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The role of organisational culture in organisational change towards sustainability: evidence from the garment manufacturing industry

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ABSTRACT

This paper explores the competing role of organisational culture in organisational change towards sustainability. Drawing on the competing values framework, data was collected by interviewing senior executives and sustainability managers of a leading multinational garment manufacturing organisation based in Sri Lanka. The study finds that organisational culture tends to play a proactive role by going beyond the compliances and regulatory requirements in organisational change towards sustainability. Four competing cultural values appear to shape their corporate sustainability approach, namely (i) people-oriented changes (e.g. empowerment, training, development, team orientation, leadership), (ii) growth-oriented changes (e.g. sustainability innovations, continuous improvements, community engagement), (iii) productivity- and efficiency-oriented changes (e.g. use of professional recommendations, open communication), and (iv) stability- and control-oriented changes (e.g. sustainability budgeting, investment appraisal, life-cycle assessment). The case organisation is more likely to be driven by an integrated approach of the four competing cultural values rather than by one dominant approach. The study contributes to the organisational culture and sustainability literature by highlighting the importance of aligning competing cultural values as a means of addressing sustainability challenges, in the much-debated garment manufacturing industry in the South Asian context. Finally, a framework for sustainability organisational culture is proposed.

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1. Introduction

The term 'corporate sustainability'¹ has received considerable attention from researchers and practitioners in the contemporary business world, and it appears that the importance of the concept is increasing (Linnenluecke and Griffiths 2010; Van der Byl and Slawinski 2015; Caiado et al. 2019; López-Torres et al. 2019). An extensive body of academic literature has examined the research underpinning this topic from different perspectives, with a widely examined topic being the corporate sustainability – performance relationship (see, Margolis and Walsh 2003; Orlitzky, Schmidt, and Rynes 2003; Pelozo 2009; Albertini 2013). The topic has also received much attention from the practitioner's perspective. Some notable examples include Porter and Kramer (2006, 2011) articles on the link between competitive advantage and corporate social responsibility and creating shared value. A recent corporate sustainability survey report shows that 90 per cent of corporate executives surveyed consider 'sustainability' as an important phenomenon (Kiron et al. 2017). In particular, KPMG's (2017) report reveals that most of the large organisations include corporate responsibility reporting in their annual financial reports and this trend is increasing. Stressing the importance of the corporate sustainability agenda, the United Nations Global Compact (UNGC

2018) urges business organisations to align their operations and strategies with globally accepted principles of human rights, labour, environment and anti-corruption. In addition, the UNGC encourages organisations to take strategic actions to enhance their sustainable development goals. Regardless of the growing importance of corporate sustainability, aligning sustainability goals with internal organisational operations appears to be a challenging task, due to inherent tensions in sustainability operations (Margolis and Walsh 2003; Van der Byl and Slawinski 2015; Caiado et al. 2019).

Many organisations adopting and implementing sustainability face the tension between profit (or economic performance) and their responsibilities towards society and the environment (see Margolis and Walsh 2003; Smith and Lewis 2011; Van der Byl and Slawinski 2015; Hahn et al. 2018), as sustainability includes three competing but interrelated goals (i.e. social, environmental and economic) (Elkington 1998; Bansal 2005; Van der Byl and Slawinski 2015). Maximisation of profit or increasing shareholders' value is considered as the primary purpose of business organisations. However, ignoring other important stakeholders' demands and their commercial impact on the environment, may raise questions about whether such practice will affect their survival in the long-term (see Caiado et al. 2019; López-Torres et al. 2019).

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In order to address the tension between economic performance and social/environmental responsibility, prior research emphasises the win-win (business case for sustainability) approach, trade-offs and integrative approach (balancing social, environmental and economic dimensions) (see Carroll and Shabana 2010; Porter and Kramer 2006, 2011; Marshall et al. 2015; Van der Byl and Slawinski 2015; Hahn et al. 2018). However, much of the prior research focussing on the business case approach either provides a conceptual framing or examines the link between corporate social responsibility (or corporate social/environmental performance) and financial performance (see Margolis and Walsh 2003; Orlitzky, Schmidt, and Rynes 2003; Pelozo 2009; Albertini 2013). Although these studies offer some insights on the concept and practice of sustainability and its implication for organisational performance, it still remains unclear in the literature how organisations can address their conflicting social, environmental and economic goals in the empirical context (Linnenluecke and Griffiths 2010; Van der Byl and Slawinski 2015; Hahn et al. 2018; Caiado et al. 2019).

As a means of responding to competing sustainability challenges, while many organisations attempt to focus on technical solutions, such attempts may encounter difficulties to deliver expected outcomes without changing people's attitude and value systems (Lozano 2013; Marshall et al. 2015; López-Torres et al. 2019; Caiado et al. 2019). Combining human value systems and technical processes, Schneider, Brief, and Guzzo (1996) argue that both climate (i.e. what people experience – policies, procures and practices) and culture (i.e. what people believe the organisational values are) are essential for sustainable organisational change. In particular, organisational culture is seen as an important factor in fostering or hindering organisational change towards sustainability (Harris and Crane 2002; Linnenluecke and Griffiths 2010; Lozano 2013; Sroufe 2017). Linnenluecke and Griffiths (2010) suggest that the successful implementation of culture change towards corporate sustainability largely depends on organisational shared norms and values. In contrast, employees' resistance to changes, lack of top management support, failure to adopt new systems and practices, and reluctance to get expert advice and linear thinking, prevent organisational changes towards sustainability. These barriers to change may be due to various factors such as informational, emotional, behavioural and systematic organisational consequences (Lozano 2013).

While the importance of organisational culture in addressing the corporate sustainability challenge is growing (see, Linnenluecke and Griffiths 2010; Erthal and Marques 2018), there is still little insight into the types of competing organisational culture that drive corporate sustainability within organisations. For example, some studies suggest that corporate sustainability is predominantly driven by external forces (e.g. Wijethilake, Munir, and Appuhami 2017) while others, that internal forces within an organisation are the key drivers of corporate sustainability (see Baumgartner 2009; Linnenluecke and Griffiths 2010; Upadhaya et al. 2018; Wijethilake and Lama 2019). While Jollands, Akroyd, and

Sawabe (2015) argue that flexibility is the most suitable approach to address sustainability challenges, several other strands of literature indicate that organisations are more likely to implement structured or hierarchical control systems in managing sustainability practices (Wijethilake, Munir, and Appuhami 2017). For example, Upadhaya et al. (2018) highlight the importance of 'innovation' and a 'respect for people' culture to integrate sustainability into strategies, while Dubey et al. (2017) emphasise the need to embrace a mix of 'flexible' and 'control' oriented culture to achieve sustainable performance. Although these studies shed light on the role of organisational culture in corporate sustainability, most of these studies focus on either one or two aspects of organisational culture. Moving towards either extreme might undermine viable organisational changes towards sustainability goals. Therefore, a question worth addressing is whether organisations should focus on a unique approach or on an integrated approach. Accordingly, our research question is: what is the role of competing organisational culture values in organisational change towards sustainability?

In order to address this question, this study draws on the competing values framework (CVF) (Quinn and Rohrbaugh 1983; Quinn and Kimberly 1984). Extant literature suggests that competing perspectives of (i) external and internal orientations, and (ii) control and flexibility approaches are likely to drive sustainability operations within an organisation (Linnenluecke and Griffiths 2010; Sroufe 2017). Based on the framework, we explore how organisations manage competing values to address corporate sustainability challenges in the empirical context. Using a case study method, data were collected by interviewing the senior executives and sustainability managers at a leading multinational garment manufacturing organisation based in Sri Lanka. This best-in-class case organisation was purposively selected to provide exemplary industry evidence to substantiate the role of organisational culture in organisational change towards sustainability.

By exploring a family-owned multinational garment manufacturing group in South Asia, this case study finds that an integrated and balanced approach of competing perspectives of organisational culture values (e.g. internal vs external and flexibility vs control) are more likely to promote organisational change towards sustainability. By proposing a framework for a sustainable organisational culture, this study contributes to the organisational change and sustainability literature by highlighting the role of organisational culture as a means of addressing the three perspectives of sustainability challenges (social, environmental and economic).

The remainder of this paper is structured as follows. Section 2 reviews the literature on corporate sustainability, organisational culture, and the competing values framework, and outlines their significance to this study. Section 3 discusses the research methods, and Section 4 presents the empirical analysis illustrating the role of competing organisational culture values in organisational change towards sustainability. Proposing a conceptual framework, Section 5 presents a detailed discussion of the empirical findings, and finally, Section 6 provides a conclusion and highlights the contributions of this study.

2. Background literature and theoretical framework

2.1. Corporate sustainability

Sustainability is seen as one of the main drivers of change in current business practices (Shibin et al. 2018). A number of sustainability change drivers are discussed in the literature, such as tighter government regulations and certification requirements (Marshall et al. 2015), increased global consumer demands (López-Torres et al. 2019), and competitive market pressure (Caiado et al. 2019). Organisations are facing mounting pressure from a range of stakeholder groups, consumer watchdogs and regulatory bodies to reconsider their business model and make it more sustainable (Dubey et al. 2017, 2019; López-Torres et al. 2019). Although organisations have enhanced efficiency in their productions and operations process and improved their financial performance by implementing a range of innovative systems, technical tools and techniques and management practices to a large extent, the current mode of production is still criticised for its negative impacts on the environment and society (López-Torres et al. 2019). Researchers argue that organisations' long-term survival not only depends on profit in this competitive business environment, but also on meeting their obligations to the environment and society (Caiado et al. 2019).

Corporate sustainability is a complex and multidimensional concept and defined in a number of ways. With reference to the concept of sustainable development (WCED 1987), Bansal (2005, p. 199) argues that sustainability can be achieved 'only at the intersection of the three principles' – environmental integrity, economic prosperity, and social equity (WCED 1987; Bansal 2005), also termed as the 'triple-bottom-line' (Elkington 1998). Theoretically, all three dimensions are clearly of equal important and necessary conditions to achieve sustainability (WCED 1987; Elkington 1998; Margolis and Walsh 2003; Bansal 2005; Hahn et al. 2018). However, prior literature provides little empirical evidence on how organisations can achieve a balance between three interrelated yet competing (i.e. social, environmental and economic) goals (Van der Byl and Slawinski 2015).

A large number of empirical studies have examined the relationships between social/environmental performance and economic (or financial) performance in the past four decades (see, Margolis and Walsh 2003; Orlitzky, Schmidt, and Rynes 2003; Pelozo 2009). However, the research findings are inconclusive and mixed. While a majority of the studies provide some evidence to support the claim that social and environmental performance improve the organisations' financial performance, other studies reveal negative relationships between social/environmental and financial performance. Although these studies shed light on the effects of social and environmental performance, their mixed empirical findings do not appear to resolve the ongoing sustainability tension of balancing social, environmental and economic performance.

In their comprehensive review of prior sustainability studies, Van der Byl and Slawinski (2015) examine how sustainability tensions have been managed and identify four different approaches that researchers have suggested to deal

with the competing sustainability objectives – win-win (or business case), trade-offs, integrative and paradox. The win-win perspective suggests the alignment between social, environmental and economic goals, where improvement in one element of sustainability is expected to improve the other dimensions (see for example, Porter and Kramer 2006). The trade-off approach avoids tension by providing a (forced) choice between three elements of sustainability. The integrative approach attempts to integrate all three dimensions (i.e. social, environmental and economic) without favouring one over the other. Paradox theory explains the different approaches to tensions as inherent in competing sustainability objectives (see, Van der Byl and Slawinski 2015; Hahn et al. 2018). While these prior studies uncover different types of sustainability tensions and provide some valuable insights on how organisations can use different approaches to balance their conflicting obligations towards their shareholders, environment and society, most of these studies are conceptual. Therefore, there is a call for more empirical research on corporate sustainability (Marshall et al. 2015; Van der Byl and Slawinski 2015; Caiado et al. 2019; López-Torres et al. 2019).

In order to minimise the negative impacts of their unsustainable operation and production practices (López-Torres et al. 2019) and meet increasing demand from global stakeholders' for sustainable products and services (see, Nielsen 2015), many organisations and their leaders incorporate a number of sustainability strategies, management innovations and technological solutions, and also follow increased reporting guidelines and practices (KPMG 2017). However, some recent studies (e.g. Caiado et al. 2019; López-Torres et al. 2019) suggest that organisations cannot just achieve sustainability by implementing practices, such as lean manufacturing or Six Sigma; rather, they need to be well aware of 'why and how' to incorporate sustainability practices. There is evidence to suggest that balancing all three elements of corporate sustainability simultaneously is challenging in practice. For example, 'Wal-Mart has some of the most stringent and advanced sustainability supply chain guidelines and practices but is criticised for the treatment of people in its supply chain' (Marshall et al. 2015, p. 4). This raises a fundamental question of whether adopting the best sustainability strategies, guidelines, policies and practices is sufficient to achieve the goal of sustainable business practices.

2.2. Organisational culture

A review of prior studies suggests that successful implementation of corporate sustainability largely depends on fundamental changes in organisational culture rather than just making superficial changes or simply adopting sustainability measures and publication of sustainability reports (see Linnenluecke and Griffiths 2010). Although organisational culture is defined by various means (see Linnenluecke and Griffiths 2010; Cameron and Quinn 2011), for the purpose of this study, we adopt Cameron and Quinn (2011, p. 18) definition of '... socially constructed attribute of organizations that serves as the social glue binding an organization

together'. Some of the common attributes of organisational culture include shared assumptions, norms, values and beliefs, (Linnenluecke and Griffiths 2010; Liu et al. 2010), which provide its members guidelines, though often unwritten and unspoken, on how an organisation functions and its social system (Cameron and Quinn 2011).

Since the 1980s, prior studies have acknowledged the important role of organisational culture in terms of implementing sustainability practices (see, Linnenluecke and Griffiths 2010; Erthal and Marques 2018). Most successful organisations understand that adopting new management practices that are in line with their culture improve the chance of implementation being successful and improve their performance (see, Altay et al. 2018). However, organisational changes from traditional to sustainable management require substantial internal changes that can be supported by organisational culture (Epstein and Buhovac 2014; Wijethilake and Lama 2019). While change is seen as an opportunity (Lozano 2013), organisations need to manage the process by making their employees aware of the importance of sustainability in the global and local operations and also need a changed mindset to integrate sustainability into business priorities (López-Torres et al. 2019). Widely shared norms, values and social system can help employees understand organisational functioning (Liu et al. 2010; Dubey et al. 2019), which will ultimately change their attitude towards being sustainable, to the extent that it is encouraged by the senior management (Linnenluecke and Griffiths 2010). Cameron and Quinn (2011) suggest that changes in employees' norms, values and attitude guide them in terms of the way they interact and behave. Organisations with a strong sustainability culture can motivate employees' behaviour towards sustainability practices and ensure their engagement and support to accomplish sustainability goals (Linnenluecke and Griffiths 2010; Epstein and Buhovac 2014; Wijethilake and Lama 2019).

While the role of organisational culture is widely acknowledged by prior studies on sustainability adoption, others argue that it can also be a primary reason for the failure of implementing change towards sustainability (see, Linnenluecke and Griffiths 2010; Erthal and Marques 2018). For example, prior studies indicate that '... as much as three-quarters of the most popular approaches to organisational change ... are not successful because they are based on technocentric changes, which neglect the human element, such as attitudes, culture, and behaviours' (Lozano 2013, p. 279). It can be inferred that organisational culture can play a critical role in terms of determining the success or failure of organisations' change towards sustainability practices.

In recognition of the importance of organisational culture in corporate sustainability, a growing body of research has contributed to the discipline from both theoretical and empirical perspectives. Theoretical studies propose new conceptual models or theoretical propositions based on existing models, by integrating sustainability and organisational culture. Salient among them, in the literature are: Bertels, Papania, and Papania (2010) cultural wheel framework; Linnenluecke and Griffiths (2010) conceptualisation of

organisational culture in a CVF; Galpin et al.'s (2015) multidisciplinary organisational culture model; Florea, Cheung, and Herndon (2013) human resource values model; Baumgartner's (2014) conceptualisation of organisational culture as a normative management practice .

From the empirical perspective, a smaller number of studies have focussed on different aspects of organisational culture in sustainability literature. For example, Harris and Crane (2002) reveal managers' perception of green cultural changes, barriers and facilitators to such changes, whereas Morsing and Oswald (2009) reveal that top management provides sustainable leadership by referring to the role of organisational culture as a management control system. Examining the role of organisational culture and leadership as a precondition of sustainable development, Baumgartner (2009) emphasises that the role of organisational culture in the sustainable development context has been largely underestimated. Similarly, Ong, Magsi, and Burgess (2019) examine the role of organisational culture in management control systems and environmental performance and highlight that the stable and flexible values of organisational culture influence the effective use of formal and informal environmental management systems. Pennington and More (2016) reveal two distinct cultural perspectives – general cultural dimensions and specific sustainability cultural dimensions, each of which influence organisational sustainability. While the findings of these studies provide overall insights on barriers to and facilitators of, green cultural change (Harris and Crane 2002), culture as a control system (Morsing and Oswald 2009), culture and leadership (Baumgartner 2009; Tortorella et al. 2020) and culture's role in sustainability (Pennington and More 2016), other studies mainly focus on specific traits of organisational culture.

Dubey et al. (2017) investigate the moderating role of organisational culture (i.e. flexible and control) on the association between institutional pressures and performance measurement systems for sustainability benchmarking. The authors find that flexible and control orientations of organisational culture seem to play different roles, and suggest that organisations need to embrace a hybrid (i.e. mix of both - flexible and control) orientation to achieve sustainable performance. Another study by Upadhaya et al. (2018) examines the mediating role of organisational culture on sustainability – strategy relationship using survey data collected from a developing country, Nepal. The authors find that innovation and respect for people play an important role in integrating sustainability practices into organisations' strategies. The findings of these studies highlight the important roles of 'flexibility', 'control' (Dubey et al. 2017), and 'innovation' and 'respect for people' (Upadhaya et al. 2018) dimensions of organisational culture to achieve sustainability. However, in their recent study of Indian manufacturing organisations, Dubey et al. (2019) could not find any evidence for the moderating role of flexible and control oriented culture in association between big data and predictive analysis, and social/environmental performance. These mixed empirical findings raise a significant question on the critical role of organisational culture on organisational change towards

Flexibility	
<u>Human Relations Model (Clan)</u> Means: Cohesion; morale Ends: Human Resource Development	<u>Open System Model (Adhocracy)</u> Means: Flexibility; readiness Ends: Growth; resource acquisition
Internal	External
Means: Information Management; communication Ends: Stability; control <u>Internal Process Model (Hierarchy)</u>	Means: Planning; goal setting Ends: Productivity; efficiency <u>Rational Goal Model (Market)</u>
Control	

Figure 1. Competing values framework.

sustainability. To address this question, this study draws on the competing value framework (CVF) (Quinn and Rohrbaugh 1983; Quinn and Kimberly 1984), which is widely used in prior studies (see, Liu et al. 2010; Linnenluecke and Griffiths 2010; Dubey et al. 2019). The framework is discussed in the next section.

2.2.1. Organisational culture: a competing values framework

The competing values framework (CVF) (Quinn and Rohrbaugh 1983; Quinn and Kimberly 1984) provides a theoretical basis to understand the competing role of organisational culture in organisational change towards sustainability. While several frameworks explain the cultural aspect of organisations (e.g. Schein 1997; Ashkanasy, Broadfoot, and Falkus 2000), no framework covers all aspects comprehensively.

Key reasons for using CVF in this study include – (i) the CVF has been empirically developed, (ii) it has been validated by prior studies, and (iii) it encompasses most of the organisational cultural aspects (Cameron and Quinn 2011). Its use is also consistent with the approach taken by extant literature. For example, Linnenluecke and Griffiths (2010) used CVF to discuss the conceptual relationship between corporate sustainability and organisational cultural dimensions within the organisational context. More importantly, the CVF aligns with ‘... well-known and well accepted categorical schemes that organize the way people think, their values and assumptions, and the way they process information’ (Cameron and Quinn 2011, p. 37). Further, Liu et al. (2010) argue that CVF can be seen as an appropriate model to study organisational culture in the context of developing countries. This is mainly because of its relevance to many business organisations that are still in a growth stage and because their business priorities constantly change. Prior empirical studies have applied CVF to study the role of organisational culture in the manufacturing and services industries of developing countries such as China and India (see, Liu et al. 2010; Dubey et al. 2017). Figure 1 depicts the CVF.

As shown in Figure 1, the CVF consists of four cells that are presented in two separate and competing dimensions: flexibility vs control, and internal vs external (Quinn and Rohrbaugh 1983). The flexibility vs control dimension focuses

on the structure of the organisation in terms of degree of control. In other words, what level of control (or flexibility) is applied in the organisational structure and management. Liu et al. (2010) argue that a flexibility orientation values creativity and risk taking, while a control orientation focuses on order and efficiency. The internal vs external dimension focuses on the activities occurring within and outside of the organisation (Quinn and Rohrbaugh 1983; Liu et al. 2010). Based on these two key competing dimensions, CVF further forms four cells (culture types): human relations model (clan), open system model (adhocracy), internal process model (hierarchy) and rational goal model (market) (Quinn and Rohrbaugh 1983).

The upper left quadrant in Figure 1 indicates the human relations (or clan) culture, which is characterised by teamwork, employee involvement programmes, participative decision making and a friendly place to work (Linnenluecke and Griffiths 2010; Cameron and Quinn 2011). Human relations culture focuses on employee development, empowerment and loyalty, where leaders are seen as mentors. Open system (or adhocracy) culture (upper right quadrant) encourages innovation, entrepreneurship, creativity and risk taking (Liu et al. 2010). Open system culture emphasises growth, resources acquisition and experimentation, where success means producing unique products or services (Cameron and Quinn 2011). Organisational cultural values dominated by the internal process (or hierarchy) model (lower left quadrant) promote stability and control. A hierarchy culture is characterised by formalised and structured places to work (Cameron and Quinn 2011). Hierarchy culture emphasises uniformity, efficiency and close adherence to formal rules, regulations and organisational policies (Liu et al. 2010; Dubey et al. 2017). The rational goal (or market) culture (lower right quadrant) focuses on market share, productivity and achievement (Cameron and Quinn 2011). A market culture is characterised by goal setting, planning and centralised decision making (Linnenluecke and Griffiths 2010), which is mainly motivated by external competition (Liu et al. 2010).

While the four cultural types described above seem to be opposite and mutually exclusive to one another, research shows that organisations may experience all cultural types together (Linnenluecke and Griffiths 2010). However, Quinn and Kimberly (1984) caution that some cultural types can be more dominant than others. On the whole, each culture type emphasises important aspects of an organisation: human resources, flexibility, stability and productivity (Linnenluecke and Griffiths 2010), which together shape an organisation’s culture towards sustainable and environmentally responsible business practices.

3. Methods

The extant literature provides plenty of evidence as to why and how organisations should respond to both external and internal sustainability demands. The gap in the literature is in terms of how organisations should change to embrace sustainability and what the role of organisational culture is in

this process. More specifically, this study explores the role of competing organisational culture values in organisational change towards sustainability. To do this, we have adopted a qualitative approach. Studies that adopt this approach reflect an interpretivist (Guba and Lincoln 1994; Lincoln 2010) or constructivist paradigm (Creswell 2014), whereby knowledge creation is subjective, human beings determine social reality and knowledge is value-laden (Creswell 2014). Case studies facilitate a unique opportunity to investigate contemporary research phenomena in a real-life context (Yin 2009; Lincoln 2010; Silverman 2013). Further, case studies are suited to in-depth explanatory examinations in the exclusive research setting, deriving data from diverse bases (Yin 2009).

3.1. Research context: garment manufacturing industry in Sri Lanka

The garment industry has been much criticised in sustainability debates due to its increasingly unsustainable manufacturing practices and processes. The garment manufacturing industry in Sri Lanka was selected as the research context for the following reasons. Firstly, Sri Lanka provides a unique context to examine the role of organisational culture with reference to sustainability (Perry, Wood, and Fernie 2015). Sri Lankan national culture is mainly dominated by Buddhist philosophical values held by the Sinhalese community who represent the majority of the nation's population (Thoradeniya et al. 2015). In addition, being a multicultural nation, the country provides a distinctive context to explore the multicultural values of Sinhalese, Tamils and Muslims (Wijethilake, Munir, and Appuhami 2017). Secondly, Sri Lanka has a long history of preserving nature. This is reflected in the popularity of Sri Lanka as a tourist destination in the world, mainly due to its environmental wealth such as parks and wildlife (Thoradeniya et al. 2015). Thirdly, the ancient irrigation system, archaeological artefacts and world heritage cities in Sri Lanka show the country's historical commitment towards sustainability (e.g. Perry, Wood, and Fernie 2015; Wijethilake, Munir, and Appuhami 2017).

The Board of Investment in Sri Lanka (2018) shows that, (i) the Sri Lankan garment industry supplies a considerable portion of the world's total garment demands, (ii) the garment industry in Sri Lanka accounts for approximately 45 per cent of total export revenue (above \$5.3 billion in 2019),² (iii) it accounts for 15 per cent of Sri Lanka's workforce,³ (iv) the industry promotes the principles of the 'garments without guilt' programme, which all garment manufacturing firms must comply with,⁴ (v) the industry is recognised in the global market for its sustainability practices,⁵ and (vi) it has established a competitive edge for its ethical manufacturing in the global market, rather than using slave labour to produce cheap products, apparently common to other South Asian nations⁶ (Asclay, Dent, and Haan 2004; Board of Investment in Sri Lanka 2019). Therefore, the Sri Lankan garment industry provides a convincingly appropriate study setting.

3.2. Case study research design: case organisation

The study employs a single case study which provides an opportunity for a rich and an in-depth understanding of the phenomenon explored (Voss, Tsikriktsis, and Frohlich 2002), in this case, the role of organisational culture in changing towards sustainability. Extant literature in sustainable operations provides evidence of referring to leading single case organisations (e.g. Goodman 2000). As in the case of the current study, single case also provides an opportunity to explore different contexts within the same case study (Voss, Tsikriktsis, and Frohlich 2002). For instance, the selected case organisation consists of a wide range of manufacturing and services operations in diverse geographical contexts. Yet, single cases have their own limitations, such as generalisability of findings, potential risk of making an incorrect estimation of an isolated incident and excessively highlighting easily available data sources (Voss, Tsikriktsis, and Frohlich 2002). The results reported in the current study are also associated with the inherent limitations of providing a comprehensive picture of sustainable operations in different industries (see, Pagell and Wu 2009; Wu and Pagell 2011). The case organisation was purposely selected by applying tests to validate its sustainability commitment and operational approaches in the garment manufacturing industry locally and globally (Voss, Tsikriktsis, and Frohlich 2002). The study undertook a background assessment of the GMO's sustainability practices in terms of (i) changing organisational value proposition, (ii) operational excellence (e.g. continuous growth, global appearance, industry leaderships), (iii) external validity (e.g. industry recognition, professional values, regulatory compliances, community acceptance), (iv) technology and innovation, and (v) community engagement and commitment. More specifically, all possible secondary data sources were used, such as website, industry outlets, professional magazines, research publications, media releases, certifications and involvement in sustainability projects at community, national level and global level, such as commitment to the UN Global Compact (see Appendix 1). We also ensured that the sustainability practices of the case organisation went beyond regulatory compliances and took a proactive approach. Accordingly, based on the initial background research of companies in the same industry, the organisation was selected for its outstanding characteristics that provide a unique context to study the proposed research question. Similar to prior studies, the case organisation meets the criteria of being a sustainability exemplar and sustainability industry leader (Wu and Pagell 2011).

The case organisation, GMO,⁷ is a family-owned multinational garment manufacturing group, headquartered in Colombo, the capital of Sri Lanka and operating in more than 10 countries. Established over 30 years ago, GMO is a leading garment manufacturer in the country with around 90,000 employees and more than 50 state-of-the-art facilities (UNGC 2019). The organisation has experienced many structural changes during the period such as industry demands, policies, rules and regulations, and socio-cultural changes. GMO has been a leader in terms of changing the conventional negative societal acceptance and perception of employees by gradually

embedding professionalism within the industry. By integrating professionalism, ethical standards, sustainability strategies, and state of the art technologies, GMO has transformed its philosophy from a 'manufacturing' organisation to a 'people' organisation. The company caters for world-renowned brands and leading retailers including Nike, GAP, Adidas, Marks & Spencer, Lululemon, Banana Republic, Victoria's Secret, Calvin Klein, H&M, La Senza, VSX, Patagonia, among others. The company is well-known and well recognised for its reputation and commitment towards sustainability. For instance, GMO was awarded LEED Platinum Certification for its green building, all of its manufacturing plants are compliant with ISO 14001 environmental standards, it won the country's best corporate citizenship award for several occasions.

Over the years, GMO has grown to become a USD 2 billion business, revealing its enormous potential to evolve in the global eco-system. As a local-global conglomerate, GMO has expanded and diversified its supply chain functions through international joint ventures. In addition to the international joint ventures, recently, GMO introduced several own brands. GMO has been investing a considerable amount of money in R&D and sustainable innovation. Adopted from the Toyota Production Systems, GMO has designed and implemented systematic lean operation practices throughout the manufacturing facilities. GMO has transformed its business model embedded with lean and sustainable manufacturing practices as the core pillar of its long-term sustainability business strategies. For instance, GMO's Communication on Progress report (2019, p. 10) to the UN Global Compact highlights that:

We have now consolidated our social and environmental sustainability efforts into one central sustainability structure, combining the strengths of our teams and aligning our goals to achieve greater consistency and impact. In a time of uncertainty, we have embraced a new purpose of 'inspiring sustainable change' to help our people find meaning during an incredibly challenging time.

In line with the sustainable business strategy transformation, GMO has set three key strategic priorities to be reached by 2025 (COP Report 2019). First, its '*sustainable product*' strategy aims to generate 50 percent of products from sustainable sources. Second, its '*products made better*' strategy focuses on key areas such as transforming waste, responsible chemical use, safeguarding water, limiting emissions, and championing biodiversity. Third, its '*lives made better*' strategy is concerned with the human aspect, including empowering women, meaningful employment, a workplace beyond compliance, and thriving communities. In doing so, GMO has established itself as one of the leading garment exporters in the South Asian region. Therefore, given the nature of the case organisation such as public visibility, organisational size, nature of the supply chain, use of modern technology, and leading the industry, this selected case organisation provides a relatively successful story of a sustainable organisation.

3.3. Data collection

The first author directly contacted GMO and clarified the objectives of the study, and GMO's contextual importance

for this study. GMO's organisational structure is divided into three clusters. Access to the company was initially granted by one cluster's environmental sustainability team, followed by the other two clusters. The researchers had no previous or current professional and personal associations with the company, ensuring that data collection was free from bias, thereby enhancing the reliability and validity of the findings. Respondents were informed that the study complies with the university's Human Research Ethics requirements to give them confidence to express their views and opinions reasonably freely. One of the advantages of semi-structured interviews is that it enables participants to express their thoughts and perceptions in their own terms and language. The researcher interviewed 15 senior, middle and junior level executives until data saturation level was reached (Eisenhardt 1989). The average interview duration was around 50 min while the maximum and minimum interview duration was between 80 and 25 min, respectively.

Table 1 provides demographic details of the 15 participants and interviews. Subject to data saturation, these 15 interviews provided sufficient information to interpret and address the research questions (Eisenhardt 1989; Yin 2009). In addition, a special interview was conducted with an external green human resource consultant of the case organisation to ensure validity of the data. The use of audio recording contributes to minimise the observer bias in case study research (Voss, Tsikriktsis, and Frohlich 2002) and all but three of the participants agreed to being recorded. Interview records derived from detailed notes of the non-audio recorded interviews were sent to participants for checking and confirmation (e.g. Eisenhardt 1989).

The study referred to the following sampling criteria in identifying the interview participants: (i) management team members who are directly involved in sustainability decision making, (ii) representation of the three major clusters at GMO, and (iii) a minimum of two to three years of managerial experience with the company. Most suitable potential participants were introduced by the contact persons in each cluster. During recruitment, it was noted that sustainability management within the organisation is structured by team activities instead of hierarchically. Members representing the sustainability teams are responsible for addressing various sustainability issues throughout the group, rather than restricting themselves to one particular cluster. In particular, there were two sustainability team setups for environmental and social sustainability. The interview participants represented a diverse range of expertise, such as environmental engineers, energy managers, lawyers, human resource managers, factory managers, and sustainability managers responsible for waste, culture and training. The diversity of expertise and multiple viewpoints of the respondents provided an insight into a wide spectrum of the sustainability practices within the case organisation, in turn, enhancing the validity and reliability of responses (Voss, Tsikriktsis, and Frohlich 2002). Interviews were organised in different locations, including corporate head office, cluster head office, and manufacturing plants.

Table 1. Demographic profile of the interview participants and data collection timeline.

Organisational position	Organisational representation	Interview duration	Data collection timeline
Senior Executive 1	Cluster 1	00.50.51	(i) Initial data collection including pilot study, field visits to four factories, and semi-structured interviews (from Nov 2013-Dec 2014) (ii) Two-factory visits and informal discussions with managers (2016–2017) (iii) Field visits to two manufacturing plants, informal discussions with managers and participation in a study workshop (Oct 2018)
Senior Executive 2	Cluster 2	00.56.02	
Executive 1	Cluster 3	01.20.25	
Executive 2	Cluster 1	00.47.32	
Executive 3	Cluster 1	00.58.36	
Executive 4	Cluster 1	00.48.51	
Executive 5	Cluster 2	00.32.36	
Junior Executive 1	Cluster 1	00.48.41	
Junior Executive 2	Cluster 3	00.39.03	
Junior Executive 3	Cluster 1	00.49.51	
Junior Executive 4	Cluster 2	00.54.21	
Junior Executive 5	Cluster 2	01.06.02	
Junior Executive 6	Cluster 1	00.44.17	
Junior Executive 7	Cluster 1	00.26.54	
Junior Executive 8	Cluster 1	00.24.25	

In addition to interviews with managers, as part of the data collection, the first author visited six manufacturing plants and the head office during 2014 and 2018. These observational field visits included formal presentations, informal discussions with plant managers and staff members, observations of the sustainability facilities and ongoing manufacturing processes. In particular, two field tours to GMO's flagship green manufacturing plant, certified by the United States Green Building Council's LEED platinum ratings, provided much insights about the extent to which the organisation has incorporated sustainability into its operations and strategies. These visits provided opportunities for the researcher to align rhetoric with reality and allow further inquiries about the research phenomenon (Pagell and Wu 2009).

The study used a semi structured interview guide encompassing key themes that formed the basis for the research (Eisenhardt 1989). A well-designed interview protocol enhances the reliability of case study research (Yin 2009). The interview protocol was designed following a funnel model, in that broad view questions were asked first, followed by increasingly specific questions (Yin 2009). Key themes in the interview guide (see Appendix 2) include drivers of corporate sustainability, corporate sustainability changes, sustainability culture, and organisational changes towards sustainability. These themes reflected some theoretical relevance (Pagell and Wu 2009). For instance, organisational culture and organisational change are considered as integral components to proactive sustainability responses (Wijethilake, Munir, and Appuhami 2017). While key themes were prepared in advance, the researcher attempted to remain impromptu in seeking views and opinions (Eisenhardt 1989). During the interview process, the interview guide was amended depending on the interviewee's organisational responsibility, background and the nature of factory setting.

Satisfying data triangulation, data was collected from multiple respondents, publicly available and internal secondary data sources, and through the observational visits to manufacturing plants (Eisenhardt 1989; Yin 2009). The secondary data were collected from multiple sources, including policy documents, publicly available documents, internal publications, newspapers and websites (see Appendix 1). Collecting data from multiple respondents and multiple data sources reduces bias towards single data sources, and in turn,

enhances reliability and validity (Voss, Tsikriktsis, and Frohlich 2002; Pagell and Wu 2009).

3.4. Coding and analysis

NVivo 10 qualitative data analysis software was used for coding and analysing the data. NVivo records data by categorising in 'nodes', employing a systematic, inductive and emergent coding process. To identify common patterns and themes, interview transcripts and secondary documents were analysed by referring to the categorisation and analysis of emergent themes and concepts, and the constant comparison method (Silverman 2013). The broader categories of coding that the review of literature reveals were also considered in the initial coding. In order to understand the context specific and unique practices, a detailed analysis was undertaken by reviewing all interview transcripts and documents (e.g. Pagell and Wu 2009). The first category represents open coding. Open coding helps to organise initial data screening into a systematic and structured flow (Strauss and Corbin 1990). Accordingly, the first group of general themes related to the main codes; for example, drivers of sustainability and GMO's corporate sustainability practices. As the second stage which is in line with the axial coding (Strauss and Corbin 1990), themes emerged through continuous iterations by comparing different organisational cultural patterns and sustainability practices. In this stage, specific attention was given to explore how and what sustainability practices are reflected as organisational culture, and, in turn, the role of culture in organisational change towards sustainability.

As co-authors continued the thematic analysis, new sub-themes were derived and subsequently categorised under appropriate main themes. For example, the sub-theme 'employee empowerment' was categorised under the 'people-oriented changes' theme, and formal internal procedures, such as sustainability budgeting and performance evaluations, were recognised within 'changes towards stability and control'. After several discussions, all members agreed on one theme. In the third stage, the analysis was further continued by adopting a within-category evaluation approach where sub-themes were derived separately (Strauss and Corbin 1990). In order to ensure consistency and reliability among codes, co-authors concluded the main themes by

incorporating suitable sub-themes. The cross-coding among sub-themes facilitated the basis for the appropriate categorisation of themes. As authors observed overlapping, random or disconnected sub-themes among the main codes, such themes were carefully categorised under respective codes, as deemed appropriate. For instance, similarities were observed among themes such as: employee empowerment and innovation; training and continuous improvement; and community engagement and sustainability leadership. After several comparisons, the coding was finalised by mutual agreement, through continuous discussions and experts' opinions. The consistency of the interview analysis was further supported and verified by the coding of the documentary evidence (see Appendix 3).

4. Results

4.1. Sustainability practices at GMO: an overview

The findings reveal that GMO implements various sustainability practices, encompassing three perspectives of corporate sustainability: environmental, social and economic. Among their eight work streams, the company's main focus is on environment related practices, which include waste, energy, water, emissions and compliance. This is also supported by the GMO's commitment to the Communication on Progress report (COP Report 2017, p. 1), which is annually submitted to the United Nations Global Compact as:

... we realise we have an equally large responsibility towards both the eco-system we have created and the natural world we thrive in. Our values, core strengths and culture, drive all what we do, and we know our size and strength puts us in the best position to make a real difference in whatever we initiate.

While GMO sets the environmental aspect of sustainability as a priority, there are a number of programmes and initiatives that focus on social and economic aspects. For instance, the company implements an innovative social sustainability programme known as 'women go beyond' that aims to support the welfare of the majority of female employees. More than 90 per cent of GMO's workforce are female employees, which clearly indicates that the GMO is not only meeting the gender balance in their workforce, but also far exceeds the public expectation and industry standards, especially in the context of developing countries. GMO's COP (2011) report also indicates that the company has developed a number of policies, procedures and practices to support workplace conditions, including workers' health and safety, working hours, protective measures against child/forced labour among many others. In terms of economic sustainability, as well as the direct employment of 80,000 members of staff, its supply chains across the countries where it operates provides a large number of indirect employment opportunities, as does the high volume of foreign direct investment it has brought into the country.

All of these sustainability initiatives of GMO appear to be influenced by their proactive approach towards their external and internal stakeholders, as Executive 1 highlights:

... external would be more on the CSR side. There is an eco-go beyond programme that works with schools. We identify a trainer who is going to train their sustainability needs. Now that [CSR programme] has a bit more social side as well. There is a lot of waste management practices and career development within sustainability for schools, etc. Internally, it comes under the environmental sustainability team, which looks at reducing the environmental impact.

Another example illustrating GMO's proactive approach in adapting to various institutional requirements for sustainability can be seen in their COP (2012, p. 17), which highlights:

... [GMO] maintains a proactive approach to compliance and in most occasions, intra-company standards exceed legislation, third party affiliate requirements or customer mandates. A strong compliance and risk management framework, globally benchmarked to that of our highest customer and international standards/practice, ensures continuous monitoring, and year on year development of policies and practices to support workplace conditions in such areas as forced labour, harassment and abuse, wages and benefits, working hours, child labour, discrimination, women's rights, freedom of association, disciplinary framework, record keeping and documentation, health and safety, ergonomics and security.

Although GMO attempts to accommodate various sustainability related demands proactively to improve their efficiency in their production process and practices and meets the compliance requirements, the company has faced a number of challenges. For instance, Executive 1 described a situation in which one of their key customers (i.e. a renowned and large-scale garment retailer) demanded a production requirement for their immediate order that would impact sustainability policies and compliance requirements of the organisation (e.g. to exceed the number of working hours). In such situations, our respondents suggested that GMO tended to employ a compromising approach to negotiate within their capacities and interests. Another challenge faced by GMO to implement proactive sustainability strategies appears to be changing the employees' mindset, as the Senior Executive 2 explains:

We can invest money in sustainability projects. The thing is that we need to change the people's mindset. That's more important and a very difficult part. Changing cultural pattern is very difficult and a challenging task as per my understanding. What we need to focus is we not only invest money but also invest in training [and] enhancing the knowledge of people. Then only our society will change. Otherwise, sustainability becomes one- or two-people's random effort.

This gives a very clear indication of the forward-looking sustainability mindset possessed by some of the top management team members, which was also observed by the (first author) researcher during the factory visits. Many respondents suggested that one of the GMO's key strategies is to exceed the minimum sustainability requirements, for which the organisation's proactive approach towards sustainability, including both external and internal initiatives, plays a key role. However, the company's long-standing sustainability practices appear to be shaped by the competing values held by their large workforce. Prior studies suggest that successful implementation of corporate sustainability 'might be largely dependent on the values and ideological

underpinnings of an organisation's culture ...' (Linnenluecke and Griffiths 2010, p. 359). Therefore, it is worth understanding what cultural characteristics drive corporate sustainability and how these competing values are embedded in GMO's organisational culture that helps to implement their sustainability practices.

4.2. Sustainability practices focussing at stability and control

GMO uses various formal means and internal control mechanisms, such as sustainability related policies, planning, budgeting, investment appraisals, life cycle assessments, simulations and performance evaluation systems, to improve coordination and achieve control and compliance. Respondents suggested that the division of responsibilities and tasks are clearly communicated, and that individuals and teams are empowered with appropriate tools, techniques and technical support to achieve organisational targets. The company's internal operating procedures of sustainability practices are largely supported by the Hoshin Kanri⁸ through which strategies and key performance indicator (KPIs) are disseminated throughout the group. Junior Executive 6 explained how Hoshin Kanri is utilised in designing and implementing sustainability strategies:

Hoshin has certain KPIs and then KPIs will lead to strategies and action plans. These action plans are divided into divisions where divisions will have their own Hoshin. That is divided into the plants and each executive unit. ...the implementation path is there from the top to bottom, and then to the very small department of a plant.

A similar comment was made by Executive 4 regarding the importance of Hoshin in terms of achieving sustainability objectives and KPIs as:

Our chairman expects all the factories to be best environmentally friendly and ISO 14001 certified, and every plant has to maintain all these standards.

In addition, the GMO uses an online management information system to collect and share sustainability related data throughout the group, which is then used to support and measure the KPIs, take corrective actions and ultimately, achieve the targets. For example, as the majority of participants revealed, top management actively observes the progress of sustainability projects, such as reducing water and energy consumption across its factories. The company has implemented an initiative to build an online system to monitor the water and electricity consumption.

Before making any decisions about capital-intensive projects, GMO analyses the sustainability impact, undertakes cost benefit analyses and also applies a number of project appraisal techniques, such as net present value, payback period, internal rate of return, and return on investment, to evaluate the viability of such sustainability projects. Junior Executive 4 provided an example:

We are going to install cooling towers for chiller's fans. That also has a two to three per cent savings of our total energy bill. We have budgeted and ... calculated all the ROIs [return on investment] and payback and everything ... already we have been given the approval to implement the project.

Respondents also suggested that the sustainability budgeting process is used by the GMO as a rational decision-making process based on systematic and scientific analysis, including investment appraisal techniques. Life cycle analysis is seen as another frequently used analytical technique that GMO undertakes to determine the viability of its sustainability projects. According to Executive 1:

We conduct life cycle analysis even for a small air conditioner...we have discussions in the energy manager's forums about the modern technologies and they come and share with us.

In a similar vein, Senior Executive 1 highlighted the importance life cycle analysis in terms of ensuring a low carbon footprint in the supply chain. For example, GMO has conducted a comparative analysis of undergarments (e.g. bras) produced in a traditional factory and a green factory that has been certified by the LEED Platinum Certification. Their analysis revealed that the bras produced at the green factory, branded as eco-bras, recorded substantially lower energy and carbon footprint compared to those manufactured in the traditional factory.

Finally, the performance evaluation system of GMO is based on both formal and informal mechanisms, such as KPIs, awareness, and compliance in monitoring the progress of sustainability practices. While GMO has designed well-established formal performance evaluation systems to evaluate employees' overall performance, the current sustainability KPIs are not directly linked to decisions regarding rewards and promotions. Nonetheless, many participants stated that internal control systems implemented within GMO have played an important role in organisational change towards sustainability.

4.3. Sustainability practices aiming at developing human resource

Respondents revealed that GMO's sustainability initiatives were started more than three decades ago, as the organisation wanted to be a pioneer in sustainability practices. GMO distinguishes itself from its industry partners in a number of ways. For instance, GMO does not simply focus on producing and selling quality products but also on achieving sustainability and creating value. Most importantly, many participants suggested that GMO treats their employees with pride and takes care of them. A broad range of activities that GMO has engaged in involve empowering employees, employee involvement and participation in decision making, investing in internal staff development, learning and capacity building, renewing and upgrading human knowledge, skill formation and development, creating equal opportunities, promoting workplace diversity, work-life balance, promoting ethical business practices, health, safety and wellbeing, and social justice. Executive 1 provided an example of how GMO has empowered employees to achieve sustainability KPIs:

Employees are empowered to achieve the KPIs through whatever the innovative ideas come up with even at the bottom level. These innovative ideas are called the Kaizen, means improvements ... If a factory does something good, we get all

the other factories to do it as well. I would say the empowerment is driving the culture. People are motivated.

Unlike traditional garment manufacturing organisations, GMO has initiated employee training and development programmes by focussing on sustainability issues and challenges. Sustainability training commences during the employees' induction programme at the point of their recruitment. At this stage, employees are trained in ISO standards, health and safety standards, and sustainability rules and policies, as Senior Executive 2 explains:

At the recruitment level we tell employees what the plant is about, and in the induction, we tell them what we do in sustainability, how to behave and how to use waste dustbin, how to select the right waste bin. We make aware of those things and we teach all of them.

Furthermore, Executive 1 noted that sustainability training is not only limited to the lower level employees, but happens at all levels and is not just limited to in-house training but also includes peer learning and participation in other external events:

For the ISO 14001, we have to conduct programmes and all the employees should involve from top to bottom. And also, we have email fliers, notice boards and all those things to educate employees. Also, we celebrate international days like Earth Day, Water Day, and Environment Day like those important occasions.

Executive 1 stated that the company organises various events to celebrate international dates and events related to sustainability and also implements a number of programmes to encourage employee engagement in sustainability practices. These activities appear to be mainly aimed at creating awareness and influencing employees' behaviour and attitudes, with some participants noting how employees' mindsets have changed as a result. For example, Executive 4 stated:

People pollute less, which is very important. They take the idea home as well. Then kids learn those practices. We organise sustainability-related competitions which give special recognition to employees, even on the Earth Hour we had a competition to guide people.

Some participants also suggested that their ideas are valued by the GMO and that they are also encouraged to participate in sustainability related projects, as the following quote from Junior Executive 6 illustrates:

Top management gives the freedom to act with our own ideas.

Executive 4 provided a similar example of employees' proactive involvement, referring to some events related to cleaning the [ABC] National Park and also contributing to other community projects:

That's not initiated from the central sustainability committee, but it was initiated by the plant management and staff...

Top management support was found to be another main contributing factor towards GMO's proactive sustainability practices. Almost all the respondents emphasised that the top-level leadership is the main driving force behind the implementation of sustainability practices at GMO. Senior Executive 2 suggested that top management's vision

motivates the rest of the employees towards corporate sustainability:

The top managers are highly committed towards the sustainability... Top management's responsible behaviour encourages team members to actively engage in sustainability practices.

Executive 1 further shed some light on the top management's interest in sustainability:

Our managing director ... always says we must not do anything wrong.

Senior Executive 1 provides a specific example to highlight the top management's commitment and support:

Board commitment and leadership is very important to implement sustainability practices. For the past three years, Rupees 2.5 million [\$15,000] have allocated for sustainability only for this division. If you consider that amount of money, actually somebody should be keen on it.

Middle and lower level managers spoke of feeling empowered because of the top management leadership's positive intent and commitment towards sustainability. At the same time, all sustainability projects and practices need to go through the top management team to be approved for funding.

GMO has implemented various social sustainability initiatives to enhance the company's reputation in general and that of their employees in particular. More importantly, GMO has taken a proactive approach to change the perception of employees working in garment manufacturing. One striking example is the status of the apparel women. In the beginning, Juki machine operators, who were mainly women, received low social recognition. Some parts of society even referred to them as 'Juki Girls',⁹ with derogatory connotations. Executive 3 illustrates the GMO's genuine intention to change this:

When [founders] established the business, you know how the apparel ladies were treated in the 1980s. ...they wanted to change the whole perspective. They wanted to make it a professional organisation. They hired professionals like engineers and finance professional and all those who have degrees... Then 'Juki Ladies' became 'Team Members'.

GMO's vision, top management support, the company's programs targeting their employees, such as training and development, empowerment, and employees' involvement in sustainability practices and their participation in decision making, are all seen as factors that contribute to changing employees' mindset, which ultimately helps the company to successfully implement sustainability initiatives throughout the group.

4.4. Sustainability practices aiming at enhancing efficiency and productivity

GMO's sustainability practices appear to be aimed at enhancing their efficiency, reducing cost and increasing operational efficiency. GMO considers that sharing accurate and timely sustainability related information is key for achieving such sustainability related goals (i.e. improving efficiency and productivity and reducing cost). The company uses both

formal and informal channels to disseminate sustainability information within the group, which include notice boards, wallpapers, suggestion boxes to get feedback, internal newsletters, management information systems websites, 'Sustainability Insights' intranet site, news archives and media briefings. GMO's Communication on Progress report (2011, p. 32) highlights the objectives of the launch of the Sustainability Insights project to share information:

As a step to make all at [GMO] more aware and vigilant, an intranet site known as 'Sustainability Insights' was launched in August 2011 where the environmental sustainability steering team updated progress and the latest happenings in the group; working towards connectivity, collaboration and an inclusive culture. Annually the sustainability steering team organises a sustainability forum where employees who are driving the initiative across the group join together to share the developments and the proceedings of the year in each of their divisions and the way forward.

GMO not only promotes formal sustainability communication processes, but it has also initiated more informal ways for employees to know about GMO's past, current and future sustainability practices. Moreover, employees can contribute to this process in various ways, as Executive 2 describes:

We have also designed a wall for employees to display their contributions and involvements to sustainability where they can display what they are doing at home or even their ideas about the sustainability practices of the company. From this, I think that employees can also learn things that they have not done, but someone else has done.

While GMO supports employees' ideas, encourages their involvement and recognises their achievements towards sustainability, so far, no system of direct rewards or bonuses is in place. However, surprisingly, we could not find any evidence of employee resistance. In particular, Executive 4 emphasised that they feel no resistance from employees in implementing sustainability practices. With the aim of continuous improvement in its sustainability practices, Executive 3 told us that the company is considering introducing a reward system for complying with the proposed sustainability measures:

We are also in the process of improving reward schemes for complying with sustainability targets.

To improve efficiency and productivity by implementing sustainability practices, organisations also need to invest in large-scale plans and projects aimed at energy savings, reduced water use and waste management among many others. The findings show that GMO relies on the recommendations of industry experts for sustainability related projects that require high levels of technical advice and evaluation. If the scale and volume of the project are relatively high, the company often seeks expert advice prior to commencing the project. Executive 5 emphasised how important the role of sustainability specialists play in making such decisions:

Like big projects, for example, for air conditioning replacements we get professional recommendations...if we don't have internal, we get industry and professional experts' advice.

Some other areas where GMO will seek external consultants' expert advice and recommendations in their

large-scale projects include electricity, water, major capital investments and long-term strategies. Junior Executive 4 stated that such practices have become the norm within the company and that it pays close attention to the sustainability aspects of each and every project that it undertakes. Executive 1 elaborated on this fact by referring to one specific example when GMO decided to purchase an energy chiller:

...they [consultants] come to factory visits, discuss, analyse things and sometimes they do simulations and evaluate different quotations as well. Then they say if you use this chiller, this may have this much of payback and savings. They do analysis and give us a report on different options and based on that we select the supplier. Depending on the energy savings as well as the cost, we have to balance and then we buy the machine.

All of this indicates that while the day-to-day sustainability practices are mainly driven by organisational cultural values, large-scale capital-intensive projects often involve seeking professional and external experts' services before making centralised decisions.

4.5. Sustainability practices aiming at growth and resource acquisition

The findings indicate that GMO promotes sustainable innovations, engages in continuous improvements and maintains healthy relationships with its stakeholders aiming to have a positive impact on long-term sustainability changes. A majority of participants noted the fact that GMO has changed its culture over time in order to adapt to the dynamic changes in the environment. In responding to sustainability changes, GMO is well mindful of the need to integrate innovation in every aspect of sustainability. In particular, it continuously invests in state-of-the-art technologies to minimise the sustainability impact of their products and processes. Senior Executive 2 revealed how GMO engages in such sustainability innovations:

Innovation is a key and new technology is also coming up. We'll see how these new technologies to use our focus and to do better... For example, say, you need us to use [a] certain chemical dye, which may be harmful to the environment. But now new dyes are coming out and, new technologies are coming out.

GMO possesses sophisticated systems to promote continuous improvements in many aspects of sustainability. For example, the company has introduced quality management practices as a means of reviewing ongoing sustainability practices, as Executive 4 stated:

Part of our culture is the continuous improvement. Continuous improvements are not only in the productions. ...in sustainability also, we do continuous improvements as requirements are coming from our customers and suppliers or within GMO as well. We must do changes.

As noted by participants, GMO has focussed on maximising production capacity through efficient sustainable operational management processes, such as supply and customer integration, eco-products, product standardisation and renewable energy.

Apart from their focus on sustainability changes within the organisation, GMO also engages in various community projects, such as Eco-go Beyond, where the company focuses on training school children on how to minimise environmental impact and address sustainability issues. The company has also initiated various awareness programmes and community projects for employees to encourage their engagement in sustainability practices. Junior Executive 7 elaborated that:

One thing is organising training programmes for people. Awareness campaigns are going on. We not only focus on the factory, but we also focus on the environment beyond our factory premises. We do lots of projects to improve our society. For example, we also encourage employees to protect the environment even by recycling burnt bulbs.

Participants stressed that GMO's community engagement is not merely to avoid community pressure regarding sustainability issues but to genuinely disseminate the sustainability message among all stakeholders.

The analysis of the case study findings reveals that the GMO's organisational change towards sustainability has been influenced by a number of factors, such as regulations, industry and customer demands, rules, policies and procedures, and socio-cultural changes. While external drivers such as compliance requirements, industry standards and customers' demands (including GMO's world-renowned and multinational retailer customers, such as Nike, GAP and Adidas among many others) appear to have some impact, the main drivers of change appear to be internal factors such as the company's proactive approach (e.g. GMO's vision, use of formal controls and integration of technology) and top management support towards sustainability. In addition, the company's changed focus from a manufacturing to a 'people' oriented organisation, employee empowerment, training and development program, employees' involvement in sustainability practices and their participation in sustainability related decision making (e.g. innovation and experiment), are seen as some of the main factors contributing to changing employees' mindset and achieving sustainability. While most of its sustainability practices are aimed at improving operational efficiency and reducing cost (i.e. energy, water and waste), the company is also engaged in various community projects outside their organisations, such as the Eco-go Beyond program aimed at providing sustainability related training to school children. All of these shows the company's wide range of efforts towards achieving sustainability – control versus flexibility and internal versus external focus (see [Figure 1](#)). In particular, four different and competing cultural values are found to be the main contributing factors that influence and shape the company's sustainability practices: people-oriented changes (e.g. empowerment, training and development and leadership); growth-oriented changes (e.g. sustainability related innovations, continuous improvement and community engagement); productivity and efficiency oriented changes (e.g. sustainability goals to improve efficiency and productivity, open communication, decision making based on expertise recommendation and motivation for rewards); and stability and control oriented changes (e.g.

sustainability budgeting, investment appraisal, policies and procedures and performance evaluation). A summary of key findings of the case study with main themes, sustainability focus and supporting examples, are presented in [Table 2](#).

5. Discussion

While the garment manufacturing industry in developing countries (South Asian region, in particular) has been widely criticised for its unsustainable operations, including human rights abuses, use of slave labour, environmental pollutions, carbon footprint, excessive use of chemicals, etc. in the last three decades (see, [Asclay, Dent, and Haan 2004](#); [Perry et al. 2015](#); [Wijethilake, Munir, and Appuhami 2017](#)), our findings provide a different picture. We have provided detailed insights on the sustainability practices obtained from a case study conducted in one of the largest garment manufacturers in the region. The findings reveal that the GMO implements environmental aspects of sustainability as a priority, but that it also focuses on social (e.g. 'women go beyond' program, targeting the female workforce and having a workforce that is more than 90 per cent female) and economic aspects (e.g. creating direct employment for more than 80,000 people, thousands of others in their supply chains and their contribution to foreign direct investments in Sri Lanka). The findings indicate that the company's sustainability practices appear to be influenced by their proactive approach towards their external and internal stakeholders, and also by the need to meet compliance requirements. Examples include GMO's engagement in a number of CSR activities, the use of ISO14001 standards, and their commitment to the United Nations Global Compact, for which they produce and submit annual COP reports. More importantly, a striking example worth mentioning is providing social recognition to the '*Juki Girls*' and offering them a sense of inclusion in the team. These findings contradict prior studies ([Sinkovics, Hoque, and Sinkovics 2016](#)) which suggest that the garment industry perceives CSR initiatives as compliance requirements instead of adopting a proactive strategic approach.

Manufacturing industries have been able to improve their efficiency in the production and operation process, which enables them to produce and sell their products at a competitive price. However, researchers (e.g. [López-Torres et al. 2019](#)) are raising questions about the negative impact of these industries on the environment and society, and the garment industries are no exception. [Caiado et al. \(2019\)](#) argue that organisations' long-term survival not only depends on being competitive in the market, but also on meeting social and environmental responsibilities. However, prior literature provides little empirical evidence on how organisations can resolve the ongoing tension inherent in having to balance social, environmental and economic goals (see [Van der Byl and Slawinski 2015](#)). Given the specific nature of the garment manufacturing industry in developing countries, where manufacturers play an intermediary role between suppliers and customers, they are most likely inclined to face competing demands from different

Table 2. Competing cultural values that enable sustainability changes.

Main themes	Key findings	Sustainability focus	Examples/quotes
Stability and control focus	<ul style="list-style-type: none"> • Sustainability planning, policies, structures and procedures • Sustainability data collection • Online management information system • Sustainability investment appraisals • Sustainability budgeting • Sustainability life cycle analysis • Performance evaluation systems 	<ul style="list-style-type: none"> • Mainly environmental and economic dimensions 	<ul style="list-style-type: none"> • Focus on ISO14001 certification. Executive 4 indicates company's intention: "... all factories to be ... ISO14001 certified" • Employees are trained in ISO standards • Sustainability insights • Use of "compliance and risk management framework ... , international standards / practices ... , (and) development of policies ... to support workplace conditions" (COP 2012, p. 17)
Human resource development	<ul style="list-style-type: none"> • Employee empowerment • Sustainability training and development • Employee involvement and participation in decision making • People-oriented culture • Top management support 	<ul style="list-style-type: none"> • Mainly social dimension • Also, focussed on economic benefits 	<ul style="list-style-type: none"> • Family-owned business • Manufacturing oriented focus changed to 'people' oriented culture • Respect and recognition to 'Juki girls' • 'Women go beyond' program (aimed at supporting female employees) • Workers' health, safety and wellbeing • "Employees are empowered to achieve the KPIs ... " (Executive 1)
Efficiency and productivity enhancement	<ul style="list-style-type: none"> • Sustainability goals to improve efficiency and productivity • Open communication as a medium of managing sustainability issues and information • Motivation for rewards • Decision making based on expertise recommendations 	<ul style="list-style-type: none"> • Mainly environmental and economic dimensions 	<ul style="list-style-type: none"> • The company's customers include world-renowned brands and leading retailers (e.g. Nike, GAP, Adidas, M & S, H & M, Banana Republic and Victoria's Secret among many others) • Compliance with ISO 14001 • Awarded LEED Platinum Certification • Received 'Best citizen' award • Reduced 'energy and water' consumption (e.g. by installing cooling towers the company expects to make "two to three per cent savings of our total energy bill", according to Executive 4)
Growth and resource acquisition	<ul style="list-style-type: none"> • Innovations and continuous improvements in responding to sustainability challenges • Adaptation to change • Sustainability and community engagement 	<ul style="list-style-type: none"> • Mainly environmental dimension • Also, focussed on economic benefits 	<ul style="list-style-type: none"> • Experimentation of 'Eco bra' • "Top management gives freedom to act with our ideas" (Junior Executive 6) • 'Eco go beyond' program (aimed at providing training programs on sustainability to the school children) • "... we also focus on the environment beyond our factory premises" (Junior Executive 7) • Formation of two 'Sustainability team'

stakeholders (Wijethilake, Munir, and Appuhami 2017). GMO's 'best-in-class' exemplary approach appears quite different compared with many others operating in the industry that do not even meet the minimum expected standards (see Sinkovics, Hoque, and Sinkovics 2016). Unlike traditional garment manufacturers, GMO focuses on producing and selling quality products, whilst achieving sustainability and creating value.

This raises the question of how GMO can achieve sustainability while other garment manufacturers in the developing countries are criticised for their unsustainable operations? While some prior studies argue that organisations' sustainability practices are driven by external forces (e.g. government regulations, industry forces, interest groups, professional bodies and stakeholder demand, etc.), others suggest internal factors (e.g. nature and size of business, strategic positioning, cost reduction, perceived benefit and competitive advantage) as key drivers. Few discuss the importance of organisations' response (i.e. reactive and proactive) to sustainability (see Linnenluecke and Griffiths 2010; Upadhaya et al. 2018; Wijethilake and Ekanayake 2018; Wijethilake and Lama 2019) (see Figure 2). Drawing on the CVF of organisational culture (Quinn and Rohrbaugh 1983;

Quinn and Kimberly 1984), our findings indicate that the company's proactive involvement in sustainability is aimed at stability and control, growth, efficiency and productivity and people-oriented organisational change. This shows that GMO is focussing on competing values (e.g. control versus flexibility and internal versus external) (see, Figure 1) to achieve its sustainability practices. The application of CVF enables us to understand the role of opposite or competing organisational culture values in organisational change towards sustainability. Based on our analysis of the drivers of corporate sustainability, and how competing cultural values might facilitate sustainability changes and its potential sustainability outcomes, this study proposes a framework for sustainable organisational culture (see Figure 2).

As presented in Table 2, the evidence shows that GMO's cultural changes towards sustainability are likely to be reflected in different dimensions of sustainability. Interestingly, stability and control, growth oriented and productivity oriented cultural changes are more likely to promote environmental and economic dimensions of sustainability. Yet, people-oriented changes (or human resource development) are highly embedded within social aspects of sustainability. As revealed in GMO's case, while these observations

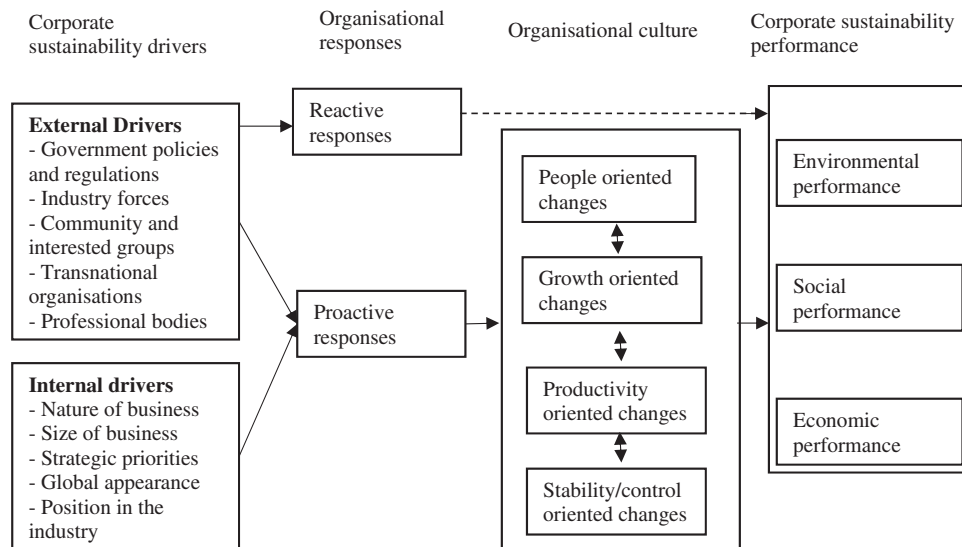


Figure 2. A framework of sustainable organisational culture.

are quite reflective of the practical phenomenon, it should be noted that there might be overlaps in other contextual settings, such as in different industries and different countries. As shown in Figure 2, we propose a general link between the four competing cultural values and three dimensions of sustainability, regardless of the contextual differences of the role of competing cultural values in enabling different dimensions of sustainability.

GMO has adopted a robust internal control system to facilitate stability and control-oriented change towards sustainability. In so doing, GMO uses sustainability related formal means, such as policies, planning, budgeting, management information systems, investment appraisals, life cycle assessments and performance evaluations, which are mainly intended to improve working conditions, maintain coordination and meet compliance requirements. Its internal management control systems seem to play a key role in organisational change towards embracing corporate sustainability (e.g. Wijethilake, Munir, and Appuhami 2017). GMO conducts sustainability life cycle analysis, sustainability budgeting and sustainability investment appraisals for all of its major capital-intensive projects and assesses its sustainability impact in greater detail. The case study shows that most of these control systems are used as forward-looking mechanisms (i.e. proactive) aimed at preventing sustainability issues rather than detecting and correcting (i.e. reactive). These findings appear somewhat contradictory to Perry et al. (2015) who examined the strategic balance between ethical considerations (e.g. internal) and commercial pressure (e.g. external). Perry et al. (2015) conclude that factory managers perceive corporate social responsibility as a regulatory compliance, reflecting a reactive approach.

To achieve growth-oriented organisational change, GMO is found to be integrating innovative technologies to minimise the impact of their production process. GMO also adopts a long-term proactive orientation towards sustainability by extending its commitment to environment friendly practices, adopting continuous improvement techniques, and engaging in the community.

Sustainability practices of GMO also appear to be aimed at enhancing their efficiency, reducing cost and increasing operational efficiency, for which the company has adopted Hoshi Kanri, Kaizen, TQM, lean manufacturing, and various other environmental management systems. In addition, its systematic and open communication policies facilitate an environment in which complex information gaps and overlaps can be resolved. While the literature often cites that communication barriers between different levels and departments of an organisation can be ineffective and may cause adverse effects (Wijethilake, Munir, and Appuhami 2017), GMO's open and transparent communication approach creates avenues for disseminating sustainability news and agendas effectively across all levels and departments.

Prior studies suggest that widely shared norms, values and social systems help employees understand how organisations function (Liu et al. 2010; Dubey et al. 2019; Wijethilake and Lama 2019), which can ultimately influence employees' attitude towards sustainability if encouraged by senior management (Linnenluecke and Griffiths 2010). Consistent with prior literature, top management support was found to be one of the key factors contributing to GMO's proactive sustainability practices. While GMO's vision, use of formal controls, integration of technology and top management support may play an important role in successfully implementing sustainability practices, Linnenluecke and Griffiths (2010) suggest that success also largely depends on bringing about a fundamental change in organisational culture. Employees need to be aware of the importance of sustainability and also need a change in mindset in order to integrate sustainability into their business practices (López-Torres et al. 2019). GMO's approach to changing the organisation towards sustainability shows that integrating employees' values and attitudes in line with its organisational vision and mission appears to be effective. GMO's programs set up for their employees, such as training and development, empowerment, and employees' involvement in sustainability practices and their participation in decision making, are seen as the factors that contribute to changing

employee mindset and achieving sustainability. Although there was at the time, no direct reward system associated with achieving sustainability related targets, we found no evidence of employee resistance. This may be partly because Sri Lankan culture is influenced by the Buddhist philosophical values that are shared by the majority of people (e.g. Sinhalese community). The empirical findings supported by this unique contextual setting have allowed us to elaborate the application of CFV in organisational change towards sustainability.

The findings offer novel insights into the role of organisational culture towards organisational change and sustainability. Enhancing our understanding on the competing role of organisational culture in organisational change towards sustainability (Linnenluecke and Griffiths 2010), the study contributes to the body of literature that supports the role of organisational culture as a proactive sustainability strategy (e.g. Upadhaya et al. 2018). While control-flexible and internal-external perspectives seem to reflect competing demands (see Figure 1), our findings show that opposite cultural values can be intertwined, which may help support organisational changes towards sustainability. The findings appear consistent with Dubey et al. (2017) who argue that to achieve sustainable performance, organisations need to embrace a hybrid orientation (a mix of flexibility and control). However, our findings appear somewhat different from a recent study (e.g. Dubey et al. 2019) that could find no evidence of the moderating role of organisational culture (i.e. flexibility and control dimensions) in big data and predictive analytics and social/environmental performance.

6. Conclusion and contributions

The study contributes to the organisational change and sustainability literature by highlighting the role of organisational culture as a means of addressing sustainability challenges in the highly contested arena of the garment manufacturing industry in the South Asian context. By exploring competing organisational culture values in organisational change towards sustainability, our findings add to prior studies (e.g. Liu et al. 2010; Linnenluecke and Griffiths 2010; Dubey et al. 2017; Wijethilake, Munir, and Appuhami 2017; Upadhaya et al. 2018; Dubey et al. 2019; López-Torres et al. 2019) which provide mixed results. This study finds that an integrated and balanced approach of competing perspectives of organisational culture is more likely to promote organisational change towards sustainability (Linnenluecke and Griffiths 2010). As discussed in the CVF, organisational ability to integrate sustainability practices in internal-external and control-flexible cultural perspectives facilitates a proactive sustainability approach that caters for a variety of stakeholders' demands. By contrast, adopting a dominant cultural approach might lead to a skewed focus towards environmental, social or economic objectives. Second, by proposing a framework for a sustainable organisational culture (see Figure 2), this study extends the role of organisational culture within and beyond the drivers of sustainability (i.e. external vs internal), organisational response (proactive vs

reactive), competing values (people, growth, productivity and stability/control oriented) and the three perspectives of sustainability (social, environmental and economic).

The empirical findings of this study provide practicing managers with valuable insights. Evidence suggests that top management needs to pay particular attention to embracing competing cultural values in a balanced approach when pursuing organisational change towards sustainability (e.g. Sroufe 2017). Managers also need to think of the appropriate balance of the four competing values of organisational culture. In other words, cultivating a dominant cultural value is more likely to neglect other important areas of interest to different categories of stakeholders. At the same time, managers need to understand that changing the existing culture is one of the most challenging tasks and that many organisations fail (Linnenluecke and Griffiths 2010). To mitigate employee resistance to change in line with sustainability challenges, managerial efforts should be carefully analysed, strategically planned, tactically implemented and periodically reviewed. Business leaders need to pay careful attention to develop proper internal systems to align strategies with sustainability goals.

While this study provides an in-depth analysis of the role of organisational culture in organisational change towards sustainability, the following limitations should be borne in mind. Firstly, the concepts of organisational culture, organisational change, and corporate sustainability are broad and complex. While the study refers to a well-established conceptual framework (i.e. CVF), the findings may not depict a comprehensive view of the intended outcomes. Future studies might use multiple or longitudinal case studies and integrate other theoretical perspectives to explore the topic and draw a comprehensive picture of the core arguments. Secondly, this study is subject to the inherent generalisability limitations associated with case studies (Miles and Huberman 1984; Voss, Tsikriktsis, and Frohlich 2002; Yin 2009). These limitations include the fact that the data was derived from a single organisation in Sri Lanka, that it was limited to fifteen semi-structured interviews and the use of public and internal data. In order to address these inherent limitations, we have taken a number of steps to reduce the bias and ensure the reliability and validity of the data, such as selecting participants from a range of backgrounds and expertise, engaging with informal discussions and conducting observation visits (Eisenhardt 1989; Yin 2009; Ketokivi and Choi 2014) to GMO's green manufacturing plant and the use of secondary data to triangulate the findings (Voss, Tsikriktsis, and Frohlich 2002; Pagell and Wu 2009). Future studies could pay attention to cross-sectional studies with a larger sample size, on the relationship between organisational culture, organisational change and corporate sustainability that can be generalised more widely. The framework we propose is based on the existing literature, case findings and analysis; future studies could test the model to ensure its external validity.

Notes

1. In the broader concept of 'sustainability', we have also included other closely related concepts, such as 'sustainable development', 'corporate

social responsibility', 'corporate responsibility' and 'corporate social and environmental performance'.

2. Sri Lanka Joint Apparel Association Forum (2019) <http://www.dailymirror.lk/business-news/Apparel-export-earnings-hit-record-US-5-3bn-mark/273-181657>
3. Sri Lanka Joint Apparel Association Forum (2020) <https://www.srilankaapparel.com/sri-lanka-apparel/>
4. Sri Lanka Joint Apparel Association Forum (2019) <https://www.srilankaapparel.com/social/>
5. Sri Lanka Joint Apparel Association Forum (2020) <https://www.srilankaapparel.com/an-industry-misunderstood-sri-lankan-apparels-tale-of-resilience-global-leadership/>
6. Sri Lanka Joint Apparel Association Forum (2020) <https://www.srilankaapparel.com/an-industry-misunderstood-sri-lankan-apparels-tale-of-resilience-global-leadership/>
7. In compliance with the University's Human Research Ethics Review, pseudonyms are used to protect the confidentiality of case organisation and the respondent's identity. The details about the case organisation are derived from the publicly available documents and from the GMO's website (see. [Appendix 1](#)).
8. 'Hoshin Kanri is a form of corporate-wide management that combines strategic management and operational management by linking the achievement of top management goals with daily management at an operation level' (Witcher and Butterworth 2001, p. 651).
9. The term 'Juki Girls' used to refer to Juki Machine Operators in the garment manufacturing industry.

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Disclosure statement

No potential conflict of interest was reported by the author(s).

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Appendix 1. Summary of documented evidence

Type of source	Time frame	Pages
United Nations Global Compact Communication on Progress Reports	2004–2018	555
Garment Manufacturing Organisation – Internal Magazines	2011–2013	124
Garment Manufacturing Organisation – Sustainability Case studies	2006–2013	295
Garment Manufacturing Organisation: Eco plant reports	2008–2010	20
Garment Manufacturing Organisation: web resources and news articles	2003–2019	69
Confidential reports: Sustainability planning; policies; performance evaluations; reviews; structures; processes and procedures	2010–2013	Viewed and extracted

Appendix 2. Interview guide – broader areas of inquiry

1. What are the sustainability operations at your organisation?
2. What motivates your company to pursue sustainable operations?
3. What are the drivers behind the implementation of sustainable operations?
4. What are the internal organisational values that drive corporate sustainability?
5. How has corporate sustainability changed over time?
6. How does the organisation adopt sustainability changes over time?
7. What are the internal tools and systems that support sustainable operations?
8. What factors limit the implementation of new sustainable operations?
9. What are the difficulties that you encounter in implementing sustainable operations?
10. How would you adopt emerging sustainability challenges?

Appendix 3. NVivo tree coding structure

1. Sustainability practices
 - 1.1 Environmental sustainability
 - 1.2 Social sustainability
 - 1.3 Economic sustainability
 - 1.5 External sustainability
 - 1.6 Internal sustainability
2. Sustainability organisational culture
 - 2.1 Stability and control
 - 2.1.1 Sustainability planning, policies, structures and procedures
 - 2.1.2 Sustainability data collection: procedures and objectives
 - 2.1.3 Investment appraisals for sustainability:
 - 2.1.4 Sustainability budgeting
 - 2.1.5 Sustainability life cycle analysis
 - 2.1.6 Performance evaluation systems
 - 2.2 Cohesion and morale development
 - 2.2.1 Employee empowerment in sustainability decision making
 - 2.2.2 Sustainability training and development
 - 2.2.3 People oriented sustainability culture
 - 2.2.4 Top management team sustainability leadership
 - 2.3 Efficiency and productivity
 - 2.3.1 Decision making based on expertise recommendations
 - 2.3.2 Open communication for managing sustainability issues and information
 - 2.4 Growth and resource acquisition
 - 2.4.1 Innovation
 - 2.4.2 Continuous improvements
 - 2.4.3 Community engagement.