



Assessing the Sustainability Performance of Social Practices in Manufacturing Supply Chains

KRHL Gunasekara^{*1}, STWS Yapa², and A. Aruna Shantha³

¹*Department of Tourism Management, Faculty of Management Studies, Sabaragamuwa University of Sri Lanka, Belihuloya, Sri Lanka*

²*Department of Decision Sciences, Faculty of Management and Commerce, University of Sri Jayewardenepura, Gangodawila, Nugegoda, Sri Lanka*

³*Department of Economics & Statistics, Faculty of Social Sciences & Languages, Sabaragamuwa University of Sri Lanka, Belihuloya, Sri Lanka*

ABSTRACT

Sustainability encompasses three dimensions, i.e., economic, environmental, and social, which are commonly termed as Triple Bottom Line. Since most businesses are profit-oriented, economic sustainability is identified as the widely considered dimension of sustainability in prior literature. The present study investigates to what extent manufacturing companies are using social practices and assesses sustainability performance referring to social sustainability practices followed by manufacturing companies. To address this issue via a quantitative approach, data were collected using a questionnaire survey from 88 apparel manufacturing companies in Sri Lanka, and a PLS structural equation modeling was used to analyze the data. Findings indicate that both internal and external social sustainability practices positively impact all sustainable performance, i.e., economic, environmental, and social.

Keywords: Social Practices, Sustainability Performance, Triple-bottom-line

© Faculty of
Management Studies
Sabaragamuwa
University of Sri Lanka

ARTICLE INFO

Article history:
Received: 14 August 2022
Revised: 1 October 2022
Accepted: 20 October 2022
Published: 31 December 2022

E-mail
Address: *lal@mgt.sab.ac.lk

INTRODUCTION

The globally accepted concept of sustainable development was defined by the Brundtland Report published in 1987 by the World Commission of Environment and Development (WCED). WCED defines sustainable development as “*development that meets the needs of the present without compromising the needs of future generations to meet their own needs*” (WCED, 1987). Further, this report emphasizes that sustainable development should not be limited to environmental protection or “*development*” in the traditional sense of economic growth. Thus, social practices or the social pillar as one of the dimensions of sustainability should also be taken into account when talking about the actual concept of sustainable development. Efficient and effective Supply Chain Management (SCM) practices will be the key to the success of businesses by responding well to customer needs and wants by delivering more and more value to customers (Sukati et al., 2011). Further, Sustainable Supply Chain (SSC) includes measures of profit and loss as well as social and environmental dimensions (Carter & Rogers, 2008; Linton et al., 2007). However, Carter and Easton (2011) emphasize that the broad concept of sustainability, and the key interfaces that sustainability has with SCM, strongly suggest that sustainability is instead a license to do business in the twenty-first century. According to Yang (2012), in the new business world, competition is being created not between firms, but between chains. Thus, this huge competition, rational customers, and many stakeholders continuously encourage companies to implement sustainable activities in their practices of SCM (Jabbour et al., 2015; Silvestre & Neto, 2014; Zhang et al., 2017). Although Social Sustainability in Supply Chain (SSSC) has been investigated related to large companies in western countries, mostly Small and Medium Manufacturing Enterprises (SMEs) have been explored in the context of Asia (Jabbour et al., 2019). Therefore, this study was conducted related to 66 large-scale and 22 medium-scale apparel manufacturing companies in Sri Lanka.

The apparel sector has been the country’s largest net foreign exchange earner since 1992 (Dheerasinghe, 2009; Welmilla, 2020). Further, this sector is constantly confronted by the problem of employees’ turbulence due to unreasonable wage rates, violation of labor rules, and poor safety and health facilities related to poor and merciless management practices. Therefore, the apparel industry was selected for the present study.

The necessity of social sustainability practices (SSPs) in apparel supply chains is justified by existing human resources problems, especially high turnover and absenteeism. These problems are the major hurdle to achieving the organizational objectives in the apparel industry (Kotawatta, 2013; Welmilla, 2020). There is a trend that 20 percent of skilled employees leave the apparel industry for migration opportunities (Liyanage & Galhena, 2014) which are being provided by hundreds of foreign employment agencies in Sri Lanka. Beginning of the year 2000, the main reasons for the high turnover and absenteeism of apparel workers were poor working environment, employee stress, and poor social local perception of the apparel workers (Kelegama & Epaarachchi, 2003). Consequently, the low productivity of the industry has continuously occurred. Lohar and Bide (2013) disclose that the lack of technical education of employees creates a harmful situation for the Indian apparel industry. However, the problem of labor turnover is suffered by major apparel manufacturers in the Asian region, such as India, Bangladesh, Pakistan, Sri Lanka, Indonesia, and Cambodia (McMullen & Majumder, 2016; Sikdar et al., 2014). Another reason for the burning problem of labor turnover is poor wage conditions in the garment sector (Shamsuzzoha & Shumon, 2007).

Therefore, it can be clearly identified that the employees in the apparel industry are suffering many problems due to a lack of social requirements which should be fulfilled by the apparel management. Consequently, the apparel industry faces huge problems such as employee turnover and absenteeism. This situation is very harmful to the sector, and as a result of these social problems, low productivity is being taken place. Therefore, conducting research on the existing SSPs and their relative performance in apparel supply chains is deemed necessary to be carried out.

As such, the results of this study could be useful as input for comprehensive Sustainable Supply Chain Management (SSCM) decisions. More specifically, to assess the sustainability performance, this paper addresses the following objectives:

1. To examine what extent of SSPs have been adopted by apparel companies
2. To identify the impact of SSPs adopted by apparel supply chains on organizational sustainable performance

Even though human resources problems such as labor turnover and absenteeism are identified in the sector, their operations must be continued to fulfill the orders given by foreign customers and some local customers. Sustainability encompasses three dimensions and it is called the “*Triple Bottom Line*” (TBL) or it is called three “*Ps*,” i.e. People, Profit, and Planet. People denote the social pillar, profit represents the economic dimension, and the planet is the environmental factor in sustainability. Optimization of these three dimensions can be termed sustainability. As we are aware, all the work to achieve sustainability should be done by people. Therefore, people as one of the dimensions of TBL should be satisfied and well-managed to achieve other sustainable goals and objectives (Ahmadi et al., 2017). Thus, well-satisfied employees will be the key to achieving all the performance. Under that, the importance of training and development, health and safety working environment, and reasonable wage rates are highlighted through the findings of this study. Since the cost is highly considered by the owners or shareholders, they can be positively educated by communicating the long-term benefits gained by SSPs. In other words, the importance of the cost incurred for SSPs can be disclosed through the findings of this study. Then, the owners or shareholders will make decisions to consider social obligations parallel with economic and environmental practices. Inconsequent, a satisfied workforce will give their maximum contribution to achieve the organizational goals and objectives. This situation will make the apparel industry more competitive.

The finding of this research study could be useful as input for comprehensive SSCM decisions. Indeed, these decisions make satisfied apparel employees, and then they will contribute to achieving organizational goals and objectives.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Firstly, our effort is to identify various social dimensions by reviewing existing literature. Then, we identify particular SSPs under the specified social dimensions. Finally, common SSPs will be selected to assess their sustainable performance related to sample manufacturing companies. Further, we review the literature in the field of SSPs to identify the empirical gap in this research area.

Sustainable Supply Chain Management

The globally accepted concept of sustainable development was defined by the Brundtland Report published in 1987 by the WCED. Sustainability encompasses three dimensions, i.e., economic, environmental, and social, and these three dimensions are commonly termed TBL. Therefore, SSC is one that includes measures of profit and loss as well as social and environmental dimensions (Carter & Rogers, 2008; Linton et al., 2007). Further, SSCM can be described as “*managing the supply chain activities, operations, resources, information and funds, with the goal of maximizing the profitability of the supply chain, as well as social well-being (e.g., the impact of the supply chains on its employees, customers, and society), and at the same time minimize any negative environmental effects*” (Hassini et al., 2012; Zhang et al., 2016).

Ahi and Searcy (2015) pointed out that the application of sustainability principles into supply chain practices is an evolving research area. Further, they emphasize a scarcity of established theories, models, and frameworks related to this research area. According to Carter and Easton (2011), the conceptualization and management of social and environmental issues have evolved from what we term “*standalone*,” through the notion of social responsibility, and finally to the concept of sustainability. Considering this situation, Muñoz-Torres et al. (2018) make an effort to contribute to the development of this field by proposing an assessment framework. However, the main challenge for present companies is maintaining a balance between accomplishing competitive advantage and achieving sustainability while gratifying their numerous stakeholders’ expectations to preserve reputation, legitimation, and credibility (Lis et al., 2020).

Social Sustainability in Supply Chain

United Nations Conference on Sustainable Development (UNCSD) emphasized social sustainability aspects in its agenda-21, which described “*the promotion of economic growth, creation of productive employment, achieving equality, and reduction of nature use and protection of the natural environment*” (UNCSD, 1998). According to the Stakeholder theory, people are spread across three stages in the supply chain, and those people should be managed (Campbell, 2007). People consist of In-house operations, suppliers, customers, and external stakeholders which include society, and NGOs are

considered in these three stages. Therefore, SSPs should be planned and adapted to meet the requirements of these particular people in the supply chain. However, SSSC addresses with issues pertaining to suitable working conditions by protecting employees from exploitation, continuing a healthy and harmless environment with reasonable remunerations and equal treatment, providing employee training and development, and encouraging freedom of association (Jiang, 2009). In addition, Mani et al. (2015a) emphasize that the manufacturers should perform youth employment and various philanthropic activities for the purpose of fulfilling the requirement of social obligations.

Employees' commitment is the most essential factor for achieving organizational goals and objectives. Therefore, SSPs have been adopted by manufacturing companies for the purpose of getting work from employees by improving their job satisfaction and quality of life. Moreover, these SSPs can be categorized as internal SSPs and external SSPs. Employees are considered as an internal group and the general public including customers are concerned under the external group. Various SSPs related to both groups were identified by reviewing the literature, especially in the last two decades.

Human rights (Matos & Hall, 2007), customer issues (Veleva & Ellenbecker, 2001), influence on local communities (Gauthier, 2005), work conditions (Hutchins & Sutherland, 2008), work health and safety (BadriAhmadi et al., 2017), societal commitment (Matos & Hall, 2007), respect for the policy (Kuo et al., 2010), research and development (Zhang et al., 2013), enforcement (Sarkis et al., 2010; Zhang et al., 2013), business practices (Castka & Balzarova, 2008), information disclosure (Luthra et al., 2017), equity (Mani et al., 2020), wages (Mani et al., 2015a), gender equity (Mani et al., 2015a), Quality of life (Hutchings, 2008) are various social dimensions which were identified from the thorough literature review. However, commonly used social dimensions i.e., education benefits for employees, health and safety improvement, improved wage conditions, and regulatory responsibility are selected as internal SSPs in this research study. Further, benefiting towards society is selected as the external social dimension of the present study.

Mani et al. (2015a) carry on a comparative case study selecting two different companies to the various SSPs and they identify the emergence of many social dimensions related to the Indian manufacturing supply chains. Further, Mani et al. (2015b) identify the social sustainability barriers and their

inter-relationships, so as to determine the practices that can lead to the adoption of SSSC in manufacturing industries. Moreover, same year Mani et al. (2015c) aim to recognize numerous enablers and the inter-relationships among them in adopting social sustainability measures in the supply chain. Hutchins and Southerland's (2008) research effort is to review metrics, indicators, and frameworks of social impacts and initiatives relative to their ability to evaluate the SSSCs. The relationship between Supply Chain Social Sustainability (SCSS) practices and Supply Chain Performance (SCP) in SMEs was investigated very recently by Mani et al. (2020). D'Eusanio et al. (2019) provide a useful methodology within SCM for the purpose of helping decision makers to systematically assess the social sustainability of companies. While Venkatesh et al. (2020) present a system architecture that integrates the use of blockchain, internet-of-things, and big data analytics to allow sellers to monitor their SCSS efficiently and effectively, same period Golicic et al. (2020) make effort to help reduce tensions in SCSS decisions by providing a common global, contextual definition of social sustainability. Awan (2019) focuses on safety practices, environmental cooperation practices, and sustainable manufacturing to identify a set of main practices that drive social sustainability performance in manufacturing companies.

Govindan et al. (2021) recently attempted to identify drivers, issues, barriers, tensions, practices, and performances related to social sustainability in multi-tier supply chains through a thorough literature review. Again, Mani et al. (2018a) carried out a study to develop a taxonomy of the SCSS practices adopted by Portuguese firms. Croom et al. (2018) contribute to the knowledge related to the impact of social sustainability orientation on operational performance by investigating the mediating roles of basic and advanced SSSC practices and the moderating role of long-term orientation. An empirical study was carried out to assess decision criteria, particularly for social sustainability, from the middle and top-level executives in Indian manufacturing organizations (Kaur & Sharma, 2018). Mani et al. (2018b) explore the social issues relevant to suppliers and determine measures and dimensions related to social sustainability in developing economies. Further, Marshall et al. (2014) make an effort to conceptualize and operationalize the concept of SCM sustainability practices. Morais and Silvestre (2018) aim to analyze why and how to focus organizations implement and manage social sustainability in their supply chains. Munny et al. (2019) investigate enablers of social sustainability in the footwear supply chains in Bangladesh. Marshall et al.

(2015) examine what factors drive the adoption of different SSSC practices. Sudusinghe and Seurin (2020) carry on their research study to understand how SSPs affect economic sustainability performances in supply chains. Mani and Gunasekaran (2018c) explore how SSPs adoption relates to the firm supplier's social performance, the buyer's operational performance, and the buying firm's social reputation. Zhang et al. (2017) target to clarify the effects of supplier development practices on supply chain social responsibility.

The above literature emphasizes that few studies have been carried out to investigate the relationship between SSPs and sustainable performance. Moreover, research on exploring the impact of SSPs on all three dimensions of sustainable performance was not met especially related to Sri Lanka in the literature, which was reviewed for the current study. Therefore, our effort is to fill this gap through our research study investigating the impact of SSPs on sustainable or TBL performance.

Sustainable Performance

However, the social factor in the supply chain was neglected or given lesser attention by most business organizations; both short- and long-term higher performance has been shown by socially oriented organizations (Longoni & Cagliano, 2015), while others suffer the loss of reputation (Klassen & Verecke, 2012).

Even though studies have been carried out related to SSPs, studies investigating the relationship between SSPs and sustainable performance are rare. However, the available articles which have been conducted on this relationship were examined by us to understand the nature of the said relationship. While Basuony et al. (2014) confirm that social practices can earn financial performance Das (2018) identified SSPs for employees to gain sustainable performances. Further, Hamdy et al. (2018) emphasize that SSPs positively impact organizational performance. However, Awan (2019) pointed out that safety practices (as SSPs) are the key to obtaining social sustainability performance.

Therefore, increasing in Return on Assets (ROA), an increase in Return on Equity (ROE), increasing in employee attraction, and increasing in new customers (Vo & Nguyen, 2014) were used to measure the economic performance. Reduction of wastewater, reduction of air emission, reduction of

solid wastes, a decrease of consumption of hazardous/harmful/toxic materials, decrease of the frequency of environmental accidents, and improve an enterprise's environmental situation (Zhu et al., 2005) were considered as the environmental performance. Under social performance, increased relations with the community, increased expenditure on employee training, decreased employee turnover, increased labor relations, and decreased workforce accidents (Husgafvel et al., 2015) were considered.

Therefore, considering the deep literature review following hypotheses were developed to test related to apparel manufacturing companies in Sri Lanka.

H1: SSPs positively impact economic performance

H2: SSPs positively impact environmental performance

H3: SSPs positively impact social performance

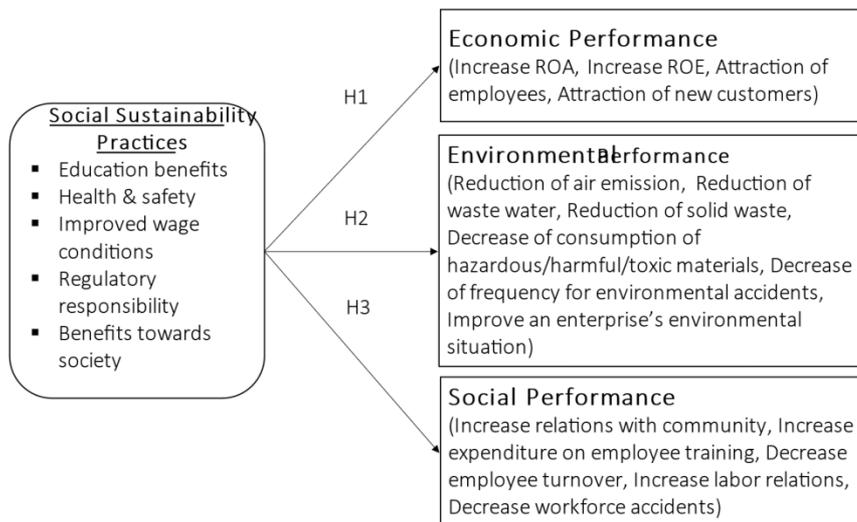


Figure 1: Conceptual Research Model

METHODOLOGY

This research was carried out as a quantitative study. Further, this study was designed as a survey study.

Questionnaire Development

The data used in this study consist of questionnaire responses from managers in the apparel manufacturing industry. Questions were based on industrial expert input and from the literature (Mani et al., 2016). These questions were answered by apparel managers using a seven-point Likert scale (1 – Strongly disagree to 7 – Strongly agree).

Data Collection and Sample Characteristics

Sample companies were selected following three criteria, i.e., company size (50 employees minimum), job function (supply chain manager or equivalent), and industry type (apparel). We followed the scale of companies defined by the European Union (2014), and therefore, medium-size companies (50 – 249 employees) and large-size companies (greater than 249 employees) were selected for our study. Since Awaysheh and Klassen (2010) observed that many small enterprises do not have the resources or capabilities to implement SSPs, small-size companies were not selected. Moreover, the accuracy of our decision to consider only medium and large companies can be justified by literature that larger companies can be more inclined to address Corporate Social Responsibility (CSR) issues than smaller ones (Perrini et al., 2007)

Sample Size

Comrey and Lee's (1992) inferential statistics were followed for the selection of sample size. These statistics explain that a sample size of below 50 respondents is a weaker sample, a sample size of 100 respondents is weak, 200 respondents sample size is adequate, 300 is good, 500 is very good, and 1000 is excellent. Therefore, in the present study, a sample size of two hundred and fifty (250) respondents was selected. However, 92 responses were received, out of which 4 responses were not usable. The composition of the sample used for the study is shown in Table 1.

Table 1: Characteristics of Surveyed Firms

Scale	<i>n</i>	%
Medium	22	25
Large	66	75
Firm age	<i>n</i>	%
<5	08	9.1
5-10	16	18.2
11-15	10	11.3

16-20	12	13.7
>20	42	47.7

The data collection was administered through two steps:

1. Pilot test: A pilot test was conducted to test and validate the questionnaire. The pilot test was conducted by sending a Google-form questionnaire to managers (supply chain, Human Resource, and operation) in the apparel industry. 16 valid questionnaires could be selected out of 20 from those managers. Further, telephone conversations were held with two senior supply chain managers and one human resource manager who answered the pilot-test questionnaire. Based on their views, minor adjustments were made to the questionnaire.
2. Structured questionnaire survey: We conducted random surveys sending the structured questionnaire to apparel managers via email, and then followed by telephone calls within the sample companies. Apparel companies operated under the Board of Investment (BOI) and non-BOI garment factories, which are located in various areas of the country, were selected to collect data through the structured questionnaire. 250 questionnaires were sent through email and a total of 88 usable responses were selected (a 35.2 percent response rate).

DATA ANALYSIS AND RESULTS

Statistical Tool

Software of Structural equation modeling (SEM) i.e., Smart PLS 3.0 was used to analyze the data. Since the response rate is low, and selection of Smart PLS was based on this small sample size. Some previous studies (Chin & Newsted, 1999) have comprehensively evaluated PLS-SEM with a small sample size. Moreover, Sekaran (2003) pointed out that the 30% response rate is sufficient if the data is collected through a mail survey. The response rate of our study was 35.2% which is sufficient to go ahead with the analysis.

Measurement Model Assessment

There are nine latent variables in the model. According to the developed model, SSPs were considered a second-order construct, including

five first-order constructs (benefits towards society, education benefits, health and safety, improved wage condition, and regulatory responsibility). The measurement model has been analyzed based on PLS-SEM with the help of Smart PLS 3.0. For the assessment of measurement model composite reliability, Cronbach’s alpha, average extracted variance (Table 01) discriminant validity (Table 02) were examined. Further, according to the path model, all factor loadings are greater than 0.7.

In Smart PLS, the most important requirement for evaluating the internal consistency of the measured constructs is composite reliability, and all composite reliability values of latent variables should be greater than 0.7 (Hair et al., 2011) and the current study, it shows as very high values (Table 02). Then the level of internal consistency of this research study was adequately confirmed. Furthermore, all average variance extracted (AVE) of each construct should be greater than 0.5 (Hair et al., 2011), and Table 2 shows all values are at the standard level (greater than 0.6). Therefore, the convergent validity of the constructs was confirmed.

Table 2: Reliability and Convergent Validity Assessment

Constructs	Cronbach’s Alpha	Composite Reliability	AVE
Benefits towards society	0.910	0.934	0.740
Education benefits	0.902	0.939	0.836
Health & safety	0.937	0.969	0.940
Improved wage conditions	0.863	0.936	0.879
Regulatory responsibility	0.918	0.960	0.924
Social practices	0.952	0.959	0.626
Economic performance	0.893	0.926	0.757
Environmental performance	0.967	0.974	0.860
Social performance	0.952	0.954	0.806

The indicator loadings were compared with their cross-loading values to test the discriminant validity. Table 3 gives the Fornell-Larcker assessment results, which also indicate that there is no violation of discriminant validity.

Table 3: Discriminant Validity

	BTS	EcP	EB	EnP	HS	IWC	RR	SoP	SP
BTS	0.860								
EcP	0.488	0.870							
EB	0.849	0.544	0.914						
EnP	0.493	0.592	0.570	0.927					
HS	0.495	0.250	0.530	0.438	0.970				
IWC	0.762	0.492	0.701	0.412	0.363	0.938			
RR	0.783	0.407	0.611	0.331	0.423	0.873	0.961		
SoP	0.650	0.409	0.780	0.553	0.768	0.531	0.558	0.898	

SP	0.754	0.530	0.908	0.543	0.629	0.853	0.845	0.772	0.921
-----------	-------	-------	-------	-------	-------	-------	-------	-------	-------

BTS = Benefits towards society, EcP = Economic performance, EB = Education benefits, EnP = Environmental performance, HS = Health & safety, IWC = Improved wage conditions, RR = Regulatory responsibility, SoP = Social performance, SP = Social practices

Results

The structural model involves verifying the hypothesized relationships in the study. The study developed hypotheses concerning a direct positive effect of SSPs on economic, environmental, and social performance. Table 4 shows all p-values related to the three hypotheses are less than 0.01. Hence it can be concluded that all three hypotheses are highly supported at a 0.01 significance level.

Table 4: Results of Hypotheses Testing

Hypothesis	p-values	Results
SP → EcP	0.000	H1 is supported
SP → EnP	0.000	H2 is supported
SP → SoP	0.000	H3 is supported

Note: all three hypotheses are significant at 0.01 level

In this study, SSPs are conceptualized to be consisting of five practices; education benefits, health & safety, improved wage conditions, regulatory responsibility, and benefits towards society. SSPs were considered as a second-order construct, including five first-order constructs. Table 5 presents the indirect effects of those variables on sustainable performance.

Table 5: Indirect Effect of Individual Social Sustainability Practices

	Std. coefficient	p-values
BTS → Economic performance	0.028*	0.000
BTS → Environmental performance	0.024*	0.000
BTS → Social performance	0.022*	0.000
EB → Economic performance	0.022*	0.000
EB → Environmental performance	0.020*	0.000
EB → Social performance	0.021*	0.000
HS → Economic performance	0.012*	0.000
HS → Environmental performance	0.014*	0.000
HS → Social performance	0.019*	0.000
IWC → Economic performance	0.015*	0.000
IWC → Environmental performance	0.011*	0.000
IWC → Social performance	0.013*	0.000
RR → Economic performance	0.013*	0.000
RR → Environmental performance	0.009*	0.000
RR → Social performance	0.011*	0.000

*Note: *Significant at 0.01 level*

Table 6 shows the R^2 values of the model. R^2 value related to social performance is greater than 0.5, and it indicates the effects of social practices on social performance as high. However, R^2 related to other performance (Economic and Environmental) are less than 0.5, and therefore, the effects of SSPs on economic and environmental performance are categorized as relatively low.

Table 6: R^2 Values

	R Square (R^2)	Adjusted R^2
Economic performance	0.281	0.272
Environmental performance	0.295	0.286
Social performance	0.597	0.592

DISCUSSION

The research identified that 82 companies in the sample (out of 88) had implemented SSPs. Moreover, four of the remaining six companies are medium-scale companies. Even though the other two companies are large-scale, the number of employees is below 275. Almost all other companies have implemented and continued various internal SSPs (education benefits, health and safety, improved wage condition, and regulatory responsibility) or external SSPs (benefits towards society), or both. Therefore, it can be concluded that Sri Lankan apparel companies have adopted a considerable extent of SSPs within the industry. This is the achievement of objective one of the study. Thus, the current study confirms what Perrini et al. (2007) emphasized, that “*companies can be more inclined to address CSR issues than smaller ones*”.

SSPs and social performance (0.772) have the strongest and most positive relationship. Further, SSPs with economic performance (0.530) and with environmental performance (0.543) also show a stronger relationship. Moreover, the external dimension i.e., benefits toward society (0.377) mostly affect the SSPs compared to internal dimensions i.e., education benefits (0.289), health and safety (0.161), improved wage conditions (0.162), and regulatory responsibility (0.164) of SSPs.

This research was conducted to address the impact of SSPs as one of the sustainable practices on firms' TBL performance. Moreover, in the Sri Lankan context, the literature was not met that examines the impact of SSPs on all three sustainable performances (economic, environmental, and social)

together. The apparel sector has been the country's largest net foreign exchange earner since 1992 (Dheerasinghe, 2009; Welmilla, 2020). Moreover, Kotawatta (2013) emphasizes that the necessity of social sustainability practices in apparel supply chains is justified by existing human resources problems, especially high turnover and absenteeism. These problems are the major hurdle to achieving the organizational objectives in the apparel industry. Liyanage and Galhena (2014) identify a trend in 20 percent of skilled employees leaving the apparel industry for migration opportunities. Therefore, nowadays, it can be seen a high demand for apparel employees due to the existing labor shortage in the industry. Inconsequent apparel management concentrates on establishing strategic ways to absorb employees and prevent or minimize the burning problem of employee turnover in the sector. We could clearly understand through discussions made with apparel management that they have identified SSPs as the most effective and efficient solution for the problem of employee turnover. The results of our study confirm that apparel management in the country has taken the right decision at the right time.

CONCLUSION AND CONTRIBUTIONS

Literature on the relationship between SSPs and all three sustainable performances was not met, especially in the Sri Lankan context. Therefore, it can be concluded that there is no comprehensive investigation of this relationship. Thus, our study contributes to the body of knowledge (to the literature), providing empirical evidence for the impact of SSPs on TBL performance. Moreover, following the results of the study, individual SSPs (education benefits, health and safety, improved wage conditions, regulatory responsibility, and benefits towards society) and overall SSPs are significantly and positively linked with all pillars of TBL (economic, environmental, and social) performance. The findings of this study would motivate manufacturing managers to adopt SSPs. Therefore, this novel contribution enables manufacturers to gain sustainable performance with continuing a strong position within the industry.

REFERENCES

- Ahi, P., & Searcy, C. (2015). Assessing sustainability in the supply chain: A triple bottom line approach. *Applied Mathematical Modelling*, 39(10–11), 2882–2896. <https://doi.org/10.1016/j.apm.2014.10.055>

- Ahmadi, H. B., Kusi-Sarpong, S., & Rezaei, J. (2017). *Assessing the social sustainability of supply chains using Best Worst Method*.
- Awan, U. (2019). Impact of social supply chain practices on social sustainability performance in manufacturing firms. *International Journal of Innovation and Sustainable Development*, 13(2), 198–219. <https://doi.org/10.1504/IJISD.2019.098996>
- Awaysheh, A., & Klassen, R. D. (2010). The impact of supply chain structure on the use of supplier socially responsible practices. *International Journal of Operations and Production Management*, 30(12), 1246–1268.
- BadriAhmadi, H., Kusi-Sarpong, S., & Rezaei, J. (2017). Assessing the social sustainability of supply chains using best worst method. *Resources, Conservation and Recycling*, 126(July), 99–106.
- Basuony, M. A. K., Elseidi, R. I., & Mohamed, E. K. A. (2014). The impact of corporate social responsibility on firm performance: evidence from a MENA country. In *Corporate Ownership & Control* (Vol. 12, Issue 1).
- Campbell, J. L. (2007). Why would corporations behave in socially responsible ways? An institutional theory of corporate social responsibility. *Academy of Management Review*, 32 (3), 946-967.
- Carter, C. R., & Easton, P. L. (2011). Sustainable supply chain management: Evolution and future directions. *International Journal of Physical Distribution and Logistics Management*, 41(1), 46–62. <https://doi.org/10.1108/09600031111101420>
- Carter, C. R., & Rogers, D. S. (2008). A framework of sustainable supply chain management: Moving toward new theory. *International Journal of Physical Distribution and Logistics Management*, 38(5), 360–387. <https://doi.org/10.1108/09600030810882816>
- Castka, P., & Balzarova, M. A. (2008). ISO 26000 and supply chains-On the diffusion of the social responsibility standard. *International Journal of Production Economics*, 111(2), 274–286.

- Chin, W.W. & Newsted, P.R. (1999). Structural Equation Modeling Analysis with Small Samples Using Partial Least Squares. In: Hoyle, R.H., Ed., *Statistical Strategies for Small Sample Research*, Sage Publications, Thousand Oaks, 307-341.
- Comrey, A. L. & Lee, H. B. (1992). *A first course in factor-analysis* (second edition). Hillsdale, NJ: Lawrence Erlbaum
- Croom, S., Vidal, N., Spetic, W., Marshall, D., & McCarthy, L. (2018). Impact of social sustainability orientation and supply chain practices on operational performance. *International Journal of Operations and Production Management*, 38(12), 2344–2366. <https://doi.org/10.1108/IJOPM-03-2017-0180>
- Das, D. (2018). The impact of Sustainable Supply Chain Management practices on firm performance: Lessons from Indian organizations. *Journal of Cleaner Production*, 203, 179-196.
- D'Eusanio, M., Zamagni, A., & Petti, L. (2019). Social sustainability and supply chain management: Methods and tools. *Journal of Cleaner Production*, 235, 178–189. <https://doi.org/10.1016/j.jclepro.2019.06.323>
- Dheerasinghe, R. (2009). Garment Industry in Sri Lanka. *Staff Studies*, 33, 33–72.
- Gauthier, C. (2005). Measuring corporate social and environmental performance: The extended life-cycle assessment. *Journal of Business Ethics*, 59(1), 199–206. <https://doi.org/10.1007/s10551-005-3416-x>
- Golicic, S. L., Lenk, M. M., & Hazen, B. T. (2020). A global meaning of supply chain social sustainability. *Production Planning and Control*, 31(11–12), 988–1004.
- Govindan, K., Shaw, M., & Majumdar, A. (2021). Social sustainability tensions in multi-tier supply chain: A systematic literature review towards conceptual framework development. *Journal of Cleaner Production*, 279, 123075. <https://doi.org/10.1016/j.jclepro.2020.123075>

- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, 19(2), 139–152.
- Hamdy, O. M. M., Elsayed, K. K., & Elahmady, B. (2018). Impact of Sustainable Supply Chain Management Practices on Egyptian Companies' Performance. *European Journal of sustainable development*, 7(4).
- Hassini, E., Surti, C., & Searcy, C. (2012). A literature review and a case study of sustainable supply chains with a focus on metrics. *International Journal of Production Economics*, 140(1), 69–82. <https://doi.org/10.1016/j.ijpe.2012.01.042>
- Husgafvel, R., Pajunen, N., Virtanen, K., Paavola, I. L., Päälyysaho, M., Inkinen, V., Heiskanen, K., Dahl, O., & Ekroos, A. (2015). Social sustainability performance indicators – experiences from process industry. *International Journal of Sustainable Engineering*, 8(1), 14–25.
- Hutchins, M. J., & Sutherland, J. W. (2008). An exploration of measures of social sustainability and their application to supply chain decisions. *Journal of Cleaner Production*, 16(15), 1688–1698. <https://doi.org/10.1016/j.jclepro.2008.06.001>
- Jabbour, C. J. C., Neto, A. S., Gobbo, J. A., Ribeiro, M. D. S., & De Sousa Jabbour, A. B. L. (2015). Eco-innovations in more sustainable supply chains for a low-carbon economy: A multiple case study of human critical success factors in Brazilian leading companies. *International Journal of Production Economics*, 164, 245–257. <https://doi.org/10.1016/j.ijpe.2014.11.015>
- Jabbour, A.B.L.S., Ndubisi, N.O., & Seles, B.M.R.P., (2019). Sustainable development in Asian manufacturing SMEs: progress and directions. *International Journal of Production Economics*, 225. <https://doi.org/10.1016/j.ijpe.2019.107567>
- Jiang, B. (2009). The effects of interorganizational governance on supplier's compliance with SCC: An empirical examination of compliant and non-compliant suppliers. *Journal of Operations Management*, 27(4), 267–280. <https://doi.org/10.1016/j.jom.2008.09.005>

- Kaur, A., & Sharma, P. C. (2018). Social sustainability in supply chain decisions: Indian manufacturers. *Environment, Development and Sustainability*, 20(4), 1707–1721. <https://doi.org/10.1007/s10668-017-9961-5>
- Kelegama, S. & Epaarachchi, R. (2003). Garment industry in Sri Lanka, Gopal Joshi (eds.) Garment industry in south Asia: Rags or riches? Competitiveness, productivity and job quality in post – MFA environment, New Delhi: South Asia multidisciplinary advisory team 9SAAT), International Labor organization.
- Klassen, R. D., & Vereecke, A. (2012). Social issues in supply chains: Capabilities link responsibility, risk (opportunity), and performance. *International Journal of Production Economics*, 140(1), 103–115. <https://doi.org/10.1016/j.ijpe.2012.01.021>
- Kottawatta, K. H. H. (2013). Impact of Attitudinal Factors on Job Performance of Executives and Non-Executive Employees in Apparel Industry in Sri Lanka *Sri Lankan Journal of Human Resource Management*1(1), 53-70.
- Kuo, R. J., Wang, Y. C., & Tien, F. C. (2010). Integration of artificial neural network and MADA methods for green supplier selection. *Journal of Cleaner Production*, 18(12), 1161–1170. <https://doi.org/10.1016/j.jclepro.2010.03.020>
- Linton, J. D., Klassen, R., & Jayaraman, V. (2007). Sustainable supply chains: An introduction. *Journal of Operations Management*, 25(6), 1075–1082. <https://doi.org/10.1016/j.jom.2007.01.012>
- Lis, A., Sudolska, A., & Tomanek, M. (2020). Mapping research on sustainable supply-chain management. *Sustainability (Switzerland)*, 12(10). <https://doi.org/10.3390/SU12103987>
- Liyanage, D., & Galhena, B. (2014). Determinants of Turnover Intention of Sewing Machine Operators: Case from leading Apparel Company. *Kelaniya Journal of Management*, 1(2), 107. <https://doi.org/10.4038/kjm.v1i2.6535>

- Lohar, G. A., & Bide, K. G. (2013). An overview of HR challenges and opportunities in textile industry: current scenario. *International Journal of Human Resource Management and Research*, 3(1), 131–136.
- Longoni, A., & Cagliano, R. (2015). Environmental and social sustainability priorities: their integration in operations strategies. *Int. J. Oper. Prod. Manag.* 35 (2), 216–245.
- Luthra, S., Govindan, K., & Mangla, S. K. (2017). Structural model for sustainable consumption and production adoption—A grey-DEMATEL based approach. *Resources, Conservation and Recycling*, 125, 198–207. <https://doi.org/10.1016/j.resconrec.2017.02.018>
- Mani, V., Agrawal, R., & Sharma, V. (2015a). Supply Chain Social Sustainability: A Comparative Case Analysis in Indian Manufacturing Industries. *Procedia - Social and Behavioral Sciences*, 189, 234–251. <https://doi.org/10.1016/j.sbspro.2015.03.219>
- Mani, V., Agrawal, R., & Sharma, V. (2015b). Impediments to Social Sustainability Adoption in the Supply Chain: An ISM and MICMAC Analysis in Indian Manufacturing Industries. *Global Journal of Flexible Systems Management*, 17(2), 135–156. <https://doi.org/10.1007/s40171-015-0106-0>
- Mani, V., Agrawal, R., & Sharma, V. (2015c). Social sustainability in the supply chain: analysis of enablers. *Management Research Review*, 38(9), 1016–1042.
- Mani, V., Gunasekaran, A., Papadopoulos, T., Hazen, B., & Dubey, R. (2016). Supply chain social sustainability for developing nations: Evidence from India. *Resources, Conservation and Recycling*, 111, 42–52.
- Mani, V., Gunasekaran, A., & Delgado, C. (2018a). Supply chain social sustainability: Standard adoption practices in Portuguese manufacturing firms. *International Journal of Production Economics*, 198(February), 149–164. <https://doi.org/10.1016/j.ijpe.2018.01.032>
- Mani, V., Gunasekaran, A., & Delgado, C. (2018b). Enhancing supply chain performance through supplier social sustainability: An emerging

- economy perspective. *International Journal of Production Economics*, 195, 259–272. <https://doi.org/10.1016/j.ijpe.2017.10.025>
- Mani, V., & Gunasekaran, A. (2018c). Four forces of supply chain social sustainability adoption in emerging economies. *International Journal of Production Economics*, 199(February), 150–161.
- Mani, V., Jabbour, C. J. C., & Mani, K. T. N. (2020). Supply chain social sustainability in small and medium manufacturing enterprises and firms' performance: Empirical evidence from an emerging Asian economy. *International Journal of Production Economics*, 227(January), 107656.
- Marshall, D., McCarthy, L., Heavey, C., & McGrath, P. (2014). Environmental and social supply chain management sustainability practices: Construct development and measurement. *Production Planning and Control*, 26(8), 673–690. <https://doi.org/10.1080/09537287.2014.963726>
- Marshall, D., McCarthy, L., McGrath, P., & Claudy, M. (2015). Going above and beyond: How sustainability culture and entrepreneurial orientation drive social sustainability supply chain practice adoption. *Supply Chain Management*, 20(4), 434–454.
- Matos, S., & Hall, J. (2007). Integrating sustainable development in the supply chain: The case of life cycle assessment in oil and gas and agricultural biotechnology. *Journal of Operations Management*, 25(6), 1083–1102. <https://doi.org/10.1016/j.jom.2007.01.013>
- Mc Mullen, A., & Majumder, M. (2016). Do we buy? A supply chain investigation into living wage commitments from M&S and H&M. Labour behind the Label, Eston Business Centre
- Morais, D. O. C., & Silvestre, B. S. (2018). Advancing social sustainability in supply chain management: Lessons from multiple case studies in an emerging economy. *Journal of Cleaner Production*, 199, 222–235. <https://doi.org/10.1016/j.jclepro.2018.07.097>
- Munny, A. A., Ali, S. M., Kabir, G., Moktadir, M. A., Rahman, T., & Mahtab, Z. (2019). Enablers of social sustainability in the supply chain: An

- example of footwear industry from an emerging economy. *Sustainable Production and Consumption*, 20, 230–242.
- Muñoz-Torres, M. J., Fernández-Izquierdo, M. ángeles, Rivera-Lirio, J. M., Ferrero-Ferrero, I., Escrig-Olmedo, E., Gisbert-Navarro, J. V., & Marullo, M. C. (2018). An assessment tool to integrate sustainability principles into the global supply chain. *Sustainability (Switzerland)*, 10(2).
- Perrini, F., Russo, A., Tencati, A., & Penini, F. (2007). CSR Strategies of SMEs and Large Firms. Evidence from Italy. *Source: Journal of Business Ethics*, 74(3), 285–300.
- Sarkis, J., Helms, M. M., & Hervani, A. A. (2010). Reverse logistics and social sustainability. *Corporate Social Responsibility and Environmental Management*, 17(6), 337–354.
- Sekaran, U. (2003). *Research methods for business: a skill building approach*. Singapore: John Willey & Sons Inc; 2003.
- Shamsuzzoha, A. H. M., & Shumon, R. H. (2007). Employee Turnover-a Study of its Causes and Effects to Different Industries in Bangladesh. *Manufacturing Engineering Vyrobné Inžinierstvo*, 6(3), 64–68. papers3://publication/uuid/507042D2-C6C0-4536-9FC3-0246611A2252
- Sikdar, M., Sarkar, S., & Sadeka, S. (2014). Socio-Economic Conditions of the Female Garment Workers in the Capital City of Bangladesh. *International Journal of Humanities and Social Science*, 4(3), 173–179. http://www.ijhssnet.com/journals/Vol_4_No_3_February_2014/17.pdf
- Silvestre, B. S., & Silva Neto, R. E. (2014). Are cleaner production innovations the solution for small mining operations in poor regions? The case of Padua in Brazil. *Journal of Cleaner Production*, 84(1), 809–817.
- Sudusinghe, J. I., & Seuring, S. (2020). Social sustainability empowering the economic sustainability in the global apparel supply chain. *Sustainability (Switzerland)*, 12(7), 1–18.

- Sukati, I., Hamid, A.B.A., Baharun, R., Tat, H.H., & Said, F. (2011). A study of supply chain management practices: An empirical investigation on consumer goods industry in Malaysia. *International Journal of Business and Social Science*, 2 (17), 166-176.
- Veleva, V., & Ellenbecker, M. (2001). Indicators of sustainable production: Framework and methodology. *Journal of Cleaner Production*, 9(6), 519–549.
- Venkatesh, V. G., Kang, K., Wang, B., Zhong, R. Y., & Zhang, A. (2020). System architecture for block-chain based transparency of supply chain social sustainability. *Robotics and Computer-Integrated Manufacturing*, 63(October 2019), 101896.
- Vo, D. H., & Nguyen, T. M. (2014). The Impact of Corporate Governance on Firm Performance: Empirical Study in Vietnam. *International Journal of Economics and Finance*, 6(6).
- Welmilla, I. (2020). Human Resources Challenges in Apparel. *Global Journal of Management and Business Research: A Administration and Management*, 20(2).
- World Commission on Environment and Development. (1987). *Our common future*. Oxford University Press.
- Yang, J. (2012). A structural model of supply chain performance in an emerging economy. *International Journal of Production Research*, 50(14), 3895–3903.
- Zhang, H., Calvo-Amodio, J., & Haapala, K. R. (2013). A conceptual model for assisting sustainable manufacturing through system dynamics. *Journal of Manufacturing Systems*, 32(4), 543–549.
- Zhang, M., Tse, Y.K., Doherty, B., Li,S., & Akhtar, P.(2016). Sustainable supply chain management: Confirmation of a higher-order model. *Resources, Conservation and Recycling*

- Zhang, M., Pawar, K. S., & Bhardwaj, S. (2017). Improving supply chain social responsibility through supplier development. *Production Planning and Control*, 28(6–8), 500–511.
- Zhu, Q., Sarkis, J., & Geng, Y. (2005). Green supply chain management in China: Pressures, practices and performance. *International Journal of Operations and Production Management*, 25(5), 449–468. <https://doi.org/10.1108/01443570510593148>