
DEVELOPMENT OF SUSTAINABILITY BALANCED SCORECARD: A CASE STUDY FROM APPAREL INDUSTRY SRI LANKA

Rathani MOHANARAJ¹
Hiranya DISSANAYAKE²
Anuradha IDDAGODA^{3*}
Oshani MENDIS⁴

Received: January 2023 | Accepted: April 2023 | Published: June 2023

Please cite this paper as: Mohanaraj, R., Dissanayake, H., Iddagoda, A., Mendis, O. (2023) Development of sustainability balanced scorecard: A case study from apparel industry Sri Lanka, *Holistica Journal of Business and Public Administration*, Vol. 14, Iss. 1, pp.22-38

Abstract

This study aims to determine the obstacles the Sri Lankan apparel manufacturing industry faces when implementing sustainable practices and develop a Sustainability Balanced Scorecard to address those obstacles. The apparel export industry is one of Sri Lanka's most significant contributors to the country's overall economy. The multiple case study method was employed in conjunction with a qualitative approach in this study. This study also used data triangulation, which comprised both primary and secondary data from interviews and observations. Secondary information was gathered from annual reports and other documents. The population of this study is the apparel export industry and selected three apparel companies as the sample and interviewed nine managers from these companies. The interviewed data were transcribed into the transcript and analyzed through narrative analysis. By considering all the practices in three companies, this research constructed a sustainability balanced scorecard which can be used for other companies to build up their sustainability practices. The main issues identified in this research can be summarized as follows, Manual system of data entering and performance evaluation, there is no sufficient Hazardous Waste Management and disposal facilities in the country, Financial constraints prevent best-in-class equipment and procedures from being implemented. Sri Lanka has no solid waste recycling facilities for its primary waste type, fabric waste. As a final point, this research can be concluded that the regulators and policymakers can

¹ Department of Accountancy, Faculty of Business Studies and Finance, Wayamba University of Sri Lanka, Kuliyaipitiya, Sri Lanka, rathanimohanaraj@gmail.com.

² Department of Accountancy, Faculty of Business Studies and Finance, Wayamba University of Sri Lanka, Kuliyaipitiya, Sri Lanka, hiranya@wyb.ac.lk.

³ Management Science Unit, Department of Mathematics, Faculty of Applied Sciences, University of Sri Jayewardenepura Sri Lanka, anuradhaiddagoda@sjp.ac.lk

⁴ Department of Accountancy, Faculty of Business Studies and Finance, Wayamba University of Sri Lanka, Kuliyaipitiya, Sri Lanka

* Corresponding author

use the constructed sustainability balanced scorecard for the policy development on sustainability practices.

Keywords: Apparel Industry, Economic Performance, Environment Performance, Social Performance, Sustainability Balanced Scorecard

1. Introduction

In this modern environment, sustainability is a vital topic worldwide with the increase of natural disasters in recent years. Also, there are three measurements of sustainable development: economic, social, and environmental, which are created many challenges to the world with a considerable influx of natural disasters, warming and cooling periods, and various kinds of weather patterns (Grigorescu & Dincă, 2014; Grigorescu et al., 2019; Panait et al., 2019; Tăbîrca et al., 2019; Khan et al., 2021; Vasilca et al., 2021). In order to overcome these sustainability problems, several measures are evolving in the world. Benchmarking sustainability practices, sustainability audits, sustainability standards and certification systems such as fair-trade and organic, indexes and accounting, assessment, appraisal and other reporting systems are just a few examples. Therefore, most of the companies in the world are currently using this sustainability practice since it directly affects the organization's success. (Matteo Mura, 2018; Tăbîrcă & Ivan, 2020; Felix et al., 2022; Popescu et al., 2022; Vasile et al., 2022).

In Sri Lanka, there are many social, economic and environmental issues such as poverty, inflation, gender inequality, industrialization, population growth, degradation of mangroves, coral reefs and soil, poor waste management, water pollution, air pollution and climate change (extreme weather events and sea-level increase). Meethotamulla garbage dump tragedy, Wilpattu deforestation, Easter Sunday bomb blast, garbage scam and a covid-19 pandemic are the most recent challenges. Due to the covid-19 pandemic, sustainability issues were increased rapidly in the world and Sri Lanka. Each organization faced countless sustainability problems. (Shen B, 2017).

United Nations Global Compact and World Business Council introduced sustainability goals and standards for improving corporate sustainability globally. In the Sri Lankan context Chamber of Commerce, Central Environmental Authority, and Sustainability Council of Sri Lanka, Colombo Stock Exchange, introduce various indicators and standards to improve Corporate Sustainability in Sri Lanka. Moreover, Sri Lankan companies use some measures such as Sustainability Development Goals and GRI disclosures (Lakmali et al., 2021). Even now, Sri Lanka cannot wholly overcome the sustainability problem due to not proper sustainability measurement. (UNDO, 2020).

Sri Lanka's apparel export industry is one of the country's most important sources of revenue. According to the industry capability report (2017), Sri Lanka is the fast fashion and logistics hub for the entire South Asian region, with a 17 per cent market share of US apparel imports. It has experienced significant growth over the past several decades and is currently the country's leading export. Additionally, the apparel industry contributes significantly to the country's GDP. The performance of the apparel industry

is also impacted by the sustainability issues mentioned above. Most apparel companies take steps to mitigate their environmental impact, but they cannot completely eliminate it (Ionescu, 2022).

According to Mudiyanalage (2018), in the Sri Lankan context, the role of the director boards and corporate sustainability disclosure is investigated in an Asian context where sustainability reporting is a new phenomenon (Mudiyanalage, 2018). This study considered only secondary data by using annual reports. According to the expert view, most Sri Lankan Companies report only the positive facts, and the main objective of the sustainability report is to increase their brand image. Therefore, the companies are not disclosed harmful activities which dampen their brand image. In order to eliminate that limitation, this research used primary data and developed SBSC as a performance tool.

2. Problem Statement

Corporate sustainability is an approach that concentrates on the social, ethical, cultural, environmental and economic dimensions of doing business in order to generate long-term stakeholder value. Within business organizations, the techniques developed are designed to promote longevity, transparency and proper employee progression (Khan et al., 2021, Felix et al., 2022, Vasile et al. 2022).

Concepts relating to sustainability

Sustainable development can be defined as meeting our own needs without jeopardizing the ability of future generations to meet their own needs (Brundtland, 1987). This definition can be found in "sustainability" Furthermore, corporations require natural resources and social and economic resources. Sustainability is more than just a buzzword in the environmentalist community (Iddagoda et al., 2021). Most definitions of sustainability include social equity, economic development and environmental considerations.

The theoretical approach in sustainability

Corporate sustainability, stakeholder theory, and ecological economics are among the leading theories associated with sustainability. Many innovative methods and new theories are currently being developed by theorists, such as Co-Evolution Theory and Multi-Level Perspective, which represent three directions in theory development: increasing the use of interdisciplinary techniques and moving towards more comprehensive systems. Freeman's Stakeholder Theory tends to be taken into account here (Freeman, 2010).

An organization's stakeholders include its employees, suppliers, local communities, creditors, and other stakeholders. The Stakeholder Theory takes these influences into account. It covers topics like corporate social responsibility, the market economy, philosophy, and business ethics. From the perspective of stakeholders, the strategy combines resource-based and market-based approaches and considerations at the social and political levels.

Measuring sustainability

Sustainability measurement provides a quantitative foundation for informed sustainability management. Sustainability measurement measures (involving social, environmental and economic sustainability) are still developing. Standards, indicators, indices, audits, accounting, and appraisal reporting structures are considered in this area. The best-known sustainability indicators can be identified as Triple Bottom Line Accounting, Sustainability Reporting, Assessment of quality of sustainable governance for individual countries using the Global Green Economy Index (GGEI), Environmental Sustainability Index. The United Nations Global Compact Cities Program uses a substitution approach called Circles of Sustainability, explicitly critical of the triple bottom line method.

Empirical evidence related to Sustainability Balanced Scorecard(SBSC)

The BSC concept was introduced in the 90's era as a new base to measure the performance to overcome the problems in management accounting past orientations. (Kaplan, 1992). As a response, Kaplan and Norton introduced a new approach to performance assessment that concentrates on organizational strategy in four ways. The four perspectives of the BSC can be briefly categorized as follows: the financial perspective, the customer perspective, the internal process perspective and the perspective of learning and growth.

SBSC and Eco-efficiency analysis are investigated by Tatjana et al. (2012). Leontina et al. (2011), in their article, identify that the BSC is a powerful, sustainable corporate management instrument since it helps decision-makers to discuss plans from the beginning. Bieker (2003) attempted to use the BSC to research sustainability management. The analysis outcome is SBSC that offers sufficient capacity to address sustainability management shortcomings. In their article, Hansen et al. (2012) look at achieving sustainability with the Balanced Scorecard to enhance the shareholder value and optimize multiple objectives. In their paper, Chaker et al. (2017) look at a detailed review of the SBSC as a decision aid framework. Huang et al. (2014) are researching the application of the SBSC to contribute to the appraisal industry.

SBSC and business ethics designing a balanced scorecard for integrity management were discussed by Bieker & Waxenberger in 2002. This study indicated that the predominance of the BSC's financial perspective might prevent businesses from equally incorporating issues related to sustainability.

A study conducted by Figge et al. (2003) examines the theory of the SBSC and the implementation of a value-based sustainability management method. The authors' findings reveal that the SBSC is a powerful tool for integrated value-based sustainability management. It contributes significantly to resolving limitations of the often-parallel methods applied in the past in environmental, social, and economic management systems and the improvement of the overall system. According to the empirical shreds of evidence, Table 1 shows the sustainability balanced scorecard discussed by the

authors in past research.

Moreover, a dearth of studies has been done on the impact of sustainability problems in developing countries and Sri Lanka. Due to the dearth of study in constructing a sustainability balanced scorecard, this research tries to fill the research gap by identifying sustainability problems and measures. Practically the output of this research is worthwhile for regulators to measure and provide guidelines to organizations about sustainability problems.

3. Research Questions/Aims of the research

Even though regulators are doing sustainability measures in Sri Lanka in specific ways, sustainability problems are not solved. Therefore, this research is believed to be a helping hand to understand the impact of sustainability problems and giving new knowledge on sustainability problems and SBSC implementation.

Sustainability issues worldwide and Sri Lanka have increased at an alarming rate (Lakmali et al., 2021). Therefore, there is a dearth of studies in the Sri Lankan context and no consensus worldwide to measure Corporate Sustainability. Therefore, there is a requirement to measure sustainability since there is a research gap. Since current study aimed to examine the viewpoint on the definition of corporate sustainability by the managers, examine the problems of existing measurements faced by the apparel manufacturing companies, and construct SBSC. Similarly, to the traditional BSC, SBSC is a derivative that aims to integrate social and environmental considerations into corporate management in a systematic manner.

Researchers and practitioners have been interested in creating different forms of the SBSC using case study analysis or conceptual frameworks due to the increasing concern about sustainability issues. Accordingly, the objective of this study is to develop SBSC for implement as a measuring tool in the apparel industry.

4. Research Methods

The primary focus of this study examines sustainability problems by constructing the Sustainability Balanced Scorecard (SBSC) for the apparel industry in Sri Lanka. This research used a qualitative approach and applied Yin (2013) case study method. Here we used multiple case study analyses and this research methodology which multiple data collection methods are used to examine several instrumental, bounded cases because it offers more detailed descriptions of the phenomenon or issue. Thus the methodology of this research is more potent than single-case designs. The multiple case studies design enables the researcher to investigate the phenomenon under investigation using a replication strategy. This research used a data triangulation approach, including primary and secondary data. Interviews and observations were conducted to collect primary data. Secondary data was collected from the annual reports and other reports. The population of this study is the apparel export industry which is one of the most significant contributors to the economy. Out of the 300 apparel firms in Sri Lanka, this research selected 3 companies using the convenience sampling

method and interviewed nine managers from these companies. The average interview period was 45 minutes, totalling 7 hours and 15 minutes.

Data Analysis

The collected data was used to determine how sustainability problems impact the apparel industry in Sri Lanka and build a Sustainability Balanced Scorecard in the apparel industry. The interview data were transcribed into the transcript, and the data were analyzed through narrative analysis.

5. Findings

SBSC is a measurement tool modelled after traditional BSC because of the significant environmental and social issues in the world today. As Figge et al. (2002) have pointed out, combining the three pillars of sustainability can assist in overcoming the limitations of traditional approaches in environmental and social management systems. Accordingly, SBSC help organization to identify necessary strategic environmental and strategic goal and improve transparency in their strategies implementing the process. Due to that, we develop SBSC for the apparel industry in Sri Lanka.

Definitions of sustainability

This study investigated to get to know what sustainability is, and the respondents provided different definitions of sustainability because everyone has different thoughts on sustainability. The Senior Manager-Environment sustainability of Company A gives his view on sustainability as "Sustainability is anything related to maintaining and improving Environmental, Social and Economic functions without compromising the Sustainability is anything related to maintaining and improving Environmental, Social and Economic functions without compromising the possibility of future generations and ecosystems to maintain their continuity." (Environmental sustainability, 2020)

The compliance Manager provides his definition as, "Sustainability is maintaining what we have currently and carrying it to coming future." This definition illustrates his view of sustainability. (Social & Compliance, 2020)

Other than that, the environmental sustainability manager of Company B indicates his definition, "Sustainability is the balance of environmental, social responsibility and economic performance, to survive and the survival of the organization and plan together." (Environmental Sustainability, SBSC Case study approach in apparel industry, 2020).

"Sustainability is like more of common sense. It should be in our blood and DNA, no need to learn or teach as an additional topic or subject. Since it is always about our day to day activities which are more relevant to with our lifestyle." (Manager, 2020) This definition illustrates the assistant Manager of Company B view on sustainability.

Sustainability is a broad area; therefore, everyone has different views and thoughts in their minds. In respect of that, the environmental sustainability manager of Company C has the following view in his mind "sustainability understands how our work, our

attitude, and our lifestyles relate to human values, impact our environment, and enhance economic development through the governance and management of the environment across the sectors we work within." (Environmental Sustainability, 2020)

Like to that compliance manager of Company C define sustainability as follows, "Sustainability means meeting the needs of the present without compromising the ability of future generations to meet their own needs." (HR & Compliance, 2020)

According to this research definition of corporate sustainability is achieving economic, environmental and social objectives without cooperating with the possibility of future generations and ecosystems to maintain their continuity.

Existing measurements of the company

This study investigated the existing measurements of the 3 apparel companies named Company A, Company B and Company C. The respondents were asked to explain what measurements are used to measure the company's sustainability. According to their answers

Company A started its sustainability journey in 2008. This group of companies are aligned its sustainable strategy with the UN Sustainable Development Goals. Accordingly, they have guided the triple bottom line approach: People, Plant and Machinery from UN Sustainable Development Goals.

In Company A, financial performance is measured through the ratio analysis and productivity-related KPIs as well as environmental sustainability is measured through the Higg Index, ZDHC- Roadmap to Zero as well as an internal KPI Scorecard that covers areas such as, Environmental management, energy, water, wastewater chemical management and legal regulation. There are lots of KPIs used by Company A to measure environmental sustainability. Such as Normalized Energy Use, Normalized Electricity use, Normalized Water Use, Solid Waste Generation and Recycling quantity, Legal compliance with Pollutants generated by company operations. Furthermore, social sustainability is measured through the Higg FSLM, Social Assessment Tools (WRAP, ETI, SLCP) and internal KPI Scorecard. Here are also numerous KPIs used to measure social sustainability. Such as International law, local law, customer requirements/stipulations, health& safety.

Company B's sustainability strategy is aligning with SDGs. In this company, environmental sustainability is measured through the Higg Index, Scivera system, Calibration Tool V 2.0 and Schneider Energy Management System. Other than that, social sustainability is measured through the Social Sustainability Scoring Tool and separate KPIs on each section. Social Sustainability Scoring Tool is assessing their social sustainability performance across the organization.

Company C has world-class sustainable benchmarks for their manufacturing organizations. In this company, Environmental sustainability is measured through KPIs and benchmarks such as Eco index, EAIA, Eco-Caliper, Power BI and Eco-Eye. That covers areas such as Air (energy), water, waste management and chemical management.

Furthermore, social sustainability was measured through the Social Assessment Tools, Trust index, 9-box evaluation tool, 70:20:10 training model and other KPIs.

While exploring all three companies' existing measurements, we found that they measure social, environmental and economic sustainability separately using separate indicators. The above three companies are not used a single tool as a measurement tool to measure the fundamental sustainability of the company. Therefore, they faced many difficulties, and most of the managers were not aware of the SBSC approach. In order to do that, we can develop and introduce SBSC as a single measurement tool that includes all indicators in one framework to measure the overall sustainability of companies.

Problems of existing measurements

Generally, all companies face problems when measuring performance. As such, the apparel industry is no exception. The above mentioned three companies face some problems while gaining advantages when using sustainability measurements. We will look at the problems faced by those companies as follows.

1. The manual system of data entering and performance evaluation.
2. Financial constraints to implement best in class equipment and methodologies
3. Measurement of water stewardship
4. Problems of measuring waste
5. Resource scarcity
6. People's attitudes
7. Different objectives of departmental managers
8. Complexity of communication
9. Multiple perspectives
10. Exposing values

Sustainability measurement

Company A

In the early 1900s, they began their journey as an environmental sustainability company, with a commitment to reducing their impact on the environment through a focus on water, waste, energy, and chemical management. The practices to reducing the impact on the above factors reduce energy and water consumption, increase efficiency, increase the use of recycled water, lean production, etc.

Therefore, company A measured environmental sustainability through the Higg Index, ZDHC- Roadmap to Zero, and an internal KPI Scorecard covering environmental management, energy, water, wastewater chemical management, and legal regulation. There are lots of KPIs used by Company A to measure environmental sustainability. Such as Normalized Energy Use, Normalized Electricity use, Normalized Water Use, Solid Waste Generation and Recycling quantity, Legal compliance with Pollutants generated by company operations. (Environmental sustainability, 2020)

Not only the economic sustainability, but company A also should support their people's

physical and psychological comfort and encourage a workplace of diversity, equal opportunity, inclusion and personal growth and help local communities by providing monetary support, worker engagement and stakeholder engagements. The above commitment is categorized as training and education, diversity and equal opportunity, health and wellbeing.

In addition, the company is committed to maintaining the highest quality products with a particular focus on innovation, technology, production efficiency, and a highly skilled workforce. Therefore, Company A measured economic sustainability through the Ratio analysis, revenue, number of customers lost, customer loyalty, turnover rate, employee productivity, machine utilization, labour cost per minute and line efficiency.

Company B

The environmental sustainability of Company B began in 1987. It measures sustainability using the following measurements: Higg Index, ZDHC road map to zero, Scivera system, Calibration Tool V 2.0 and Schneider Energy Management System. As sustainable social activities, they maintain diversity at work and thriving communities by being active, caring, and contributing members of society and always practising best beyond compliance and standard. Their social sustainability is measured through the social sustainability scoring tool and separate KPIs on each section. This study found that economic sustainability is measured through the ratio analysis, real GDP, inflation, labour productivity, exchange rate, and borrowings. There are no more specifically unique measurements in this company to measure economic sustainability.

Company C

Company C was established in 1969 and has many commitments regarding environmental sustainability, including waste management, clean technology, and environmental conservation, which have been intimately integrated into their whole business. In order to fulfil the commitments as mentioned above, Company C measured environmental sustainability through the Eco index, EAIA, Eco-Caliper, Power BI and Eco-Eye. That covers areas such as Air (energy), water, waste management and chemical management.

The company has the following commitments regarding social sustainability, including attaching to globally accepted best practices in human rights, corporate governance, social compliance and ethics, respecting their employees, and prohibiting forced and child labour. In order to fulfil the commitments mentioned above, Company C measured social sustainability through the Social Assessment Tools (WRAP, ETI), COC audits, Trust index, 9-box evaluation tool, 70:20:10 training model and other KPIs.

Company C is dedicated to confirming a balance of economic progress with their decisions and advancing sustainable development through environmental and community stewardship. Furthermore, to focus on creativity, technology, production productivity, and a highly skilled and enthusiastic workforce to produce the highest quality goods. Therefore, Company C measured economic sustainability through the

ratio analysis, labour productivity, inflation, GDP, exchange rate and borrowings. They used those common measurements to measure economic sustainability.

6. Discussions

All three apparel companies placed a strong emphasis on corporate sustainability. In addition, several measurements were used to measure social, environmental and economic sustainability separately. In order to do that, all three companies used the same indicators at some level, such as higg index, ZDHC road map and WRAP tool. Furthermore, they published an annual sustainability report also. Otherwise, they are using a different and unique types of indicators to measure sustainability.

In this study, we examine three apparel manufacturing companies to develop the SBSC approach. At the examination stage of three companies, we found that those companies have commitments regarding environmental, social and economic sustainability. It is vital to develop products of the highest quality by focusing on innovation, technological advancement, production efficiency, and a highly skilled and enthusiastic workforce. Therefore, all three companies measured sustainability using several indicators. However, when using the indicators mentioned above, the companies are facing difficulties. By considering all the factors from the data collection, a sustainability balanced scorecard can be created.

7. Conclusions

This study aimed to construct the Sustainability Balanced Scorecard for the apparel industry in Sri Lanka. Initially, it explores the definition of corporate sustainability managers of garment manufacturing companies, elaborating their viewpoint in various ways. Corporate sustainability is a broad area; therefore, everyone has different viewpoints on that. Nevertheless, we can come to one conclusion through the analysis of those definitions. According to the analysis, this study found that sustainability is a long-term practice and continuous process; it is also vital to achieving environmental, social and economic sustainability.

Secondly, we examine the problems of existing measurements faced by the garment manufacturing companies, and this study found that all respondents believed that they at least faced one problem while using their existing measurements. Mostly the common problems are faced by these garment manufacturing companies. The problems are as follows,

- [1] Use of the manual system of data entering and performance evaluation
Currently, some apparel manufacturing using a manual system for data entering and performance evaluation. It is very time consuming and labour oriented. Therefore, automated and self-validating data monitoring and evaluation system are imperative.
- [2] Financial constraints to implement best in class equipment and methodologies
Apparel manufacturing companies try to implement best in class equipment and

methodologies to measure and improve sustainability. Nevertheless, sometimes that would be affected by financial constraints.

- [3] No sufficient Hazardous Waste Management and disposal facilities in the country

Sri Lanka is a developing country and a small island. Therefore, there are no sufficient Hazardous Waste Management and disposal facilities in the country.

- [4] People's attitudes

Apparel manufacturing companies are more labour oriented. Therefore, there many people with different attitudes. When the company implements any metrics to measure sustainability, some people can show their poor attitudes.

- [5] Stakeholders Requirements

Stakeholders' requirements are changing from time to time. Therefore, the apparel manufacturing companies have to satisfy them accordingly when they implement measurements to measure sustainability also affected by stakeholder's requirements.

Thirdly this study aims to build the Sustainability Balanced Scorecard for the apparel industry in Sri Lanka. According to the objective, we took three apparel industries as samples in the apparel industry and analyzed and constructed the Sustainability Balanced Scorecard. Table 3 refers to the SBSC.

Table 03. Sustainability Balanced Scorecard for the apparel industry

	Financial perspective	Customer perspective	Internal business process perspective	Learning & Growth perspective
Economical	Consistent profitability	Customer profitability	Standard Minute Value	Regular hours of training per year and employee
	Ratio Analysis	Number of customers lost	Plants profitability	Employee productivity
	Revenue	Customer loyalty	Earnings per product	Turnover rate
	Net Borrowing	Brand recognition	Quality of production	The average length of service
		On-time delivery rate	Standard lead times	Number of employees
			No. of successful product	Number or new system support

			launch		
			Number of new products and services	% product defection	
			The ratio of new products to all orders	% Management position	
			Factory efficiency percentage		
			% increase in R&D expenses		
Environmental	Invest in innovation and product enhancing technologies	% of the sale of sustainable products	Normalized Energy use	Awareness programs and training on energy, water & waste management	
	Cost of energy consumption	Frequent communication of company values to customers	Normalized Electricity use	Quality of work environment	
	Cost of water consumption	Reputation for on-time delivery	Higg Score	FEM	
	Cost of food consumption	Innovative production technology	Use of renewable energy sources		
	% of revenue through sustainable products	Best practices for quality, safety and environmental management	Normalized Water use		

				Chemical management (ZDHC)		
				Lean manufacturing		
				Use of recycled fabrics		
				% of rainwater harvesting		
				% of waste diverted from Landfill		
				% of waste recycled		
Social	Cost of projects	CSR	Health & Safety	Higg Social Module	Health & Safety	
			Customer requirement	% of women in senior management	Workforce diversity & equal opportunity	
			Consumer privacy	CSR policy	Career enhancement program	
			Social Compliance Audit		Skill Development programs	
			% of compliance rating on audits		Women's health-related programs	
			Ethical business conduct		Ethical and inclusive work environment	
					Career progression (Percentage of employees receiving consistent performance and career development appraisals)	

Finally, we examine the problems faced by the apparel companies when implementing Sustainability Balanced Scorecard. We identify the main problems faced by the apparel companies when implementing Sustainability Balanced Scorecard as follows,

1. Limited understanding of the SBSC

This study found that managers have less awareness and understanding of SBSC and the implementation, regardless of whether they implement the SBSC themselves or hire a consultant from the outside. The limited understanding and knowledge of SBSC led the initiative in the wrong direction at the very start of its implementation.

2. Lack of SBSC education and training

This study identifies that the managers and executives do not have education and training on SBSC. It requires detailed knowledge to implement the SBSC, both of the SBSC itself and the company's vision, mission, values, strategy,

3. Unwillingness to change

In this study, we found that the manager's unwillingness to adopt a new tool requires a change in behaviour due to the company's success in the past years. In such circumstances, people are very often not willing to make changes and risks.

Some managers are not aware of this SBSC approach too. In order to do that, we implement this SBSC approach to this apparel manufacturing companies; the company's performance will be increased. Furthermore, it is advantageous and appropriate for its performance measurement because the SBSC enables businesses to put their sustainability visions and strategies into action.

Regulators can use this SBSC approach to make rules by evaluating and extracting the SBSC approach's relevant criteria. If the regulators use this SBSC approach, it will be very favourable to our country. Because regulators make rules by using criteria from the SBSC approach, it will be increasing every organization's sustainability in Sri Lanka.

Recommendations for Future Research

This research study is mainly focused on Sri Lanka's apparel industry. In the future, researchers may expand this study to include other industries to build and execute the SBSC. In the future, this study will be conducted through the quantitative approach and get more samples and make data validation, which will be more beneficial. Also, future researches can investigate more systematic and holistic methods to construct sustainable balanced scorecards.

References

- Affairs, D. O. (2013). World Economic and Social Survey 2013. New York: United Nations Publication.
- Andreas Moller, S. S. (2005). The Sustainability Balanced Scorecard as a Framework for Eco-

- Efficiency Analysis. *Journal of industrial ecology*, 73-83.
- Bieker, T. (2003). Sustainability management with the Balanced Scorecard. *International Summer Academy on Technology Studies - Corporate Sustainability*.
- Bieker, T., & Waxenberger, B. (2002). Sustainability Balanced Scorecard and Business Ethics: Developing a Balanced Scorecard for Integrity Management. *10th International Conference of the Greening of Industry Network*, (pp. 01-24). Göteborg/Sweden.
- Brundtland, C. (1987). *Our Common Future* (Brundtland report). World Commission on Environment and Development.
- Chih-Chao Chung, L.-C. C.-H.-J. (2016). A Balanced Scorecard of Sustainable Management in the Taiwanese Bicycle Industry: Development of Performance Indicators and Importance Analysis. *Sustainability*, 1-21.
- Coalition, T. S. (n.d.). Higg Facility Social labour Module. Retrieved from Sustainable Apparel Coalition: <https://apparelcoalition.org/social-and-labor-module/>
- Coalition, T. S. (n.d.). Higg Index. Retrieved from Sustainable Apparel Coalition: <https://apparelcoalition.org/the-higg-index/>
- Environmental Sustainability, M. (2020). SBSC case study approach in apparel industry. (M.Rathani, Interviewer)
- Environmental Sustainability, M. (2020). SBSC Case study approach in apparel industry. (M.Rathani, Interviewer)
- Environmental sustainability, S. M. (2020). SBSC case study approach in apparel industry. (M.Rathani, Interviewer)
- Ethical Trading Initiative. (n.d.). Retrieved from Ethical Trading Initiative: <https://www.ethicaltrade.org/>
- Export Development Board (EDB), S. L. (2017). *Industry capability report*.
- Fadwa Chaker, M. A. (2017). A Critical Evaluation of the Sustainability Balanced Scorecard as a Decision Aid Framework. *International Journal of Applied Engineering Research*, 4221-4237.
- Fawda Chaker, M. A. (2017). A Critical Evaluation of the Sustainability Balanced Scorecard as a Decision Aid Framework. *International Journal of Applied Engineering Research*, 12, 4221-4237.
- Felix, P., Mirela, P., Vasile, A. J., & Iza, G. (2022). Non-financial Performance of Energy Companies Listed on the Bucharest Stock Exchange and Relevance for Stakeholders. In *Digitalization and Big Data for Resilience and Economic Intelligence* (pp. 183-201). Springer, Cham.
- Frank Figge, T. H. (2002). *The Sustainability Balanced Scorecard- Theory and Application of a Tool for Value-Based Sustainability Management*. Lunebrg, Germany.
- Frank Figge, T. H. (2002). *The Sustainability Balanced Scorecard Theory and Application of a Tool for Value-Based Sustainability Management*. *Greening of Industry Network Conference*, (pp. 1-30). Gothenburg.
- Freeman, E. (2010). *Strategic Management: A Stakeholder Approach*. Cambridge University Press.
- Georgescu-Roegen, N. (2010). Ecological Economics. Can de-growth be considered a policy option? A historical note on Nicholas, pp. 2271-2278.
- Grigorescu, A., Maer-Matei, M. M., Mocanu, C., & Zamfir, A. M. (2019). Key drivers and skills needed for innovative companies focused on sustainability. *Sustainability*, 12(1), 102.
- Grigorescu, A., & Dincă, G. (2014). Link between Sustainable Development and Globalization of Contemporary Economy. *Studia Universitatis Vasile Goldiș Arad, Seria Științe Economice*, 24(3), 11-24.
- Hansen, E. G., & Schaltegger, S. (2012). Pursuing Sustainability with the Balanced Between

-
- Shareholder Value and Multiple Goal Optimization. Iuneburg: centre for sustainability management.
- HR & Compliance, M. (2020). SBSC case study approach in apparel industry. (M.Rathani, Interviewer)00000
- Iddagoda, A., (2021). Towards an instrument of measuring the construct of leadership by the 10 Cs for employee engagement. *Roczniki Nauk Społecznych*. 13 (49). DOI: <https://doi.org/10.18290/rns21493.4>
- Iddagoda, A.; Hysa, E.; Bulinska-Stangrecka, H.; Manta, O. Green Work-Life Balance and Greenwashing the Construct of Work-Life Balance: Myth and Reality. *Energies* 2021, 14, 4556. <https://doi.org/10.3390/en14154556>
- Ioannis E, N., & Thomas A, T. (2013). Development of a sustainable balanced scorecard framework. *Ecological Indicators*, 76 - 86.
- Ionescu, R. (2022). E-waste management in emerging markets. *Revista Estrategia Organizacional*, 11(2).
- Khan, S. A. R., Yu, Z., Panait, M., Janjua, L. R., & Shah, A. (Eds.). (2021). *Global Corporate Social Responsibility Initiatives for Reluctant Businesses*. IGI Global.
- Kaplan, R. S. (1992). The Balanced Scorecard: Measures that Drive Performance. *Harvard Business Review*, 70, 71-79.
- Klarin, T. (2018). *Zagreb International Review of Economics & Business*. The Concept of Sustainable Development: pp. 67-94.
- Lakmali, P.G.N., Dissanayake, D.H.S.W, Mendis, M.O.S, (2021), The Effect of Corporate Governance on Corporate Sustainability Disclosures: Empirical Evidence from Sri Lanka, *Journal of Annual Research Symposium in Management*. Volume 01, Issue II.
- Leontina, B., & Sorin, B. (2011). BALANCED SCORECARD – SUSTAINABLE DEVELOPMENT TOOL. 20-27.
- Manager, A. (2020). SBSC case study approach in apparel industry. (M.Rathani, Interviewer)
- Matteo Mura, M. L. (2018). The Evolution of Sustainability Measurement. *International Journal of Management Reviews*, 661-695.
- Mebratu, D. (1998). Sustainability and Sustainable Development. Sustainability and sustainable development: Historical and conceptual review, pp. 493-520.
- Mudiyansele, N. C. (n.d.). Board involvement in corporate sustainability reporting: evidence from Sri Lanka. In *CORPORATE GOVERNANCE* (pp. 1042-1056). Emerald group publishing.
- Norton, R. S. (1996). *The Balanced Scorecard: Translating strategy into action*. Boston: Harvard Business School Press.
- Omar José Evangelista de Barros, C. d. (2016). Adaptation of the Balanced Scorecard: Case Study in a Fuel Distribution Company. 2-13.
- Panait, M., Voica, M. C., & Rădulescu, I. (2019). Approaches regarding environmental Kuznets curve in the European Union from the perspective of sustainable development. *Applied Ecology and Environmental Research*, 17(3), 6801-6820.
- Popescu, C., Hysa, E., & Panait, M. (2022). Perspectives of Responsible Management in Today's VUCA World. In *Agile Management and VUCA-RR: Opportunities and Threats in Industry 4.0 towards Society 5.0* (pp. 57-71). Emerald Publishing Limited.
- Shen B, L. Q. (2017). Sustainability issues in Textile and Apparel Supply Chains.
- Social & Compliance, M. (2020). SBSC case study approach in apparel industry. (M.Rathani, Interviewer)
- Social Labor Convergence Project. (n.d.). Retrieved from International Associates: <https://www.ia-uk.com/services/slcp->
-

- assessment/?gclid=EAlalQobChMI5tnag6KV6wIVTa6WCh0ovwmfEAAYASAAEgIMYfD_BwE
- Tăbîrcă, A. I., & Ivan, O. R. (2020). Relationship between Corporate Social Responsibility and Entrepreneurship-Evidence from Romanian Entrepreneurs. *LUMEN Proceedings*, 14, 611-626.
- Tăbîrcă, A. I., Ivan, O. R., Radu, F., & Djaouahdou, R. (2019). Qualitative Research in WoS of the Link between Corporate Social Responsibility and Corporate Financial Performance. *Valahian Journal of Economic Studies*, 10(1), 107-118.
- Tairan Huang, M. P. (2014). Implementing a Sustainability Balanced Scorecard to Contribute to the Process of Organisational Legitimacy Assessment. *Australasian Accounting, Business and Finance Journal*, 16-31.
- Tatjana Stevanović, M. P.-R. (2012). Sustainability Balanced Scorecard and Eco-Efficiency Analysis. 257-270.
- UN. (1972). Report of the United Nations Conference on the Human Environment. Stockholm.
- UN,D.O. (2020). United Nations. Retrieved from sdgs.un.org: <https://sdgs.un.org/goals>
- UNCED. (1992). Rio Declaration on environment and development.
- UNSD. (1992). United Nations Division for Sustainable Development Agenda 21.
- Vasile, V., Panait, M., Piciocchi, P. et al. Performance management and sustainable development: an exploration of non-financial performance of companies with foreign capital in Romania. *Ital. J. Mark.* (2022)., p.1-30, <https://doi.org/10.1007/s43039-022-00056-x>
- Vasilca, I. S., Nen, M., Chivu, O., Radu, V., Simion, C. P., & Marinescu, N. (2021). the management of environmental resources in the construction sector: An empirical model. *Energies*, 14(9), 2489.
- Wanderley, O. J. (2016). Adaptation of the Balanced Scorecard: Case Study in a Fuel Distribution Company. 2-13.
- Waxenberger, T. B. (2002). Sustainability Balanced Scorecard and Business Ethics Developing a Balanced Scorecard for Integrity Management. 10th International Conference of the Greening of Industry Network, (pp. 1-22). Göteborg/Sweden.
- WCED. (1987). United Nations World Commission on Environment and Development.
- Wikipedia. (n.d.). Retrieved from https://en.wikipedia.org/wiki/Sustainability_measurement
- Worldwide Responsible Accredited Production. (n.d.). Retrieved from Worldwide Responsible Accredited: <http://www.wrapcompliance.org/>
- Yin, R. K. (2002). *Case Study Research Designs and Methods* (Third edition ed.). California: Sage Publications.