaka, 2018), Hospitality, Bank sector and Construction. Among those publications some researchers have highlighted following points as critical success factors which influence the E-procurement implementation within the Organization such as (Shukla, 2016); E-procurement implementation strategy, Ability to adapt changes, Willingness to train and educate, System integration, Performance measurement, Standard of the project, Security and Authentication

According to literature, above factors motivate the implementation of E-procurement, there are also some barriers which desist from implementing E-procurement practices.

Management barriers- Resource constraints, Reluctance to change, and information sharing.

Organization barriers- Diverse cultures, Compatibility issues both internally and externally, and post-supplier relationships.

IT barriers- security, incompatibility, and a lack of standard technologies.

User barriers- Fear to change, Lack of information skill system.

The implementation is further hampered by issues with system security, financial consequences, the legal system, and the security of online transactions (Evelyne, 2014).

E-procurement is a complex process with many obstacles to overcome, but when done right, the benefits are unquestionable. The advantages of electronic procurement to organizations have been studied in the literature, some of which are discussed here. Using e-procurement to get contracts helps achieve benefits including greater employee productivity, cost savings via quicker and less expensive delivery of goods and services, increased transparency, and a decrease in employee and manager misconduct in the procurement process. Additionally, e-procurement could promote savings in five other categories, including order costs, administrative costs, lead-time order costs, transactional costs, and opportunity costs of capital (Nasrun, 2016). It is asserted that a business using electronic procurement can reduce costs by 8% to 15% (Shukla, 2016).

The emergence of web-based E-procurement is anticipated to further shorten the time it takes to complete an order, reduce inventory levels, improve order fulfillment, enable more vendor options, standardize effective procurement processes, enable greater control over procurement spending and better employee compliance, provide more readily available Internet options for buyers, and result in less paperwork and repetitive administrative tasks.

It is difficult to find literature that is pertinent to e-procurement and organizational effectiveness. Many businesses fail to recognize how electronic procurement affects organizational effectiveness. It affects performance in both the short and long terms. Rate of return on investment, payback period, profit, and annual income are a few of these effects. In addition to improving process efficiency, e-procurement offers increased leverage opportunities in areas including cost reduction, resource utilization efficiency to boost productivity, and the introduction of new technology, new goods, new processes, and new markets. (Jayawardhena, 2019)

Even though there has been a lot of research done on e-procurement, it was identified that the Sri Lankan context is not common. Most importantly, the Apparel sector was chosen as it has been regarded as one of Sri Lanka's most vital industries. (EDB, 2022)

B. Apparel Industry in Sri Lanka

The Apparel and textiles sector in Sri Lanka provides top-notch materials to global apparel brands, helping to clothe the world. Every requirement throughout the world can be met thanks to a wide variety of garment exporters. According to the Sri Lanka Export Development Board (EDB) MAS Active, MAS Intimates, Brandix Apparel Ltd., Hirdaramani International Exports Pvt Ltd, Omega Line Ltd, Eam Maliban Textiles Pvt Ltd, Jay Jay Mills Lanka Pvt Ltd, Bodyline Pvt Ltd, Inqube Global Pvt Ltd. are the major apparel exporters in the country. Sportswear, lingerie, loungewear, bridal wear, workwear, swimwear, and childrenswear are among the categories of Sri Lankan apparel. These goods are produced and exported with the

flexibility to accommodate season in numerous nations throughout the world. The two countries that have historically purchased the most clothing from Sri Lanka are the United States and the United Kingdom. 2022, 46.46% of Sri Lanka's entire export earnings came from the apparel industry. With around 350,000 direct employees and another 2 million indirect jobs, it is the top foreign currency earner and employer. (EDB, 2022)



Figure 2: Export Apparel Destinations
Source EDB (2022)

This research focuses on the usage of E-procurement and its impact towards the development of the apparel industry. Data gathered from industry professional to inspire medium and small-scale (SME) apparel manufactures to improve their productivity via E-procurement and improve medium and small-scale supplier to enter the market as well. The article further elaborates the factors affecting in implementation of E – Procurement, challenges in usage of E – Procurement and the impact of E – Procurement strategies in performance of apparel supply chain.

Major objectives of the study are;

1. To identify the benefits of E-procurement towards the Apparel industry.
2. To identify impact of E-Procurement on the performance of Apparel supply chain.

II. METHODOLOGY

Articles from different scientific publication and databases were collected to identify What is E-procurement, Benefits, barriers to implement and essentiality of E-procurement towards the Apparel supply chain. The primary method for gathering data is a survey with a structured questionnaire.

The questionnaire's measurements were created using information gleaned from a literature review. A systematic review has been identified as a fair approach to minimize

biases and random errors which provides a greater transparency of the literature search. The way of gathering relevant literature by using collection of keywords; E-procurement, Apparel, Sri Lanka, SME. Even though there hasn't been much research on the Sri Lankan setting, it was nevertheless possible to design the questionnaire by looking at the research that has been conducted in other countries. The following significant topics were identified from the literature review and the questionnaire was created using the data gathered below. The different types of components which should be included in E-Procurement systems that are typically utilized were thus recognized, and this comprises elements such as electronic catalogues, Online ordering, Online Order tracking, electronic payment, consolidate suppliers and contracts and Centralize control of contracts, product data, catalogues, and price updates for indirect procurement.

The following general advantages can also be obtained by using e-procurement, according to the literature.

- Opportunity to improve relationships with existing and new suppliers.
- Efficient purchasing process
- visibility and transparency to the transactions
- Reduce paperwork.
- Improve Service level.
- Eliminate errors than manual processes.
- Better utilization of human resources in procurement department
- Reduce Procurement Cycle Time
- Increased market share
- Improved customer service levels
- Reduce Purchasing Cost
- Increased efficiency in overall supply chain
- Enhanced Inventory Management
- Improved customer satisfaction

Additionally, research demonstrates that there are common obstacles that businesses must overcome when putting E-procurement into practice. This includes. Unwillingness to adopt e –platforms, Lack of new technological implications in the organization, Lack of motivation of employees, Lack of top management support, Implementation Cost, Resistance, and fear to change to new technology, Security concerns in information exchange and online transactions, Interoperability with existing systems of the organization is difficult and Organizational policies.

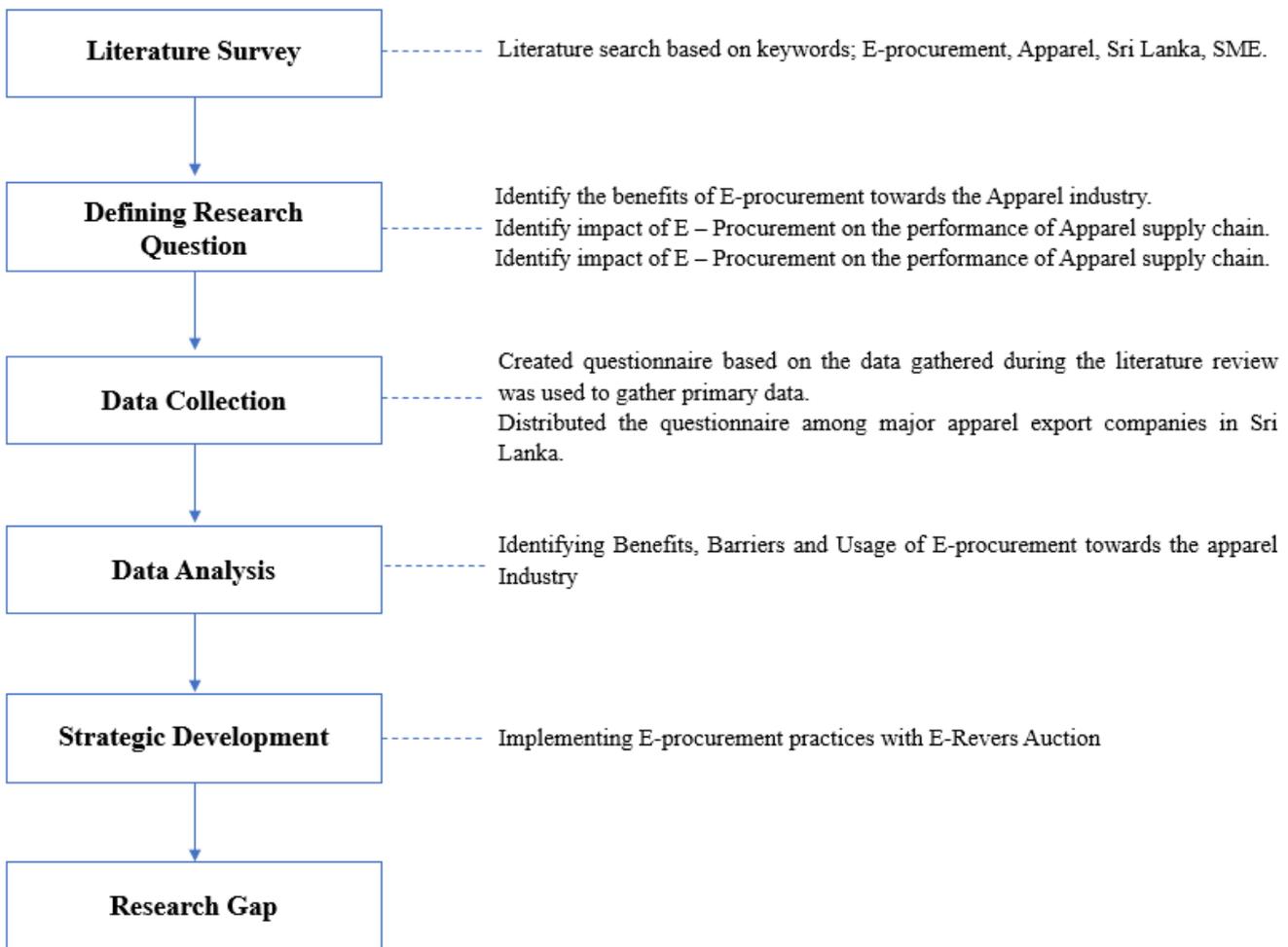


Figure 3: Research Design of the Current Study
Source: Developed by the Author (2023)

This study follows both quantitative and qualitative approach but mainly the qualitative. As the research strategy, non-probability sampling method with inferential statistics has been selected. An online questionnaire that was created based on the data gathered during the literature review was used to gather primary data. The questionnaire was created to collect data on the three research objectives and to learn more about the industry's background. The questionnaire was distributed among more than 100 employees from leading apparel exporters in Sri Lanka. However, the perception-based data is converted to qualitative analytical approach and Data were presented via descriptive statistical model.

This paper would evaluate that efficiency in Apparel supply chain can be achieved by the advantages obtained from using e-procurement, Further, employee suggestions would be considered to provide suggestions to overcome current procurement related barriers within the organization.

III. DATA ANALYSIS AND FINDINGS

This study adopts both inferential and descriptive statistics to analyze collected data such as graphical descriptions and statistical generalized commentary based on the results of 50 respondents. Areas focused for this study are employees

those who's working at major apparel export companies in Sri Lanka.

Respondents of this research were in age between 18 – 55 and their designation would be in between Intern to Senior General Manager. Out of them majority of the respondents were in between 18 – 30 whom were either executives or Senior executives. According to them 90% agreed that their organization doesn't follow E-procurement practices within the organization and other 10% of the respondents had some knowledge gap regarding E-procurement practices and Organization Enterprise Resource Planning (ERP) system which didn't act as a E-procurement strategy.

As per the respondents, Majority of the apparel export companies used their procurement practices to;

- Plan and Schedule Orders
- Systematic process to identify procurement requirements.
- Raise purchasing orders via internal System.
- Follow up Supplier.
- Proceed supplier payments.

Meanwhile, Respondents agreed that their current procurement should undergo with below drivers. User Friendly, Less Paper based, Less Human Errors, Efficient & Effective, Enhanced Inventory Management, Reduce Excess Ordering, Decision Making, Value Adding, Shortened Procurement Cycle Times, improved visibility of Supply Chain Management, Raise Purchasing Orders on time.

Further, 50% of the employees were agreed that;

- Inadequate technological infrastructure
- NOT focusing on inventory management
- Incomprehensibility to browse E-marketplace services.
- Complexity of the existing system

Above components are the barriers & limitations of current Procurement system of the Organization.

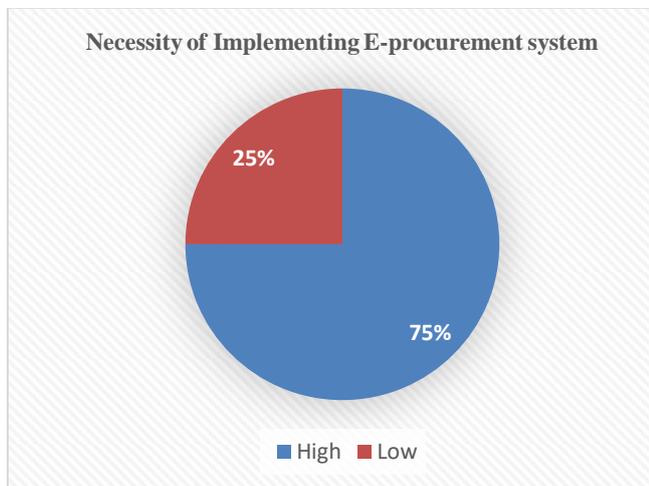


Figure 4: Necessity of Implementing E-Procurement System
Source: Survey Data (2023)

According to figure 3; 75% respondents thought that there's a necessity of Implementing E-procurement system to overcome the Barriers & Limitations of existing Procurement system.

And they suggested that.

- Accurate data Base
- Access electronic marketplaces
- Online ordering
- Access online catalogue
- Online order tracking
- Achieve cross functional co-ordination.
- Interconnection with supplier

Would be ideal to be included within their procurement process. According to respondents, Majority agreed that; Their supply chain performance has a direct impact with implementing E-procurement strategies within the organization.

IV. DISCUSSION

During tabulation of data identified that Apparel Sector required an E-procurement strategies to overcome its own issues such as system complexity, inability of identify the requirement, required to focus on Inventory and inability to browse E-marketplace services. But some of the employees mentioned that there is minimum chance to implement E-procurement since apparel sector is customer nominated business. Anyhow, procurement can be combined with e-Reverse Auction to deal with customer nominated framework by E-procurement.

E-auctions are electronic markets that can be used in B2C and B2B settings. Through a website with a formalized mechanism for setting prices, sellers provide customers with goods or services. In reverse auction, buying organizations post the items that they want to buy and the price, which they intend to pay after evaluating the costing process.

Reverse Auction is used when: There is uncertainty in the size of the market and willingness of the sellers to supply, and there is a large quantity to be purchased and there is clear specification of item or items.

This method functions as a tool for efficient price discovery, complementing the direct negotiation process.

However, Technology may be a great tool for problem solutions when used properly. It offers a sizable tent with a wide range of intriguing possibilities. Businesses and industries should utilize the resources at their fingertips whenever possible. However, companies must locate a piece of technology that matches their operational requirements and budget.

The main aim of this research is to elaborate how leading apparel manufactures has implemented E-procurement and its benefits and challenges they have identified throughout the usage. But during data collecting identified that almost all the organizations were not following E-procurement practices in general. Instead, their procurement practices are based on the own ERP system in the organization. Another limitation was the limited the sample size. Because of the limited sample size, the best E-procurement model fit could not be achieved.

V. CONCLUSION

Advances in the supply chain can enhance the quality and efficiency of physical, informational, and financial flows. Technical innovation changes the connections between vendors, manufacturers, distributors, intermediaries, consumers, and organizations, providing productivity benefits. E-Procurement, a technology that facilitates corporate buying through the internet, offers advantages and performance improvements. However, organizations must overcome obstacles to successfully use E-procurement functions. This paper explores the use of E-procurement in the Sri Lankan apparel sector, focusing on medium and small-scale (SME) apparel manufacturers' productivity and market entry. The article discusses factors

affecting implementation, challenges, and the impact of E-procurement strategies on the apparel supply chain performance. The opinions of experienced employees served as the foundation for this study. The outcome would be more accurate and trustworthy if this could be done using precise financial data and other performance metrics rather than constraints. If the research could be expanded with precise data, even as a case study for a single business, it would be more beneficial to the industry.

In addition, the research might be expanded to other possible industries like construction, tea, food manufacturing, hotels, etc. where e-procurement will be valuable in the future. That would encourage those industries to adopt E-procurement.

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