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Green Management Orientation in the Supply Chain of the Apparel Industry

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ABSTRACT

The green management orientation practices in supply chain are examined in terms of how green practices improve the supply chain, what is the current nature of supply chain and why green orientation is poor in supply chain. A multi-case study approach is employed based on seven apparel manufactures in Sri Lanka. Cross-case analysis highlights the water, energy, earth conservative practices followed by apparel companies. A key factor identified that has not been highlighted in the literature is green management orientation initiatives in the supply chain which intensifies the development of environmental sustainability. There is a knowledge gap in the existing supply chain literature, especially on sustainable practices followed by manufacturing industries. This study adds to the literature on green supply chain management by identifying the effects of Green Management Orientation (GMO) practices. The concept of green initiatives for

apparel manufacturers is discussed. The factors that contribute to green sustainability development are zero land filling, rain water harvesting, sludge drying, reduce CO2 omission and make polyester yarn from recycling pet bottles. Further, three main themes are developed on what are factors affect to the green management orientation involvement in the supply chain. This paper responds recent calls for greater scrutiny of why and how firms decouple with green practices and supports the development of the literature specially on environment sustainability. The findings have implications for the diffusion of green practices into supply chain. Used the purposive sampling method for data collection

Keywords: *Apparel Industry, Case Study, Green Management Orientation, Sri Lanka, Supply Chain Activities, Sustainability Development*

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1. INTRODUCTION

"Sri Lanka Apparel" has championed the cause of sustainable manufacturing for many years. There have been impressive changes in manufacturing processes, sourcing strategies and product innovation, making Sri Lanka a leading destination for brands that care about the environmental impact of the garment manufacturing. Companies add innovation as a new concept to be competitive in their enterprises as a result of global economic expansion. The apparel industry has a volatile market and designs are changing very fast. In the Sri Lankan context, most of the apparel manufacturers represent international brands and are very concerned about the customer's perceived value of the product. The researcher has conducted a case-based study on the selected apparel companies who have implemented the Green

Management Orientation (GMO) in their supply chain activities. Concerns about the environment's long-term viability force organizations to respond. Customization of products and services puts a strain on businesses. Green initiatives lessen the negative environmental impact of manufacturing enterprises' increasing attention (Zhu et al., 2007; Liu et al., 2017). Many scholars have focused on the relationship between lean manufacturing and sustainability in recent years in order to develop effective strategies to manage environmental concerns (Cherrafi et al., 2018; Das, 2018; Zhu et al., 2018).

Sustainability development (SD) in an organization is based on three pillars i.e., Social, environmental and economic growth. Social sustainability in an organization is aimed on community and people. Environmental sustainability is aimed on planet. Economic growth is targeted on organizational profit and product.

In this study, three main contributions to the literature. The first is to propose a new framework for a green management orientation, i.e green initiatives in supply chain management. The second contribution is the development of reliable and valid measure of GMO to link the propose framework with empirical findings. The third contribution is exploring the GMO in SCM using empirical data collected from seven apparel companies in Sri Lanka.

Environmentally conscious business practices have been drawing increasing attention from both researchers and practitioners. The organizations have increased the integration of green practices into their strategic plans (Sakis, 2003). Green supply chain management merge with sustainable supply chain management and has become as a key approach for organizations to aim to be environmentally sustainable. Therefore, the study addresses the following research questions:

i) What is the current nature of green orientation in the apparel manufacturing industry’s supply chains in Sri Lanka?

ii) Why does the Sri Lankan apparel manufacturing industry’s green orientation is poor in their supply chains?

iii) What best practices can be recommended to the industry based on the findings?

While the scope of the research focusses on identifying the nature of current green practices in the supply chain and, the research findings offer a broader understanding of factors which are related to improve green practices in the apparel industry.

2. SIGNIFICANCE OF THE STUDY

This study aims to identify the issues of pollution and waste in the apparel industry. Based on evidence from the garment industry, this research seeks to comprehend the role that GMO can play in the successful adoption of environmentally friendly operations. This research adds to the theoretical understanding of the complex GMO–SD interaction. In practice, the study's findings assist managers in determining what green management orientation is and how considerably it aids firms' sustainability development. Why are focal companies so eager in incorporating a green mindset into their day-to-day supply chain development?

3. LITERATURE REVIEW

A supply chain (SC), defined by Mentzer et al., (2001), is a group of entities working with flows from downstream to upstream of products, services, and costs/information that go to an end user. Organizations who are successful in businesses will manage all connections of the supply chain from supplier to end customer (Lummus and Vokurka, 1999). Organization's supply chain structure contains the framework of vendors, internal work of the organization, distributors and end consumers. Consumer needs are based on innovation of technology, government regulations, competition and the environment (Sarkis et al., 2005). Supply chain innovations deploy in cross-border trading arrangements to poses many constraints and challenges for international marketers (Bello et al., 2004). Supply chain orientation (SCO) is a management philosophy, and supply chain management (SCM) is a management action used for such implementation. With the implementation of SCO between

suppliers and customers, companies should have SCM. The SCM creates value (Cox, 1991a and b) and the collaborative paradigm of Christopher, M and Juttner, U (2000) seems to be interested in it.

The secret of the success in the SCM depends on the successful implementation of supply chin practices: industry type, firm size, firm's position in the chain, supply chain length and type of supply chain are the influenced contextual factors in supply chain management practices (Li et al., 2006). Five dimensions of Supply Chain Practices (SCP) identified by Li et al., (2006) are strategic supplier partnership, customer relationship, postponement, quality of information sharing and the level of information sharing. SCM is basically related to the strategic relationship of main functions and tactics in the particular organization and among its partners to increase better performances (Li et al., 2006). Many researchers highlighted SCPs as information technology, partnership, outsourcing, continuous process flow (Donlon, 1996); purchasing, quality and customer relationship (Tan et al., 1998); information sharing, flow of materials, postponement strategy and mass customization (Tan, 2001) in their emperical studies. Four SCPs such as supply chain integration, supply chain strategy, information technology and inventory management focused by Sahay and Mohan (2003) and also Chin et al., (2004) identified SCPs as building customer relationships, re-engineering material flows, implementing ICT, creating corporate culture and performance measurements. Table 1 displays the various definitions provided in the previous literature.

Table 1: Definitions of Supply Chain Management

Definitions	Authors
Supply chain management deals with the total flow of materials from suppliers through end users.	Jones and Riley (1985)
The supply chain is viewed as a single process and related to functional areas such as manufacturing, purchasing, distribution and sales. "Supply" is the shared objective of every function in the chain and strategically significance on overall cost and market share.	Houlihan (1988)

The objective of managing the supply chain is to synchronize the requirements of the customer with the flow of materials from suppliers in order to affect a balance between what are the often as conflicting goals of high customer service, low inventory management and low unit cost.	Stevens (1989)
Supply chain strategy includes two or more firms in supply chain entering into a long-term agreement; the development of trust and commitment to the relationship; the integration of logistics activities involving the sharing of demand and sales data.	La Londe and Masters (1994)
Supply chain management is an integrative philosophy to manage the total flow of a distribution channel from supplier to the ultimate user.	Cooper et al., (1997)
SCM is a concept "whose primary objective is to integrate and manage the sourcing flow and control of materials using a total systems perspective across multiple functions and multiple tiers of suppliers	Monczka, Trent and Handfield (1998)

Source: Mentzer et al., (2001)

3.1. Green Supply Chain Management

The concept of Green Supply Chain Management (GSCM) is to integrate environmental thinking into SCM (Chin et al., 2015). Business organizations consider GSCM to be an increasing issue (Sakis, Zhu and Lai 2011). GSCM is viewed as a growing concern by business groups, and firms recognize the benefits of it (Zhu and Sakis, 2006). The significance of senior management support immediately benefits the GSCM, which begins with green efforts (Lee, 2008; Walker et al., 2008). The past literature discussed the definitions of GSCM, framework related to business operations, traditional supply chain management, connections to the green management and how to gain sustainability through green practices (Sakis, 2003; Hevani et al., 2005; Zhu and Sakis, 2006). GSCM is designed to incorporate the material management and logistics practices at every stage of companies supply chain management (Zhu et al., 2008). In some instances, GSCM is explained as a simple

green procurement relationship between a buyer and seller. And also, continuous logistics cycle of materials and products use, reuse and management which is considered as the closed-loop supply chain concepts. Green supply chain introduces the new practices in supply chain management and industrial purchasing may be considered in the context of the environment (Zhu and Sarkis, 2004).

3.2. Sustainable Supply Chain Management

Sustainable supply chain (SSC) is defined by Seuring, S & Muller, M (2008) as the goals of material, information and capital flows derived from customer and stakeholder requirements cooperate with companies among the flows of material, information and capital. The key inter-organizational key processes such as the strategic achievement and integration of an organizations' social, environmental and economic goals can improve the long-term economic performance of the individual company and its network (Carter, C.R., & Rogers, D.S 2008). Sustainability manufacturing is one of the important drivers of economic growth and is considered an important part of the supply chain as automobiles, electronics, and garments are considered a few important sectors (Kottala, S., Agarwal, R., & Sharma.V, 2013).

The interest of sustainable supply chain management (SSCM) has been increased significantly in both business and academic areas in the recent past. The increasing demand of the subject of SSCM frequently shown in special publications, articles and various websites. The significance of the sustainability transformation of apparel supply chain operation highlighted the literature on SSCM (Rafi-Ul-Shan et al., 2018; Karaosman et al., 2018).

3.3. Theories Discussed in SCO And SCM

The depth of the supply chain orientation (SCO) concept by highlighting its multi-dimensional nature and outlining key managerial areas to be considered when focusing on the structural approach to SCO. The frame work of fit between SCO strategy and SCO structure influences by grounded theory (Esper, Defee and

Mentzer, 2010). According to resource-based view, a firm gains competitive advantage by exploiting its internal resources and capabilities (Barney, 1999; Richey, Genchev and Daugherty, 2009; Defee, Esper and Mollenkopf, 2009) According to Porter, competitive advantage grows fundamentally out of the customer value and satisfaction, which in turn to leads to enhanced competitive advantage for the supply chain as well as each member firm. This ultimately, improves the profitability of the supply chain and its members. SCM is concerned with improving both efficiency (i.e cost reduction) and effectiveness (i.e customer service) in a strategic context (i.e., creating customer value satisfaction through integrated supply chain management) to obtain competitive advantage that ultimately brings profitability (Mentzer et al., 2001). SCO is the underlining philosophy of SCM and identify the **Resource Based Theory** as the chosen theory (Hult et al.,2008; Brain and Fugate, 2010)

3.4. Theoretical Underpinning of the Study

Several organizational theories, such as resource-based view, transaction cost theory, agency theory, network theory, and institutional theory, are utilized by firms to design strategies and initiatives of lean management and six sigma in supply chain management (SCM) (Ketokivi and Schroeder, 2004; Zhu et al., 2005, 2010; Braunscheidel et al., 2011; Zailani et al., 2012). This case study is based on **Natural-resourced based view (NRBV**) (Hart, 1995) which is related to the competitive advantage through the increase of environmental performance through the adaptation of green strategic orientation in apparel manufacturing sector in Sri Lanka. Manufacturing organizations in Sri Lanka are under pressure to reduce CO_2 emissions, air pollution and waste water pollution of their day-to-day operations. ISO 140001:2015 certification direct companies to align with the standards of Environment Management Systems (EMS).

4. METHODOLOGY

The methodology of the research assist to gain prior knowledge on research areas which the theoretical inputs are still under development, as the buyer-supplier relation on understanding the environmental issues on green supply chain practices (Yaramadhi, Clements and Higgins, 2012). In social science phenomena, researchers analyze the philosophical position adhering with methodological choice (Holden and Lynch, 2004). The current literature on sustainable green practices especially in a developing country supplier context, called for an explanatory study (Saunders et al., 2009). The case study method is therefore suitable as it allows for the thorough examination of this context, real-life situation on which empirical findings is available, direct to new, in-depth insights (Yin, 2009). Further, it supports the extraction of genuine data through a range of techniques such as interviews, observations and documents analysis through the cross- validation of facilities (Seuring, 2008; Yin, 2009). A multiple case study approach is absorbed to this study, which can aim external validity and reliability of raw data (Yin, 2009; Barrat et al.,2011). An exploratory case study with seven textile manufacturers revealed that initiatives for sustainable development (SD) are the most important part of the GMO. The method that used in this article is 'case-based research' and multiple cases are being selected to perform in-depth investigation and to draw conclusions for future managerial implications. In this study, researcher selected the qualitative case study method because the purpose of this study was to examine the green orientation initiatives and strategic involvements in the selected garment factories and their current level of green practices which they conduct to maintain their environmentally friendly standards. A qualitative method is useful when the aim of the study is to describe the real situation by relying on the individual's experience in a given situation (Stake, 2010). The qualitative research method involves the use of qualitative data such as interviews, documents and observations in order to understand and explain a social phenomenon.

4.1. Case Study

Case study approach gives an opportunity to social scientists and researchers to examine the real-life situations, evaluate programs and develop theories (Baxter and Jack 2008; Yin 2009). Case studies are empirical investigations of phenomena within their environmental context, where the phenomena and the environment are not clear. Case studies are used to construct theories (Johnson, 2003). Theory building is based on the two approaches of deductive theory testing and inductive theory building (Perry, 1998). Qualitative case study methodology gives opportunity for researchers to study complex phenomena within their context (Baxter and Jack, 2008). Therefore, case is examined to understand an issue or provide input to an existing theory or a new theoretical concept; either single or multiple case designs based on theory (Yin 1994). The design of the case studies is of high importance due to it receiving criticism in terms of its lack of robustness as a research tool. The design of a single case or multiple-case depends on the research questions (Zainal, 2007). Single case design is ideal for studying extreme cases, multiple case design is appropriate when researcher is keen to use more than one case to gather date and draw up conclusion based on the facts retrieved.

The exploratory, explanatory and descriptive are three types of case studies (table 2) differentiated by Yin (2003) which can be served in single or multiple designed case studies. Exploratory case studies direct researchers to explain the phenomenon and casual relationships to develop theories. If the phenomenon is too complex for experimental studies, the explanatory case studies are employed by the researchers (Harder, 2010). If the situations or interventions are not clear for single or set of outcomes, researches select the exploratory approach: considered as a preliminary step of and explanatory study which has broad focus (Streb, 2010).

Table 2: Types of Case Studies

Type of case study	Definition
Exploratory	Used when the reality being studied has no clear, single set of outcomes. Usually intended to define hypotheses and research questions of a subsequent study.
Explanatory	Presents a causal link between the cause and effect. More often used, when the research question is too complex for a quantitative study.
Descriptive	Used to describe a phenomenon comprehensively together with its real-Life context.
Multiple-case studies	Employing more than one case in a single study. Used when a comparison is needed between cases based on a theory
Single case studies	Focuses in-depth only on a single case

Source: Yin (2003)

4.2. Research Context and Case Selection

Apparel and textile manufacturing industry is one of the most significant and dynamic contributors towards the Sri Lanka economy. Entirely private owned and operated, Sri Lankan apparel has started from traditional exports and trailing designs and developing to providing sophisticated solutions to the industries more complex global needs, leveraging on creativity and experience in an array of fields such as Design, R&D and Innovation. The rapid development of the country's textile and garment industry has resulted in Sri Lanka transforming into a regional Apparel Hub.

The apparel sector employs about 15% of the country's workforce and Sri Lanka records the highest apparel exports per capita of any exporting nation in the region. US$ 5.2 bn export revenue earned in 2019 and 44% contribution to the national exports and over US$ 1 Bn growing export contribution (refer Table 3). Industry expects US$19 bn target to be achieved in 2025 (investsrilanka.com/apparel)

Table 3: Cumulative Apparel Exports to All Countries from January 2021 to July 2021

	2016 ($ Mn)	2017 ($ Mn)	2018 ($ Mn)	2019 ($ Mn)	2020 ($ Mn)	2021 ($ Mn)
Knitted Products	1,586.70	1,496.00	1543.00	1703.74	1,233.84	1,659.21
Woven Products	43.22	43.00	51.00	59.19	138.91	69.51
Other Products	1,194.82	1,189.00	1,243.00	1,309.37	904.34	1,023.54
Total	**2,824.74**	**2,728.00**	**2,837.00**	**3,072.30**	**2,277.09**	**2,752.26**

Source: Sri Lanka Exporters Association July 21- Export Performance Report

Before finalising the cases for this research, much consideration was given to the process of case study selection. **Purposive sampling** represents a group of different non-probability sampling techniques and also known as judgmental, selective or subjective sampling. The main aim of the purposive sampling is to focus on particular characteristics of a population which will enable to answer the research questions. The case-based method gives the opportunity to observe new findings and random selection of cases is not recommended for a case–based methodology (Eisenhardt, 1989). Therefore, the selection of cases for this study adopted the purposive sample method for data collection process. A list of thirteen key players is highlighted in the industry capability report of EDB 2018/20198.

Seven companies having 14001:2015 certification was considered as the sample for the study in consideration of their sustainability achievements. The random based selection is not recommended for a case–based methodology but create the opportunity to find novel based findings (Eisenhardt, 1989). Therefore, selection of cases for this research based on the theories of SCO and SCM and GSCM which was the chosen criteria for strategic green orientation. The literature on the green supply chain management and primary data collection highlighted the green strategies followed by the Sri Lankan apparel companies. The researcher decided to conduct this research in Sri Lanka because of her familiarity with and exposure to the Sri Lankan business environment. Therefore, organizations were selected which are involved in the export garment industry and involved in the collaborative supply chain.

4.3. Data Collection

This research is designed to follow the exploratory case method. The first exploratory study was carried out to understand the green practices implementation in the apparel manufacturing industry and identify the levels of current green practices followed by each company. Pilot studies can be considered as an example of the exploratory case study (Yin, 1984). In order to comprehend the complexities of the real world, clearly define the research question and check its relevance. Data collection took place between January 2020 and March 2021. The primary sources were 14 semi-structured interviews conducted with Heads of Sustainability Development and Heads of Supply Chain from seven apparel companies. These interviews focused on green initiatives, green practices and current supply chain activities. NVivo software used for analyze the interview data and selected thematic analysis method.

4.4. Reliability and Validity of the Study

The trustworthiness, credibility, conformability and data dependability are four common methods used in social science to judge the quality of the case study design (Lincoln and Guba, 1985; Yin, 2009). Construct validity, internal validity, external validity and reliability are the four tests (table 4) summarised in the social science literature (Yin, 2009).

Table 4- Design Parameters for Case Study

Tests	Definition	Case study tactic	Relevant phase of research
Construct validity	Correct operational Measure for concepts	Use multiple sources of evidence Establish chain of events Have key informants review draft case study report	Data collection Data Collection Composition
Internal validity	Establishing a non-spurious casual relationship (only for explanatory)	Do pattern matching Do explanation building Address rival explanation Use logic models	Data collection Data collection Data collection Data collection

External validity	Establishing the domain for generalization	Use theory in single case studies Use replication logic in multiple case studies	Research design Research design
Reliability	Repeatability of operations of the case study	Use case study protocol Develop case study database	Data collection Data collection

Source: Yin (1994)

In qualitative approaches to research achieving the identical results are fairly demanding and difficult because data are in narrative form and subjective and (Lincoln and Guba,1985) suggest that instead of having the same results it is better to consider about dependability and the consistency of the data. Generally, the dependability of the results is influenced by three techniques namely, investigator's position, triangulation and audit trail (Lincoln and Guba ,1985; Merriam 1998). To improve the reliability of the study, the investigator has to explain the different processes and phases of the inquiry. The different data collection procedures such as questionnaires, interviews and classroom observations used by researches. The collecting data from various kind of sources (data triangulation) can enhance the reliability of the data. Audit trail is the procedure, the researcher describes in detail of, how the data are collected, how the data analysed, how different themes are derived. The detailed information assists to retain the reliability of the data.

4.5. Case Analysis

A multiple case design is to study more than a single case and it permits to explore the differences within and between cases (Yin, 2003). Multiple case studies typically distinguish in within case analysis and cross case analysis describe and present the themes which includes thematic analysis across cases (Harling, 2002).

With-in the case analysis gives the researcher the opportunity to have a comprehensive understanding of each case carried out as a separate entity (Eisenhardt,1989). As recommended by Eisenhardt, (1989) the data analyzing techniques of with-in case analysis, cross-case analysis and explanation building

(Yin, 1994) are used to analyze the data for this study. Initially, the data from each case was analyzed independently in order to be familiar with in the case analysis and in turn the cross-case analysis is carried out in order to seek the common patterns among them (Pedrose et al., 2012). A Primary goal of with-in case analysis is to describe, understand and explain what has happened in a single, bounded context such as the case or site (Miles and Huberman, 1994). Once the interviews were done, researcher did the transcribing of interview data to the word format. Researcher had gone through the interview data several times and listened to the audio files carefully and transcribed to a word document in full and lucid form.

Cross case analysis is one of the main reasons to increase the generalizability and transferability of a research. In the qualitative analysis, transcribing data is an important step. In an initial stage of data analysis, when transcribing the interview data to text facilitates should be closer analysis (Kavle, 2010). When compare the formats of within-in case analysis and cross-case analysis, if the work of cross-case analysis is much easier (Miles, Huberman and Saldana, 2014). The interview data were transcribed to word document and exported files to Nvivo 12 for data coding purposes. Interview transcriptions were sent back to the interviewees to ensure the reliability and confidentiality of the gathered data but respondents did not revert with any amendments to the interview transcriptions. The sustainability reports and the annual reports were downloaded from the internet. Due to Covid-19 pandemic situation, it was very difficult to contact the managers due to their busy targets and limited work force. Initially, researcher sent them an email request. Then had telephone explanation about the study and got initial idea of their supply chain operation. After that sent the questionnaire for them to get an idea about the interview questions and fixed an interview date and time. Physical interviews were had with two companies and had virtual interviews under the zoom platform with rest of the companies. Fixed interview date was postponed 4 times with Company 4 due to covid-19 restriction imposed by the government from 2020 and were compelled to have interviews on telephone. Supply chain manager and Manager Sustainability were interviewed and before the telephone interviews, questionnaire was sent to the

interviewees. Telephone interviews were conducted with supply chain heads and sustainability in-charge of Companies. Questionnaire were sent to these companies beforehand for them to get an idea about the study. As per the cross-case analysis recommended by Miles and Huberman's (1994), with-in case analysis was read several times and tracking back to the interview guide for the preparation of cross-case analysis. The analytic framework of qualitative data analysis was done.

5. FINDINGS

As per the Finding of this study, it has proven that the apparel manufacturing companies in Sri Lanka are at the high end of the sustainable development. All companies are best in green practices and initiatives starting from ISO 14001:2015 certification of Environmental Management System.

This study confirmed the environment sustainability in the supply chain. The study found that the following practices considered as success factors under environmental sustainability.

1) Water Conservation Practices

Focal companies intervened with water conservation practices. One of the selected companies said that their current water consumption is 50 lts per man day work and by 2025 company target to reduce 40 lts per man day work. Companies were targeted to reduce 61% of water usage whilst implementing water recycle procedures. Rain water harvested for 22% water consumption. Promoted large usage fresh water consuming operations from LASER etching to G_2 Ozone washing. Companies installed industrial waste water facility to increase the use of recycled water.

2) Energy Conservation Practices

The selected companies have continuously invested in sustainable energy sources such as solar, wind and hydro power. One of the selected companies awarded as Asia's first Carbon Neutral certified factory with LEED Platinum and Gold

certification. This study found that some of the companies use electrical vehicles, reduce CO_2 emission with having the online monitoring for deliveries. The said companies reduced 22% reduction of green gas emissions, reduce renewable energy by 88%.

3) Earth Conservation Practices

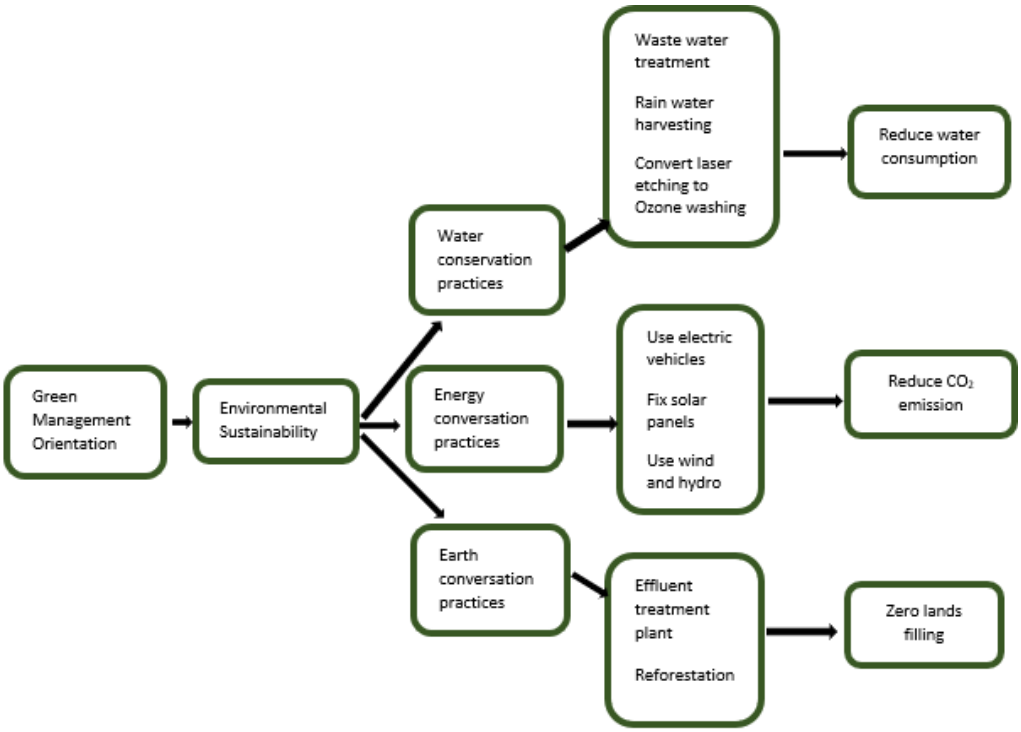
One of the companies attending a great brick project converting sludge into eco bricks and use for landscaping. This is a long-term solution for the landscaping. All these companies have Sewage Treatment Plant (STP) and Effluent Treatment Plant (ETP). All companies follow the Zero Discharge of Hazardous Chemical (ZDHC) standards. Table 5 represent the certifications, standards and indexes obtained by the focal companies.

Table 5 - The List of Certification, Standards and Indexes Obtained by the Selected Companies

ISO 14001:2015	Certification of Environmental Management System
ISO 14025:2006	Certification of Environmental Labels and Declarations
ISO14064	Certification of Emission Management System
ISO 50001	Certification to Energy Management System
GOTS	Certification of Global Organic Textile Standards
LEED –USGBC	Leadership in Energy & Environmental Design –US Green Building Council
OEKO-TEX 100	Standard of Sustainable Textile Production
OCS	Organic Content Standards
ZDHC	Certification of Zero Discharge of Hazardous Chemicals
HIGG	Material Sustainability Index for scoring mechanism
ESCAP 2009	Eco efficiency indicators
EPD	Environmental Product Declaration
SAC	Sustainable Apparel Coalition
ETI	Ethical Trading Initiative
SBTI	Science Based Target Initiatives

The outcome of GMO practices followed by the selected companies for the study is shown in figure 1.

Figure 1: Green Management Orientation framework



5.1. Researh Implicaions

From analysis of findings, identify the following implications.

5.1.1.Theoritical Implication

Conceptually this study offers the first important contribution by proposing green orientation as an appropriate strategic orientation in the context of greening the supply chain, based on the fundamental green concept of supply chain management and established theories of strategic orientation.

5.1.2.Managerial Implication

To improve the environmental performance associated with green orientation activities, managers should consider the adoption of GSCM practices. The result of

this study suggests that if an organization needs to initiate green orientation, top management support is a mandatory requirement.

6. LIMITATIONS

The following limitations were found during the study: The past literature was mostly based on foreign countries, and there was a lack of literature focused on the Sri Lankan context with regard to the GSCM theories. There were very limited studies conducted in Sri Lanka in the relevant field. However, the researcher carefully considered materials relating to Sri Lanka and other emerging factors whenever they were available.

7. CONCLUSION

A comparison of seven case studies found that there are many similarities in their supply chain operation. In all seven cases, their environmental sustainability, social sustainability and economic sustainability are at satisfactory level. Their practices constitute a formal process that affects the assessment and evaluation of suppliers along with green practices. Environmental criteria are a part of the suppliers' rating and stated that it is a mandatory requirement.

Having conducted this research, as a final key statement it can be said that the sustainability practices of Sri Lankan apparel industry is at a high level and also their strategic support to the green orientation is at very satisfactory level. Their **eco-leadership** contributes to inculcate green behavior within their employees and community based **green CSR projects** which is the contribution to the **pillar of people** under the sustainability roof. Their **green audit, green market research** and **green score card method evaluation** is a contribution to the second **pillar of product** under the sustainability roof. The e-culture technology such as **Serai technology**, and convert laser washing to **G_2 Ozone washing** and **Zero landfilling** is the contribution to the third pillar under the sustainability roof.

Finally, it has been established that **Green Management Orientation** (GMO) is the key process followed by the selected firms in order to become more environmentally conscious, from a strategic to an operational level. According to this study, which has linked their supply chain operations, the selected garment manufacturers are enriched with GMOs.

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