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Leadership Dimensions Influencing Sustainability Leadership in Sri Lanka: Mediating Effect of Managers' Ethical Behaviour and Organizational Change

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Abstract

This study examines the mediation effect of managers' ethical behaviour and organizational change on the leadership dimensions that influence sustainability leadership among Sri Lankan managers. Manager's attitudes to organizational change and their ethical behaviour are identified as essential dimensions to achieve sustainable leadership in the business world. While much of the literature underlines the direct relationship between organizational leadership and either organizational change or manager's ethical behaviour, only a few studies focus on the mediating effect of the manager's ethical behaviour and organizational change leadership on perceptions of creating a sustainable organization. Sri Lanka is identified as a developing country with strong socio-cultural values that promote sustainability. Understanding what constitutes sustainability leadership in a developing country such as Sri Lanka is worth examining. The responses of 596 managers were analyzed using factor analysis and structural equation modeling. The findings confirm that stakeholder relations are the most influential dimension for creating sustainability leadership. Mediation analysis tests confirmed that the two mediators of managers' ethical behaviour and change leadership fully mediate the relationships between employee engagement and leaders' concern for social and environmental sustainability, which concern was identified as the weakest of the three leadership dimensions suggesting that long-term orientation has not much potential for creating sustainability leadership among Sri Lankan managers.

Keywords: sustainability leadership, leadership behaviours, cultural modeling, developing economies

1. Introduction

Sustainability issues are common to all countries regardless of their level of economic, social and environmental development (UN, 2015). Unlike the developed world, developing countries are largely exposed to diverse, complex and major issues of environmental pollution, poverty and gender discrimination, etc. The concept of corporate sustainability has been explored in depth mainly in the developed world but is little known in the developing countries (Kantabutra & Avery, 2012; Kantabutra & Saratun, 2013), suggesting that today sustainability has become a key managerial task for ensuring organizational sustainability.

The literature defines a sustainable leader as one who aims to minimize the negative impact of managerial decisions on the triple bottom line (i.e., the environment, economy and society). Managers need outstanding leadership skills to address issues surrounding organizational sustainability so as to minimize the negative impacts on the triple bottom line (Metcalf & Benn, 2013).

Researchers and practitioners such as Avery and Bergsteiner, (2010, 2011); Dunphy and Benn, (2013) and Parkin, (2010) point out that strong leadership that perceives sustainability matters create sustainability in organizations. Leadership scholars argue that leadership theories such as charismatic leadership, transformational leadership, ethical leadership, spiritual leadership, responsible leadership, servant leadership and environmental leadership contribute to organizational sustainability and even help organizations to gain competitive advantage in the industry (Avery & Bergsteiner, 2010, 2011). Remarkably, those organizations that disregard sustainability have faced corporate scandals and even bankruptcy.

Organizational transition towards sustainability often requires its leaders to be more innovative in managing

planned organizational changes (D'Amato & Roome, 2009; Gilbert, 2019; Hargett & Williams, 2009; Strategic Direction, 2011; Willard, 2009). Excellent leadership that prioritizes sustainability is considered an important aspect when directing organizational change towards sustainability (Dunphy & Benn, 2013; Dunphy, Griffiths, & Benn, 2014), which confirms the essentiality of change-oriented leadership skills to achieve organizational sustainability (Akins, Bright, Brunson, & Wortham, 2013; Avery & Bergsteiner, 2011; Bossink, 2007; Gilbert, 2019; Millar, Hind, & Magala, 2012).

1.1 Research Problem

Although much of the literature underlines the direct relationship between organizational leadership and either organizational change or ethical behaviour, only a few studies focus on the mediating effect of the manager's ethical behaviour and organizational change leadership on perceptions of creating a sustainable organization.

In order to explore this issue further the present study examines the mediating effect of the two identified mediating variables (i.e., leader's commitment to organizational change and ethical behaviour) on the perceptions of sustainable leadership in Sri Lankan organizations. To achieve this research objective the following research questions were developed:

(1) *How does the leaders' commitment to organizational change mediate the relationship between the **three leadership dimensions (EMP, LONG and STK)** and sustainability leadership dimensions?* and

(2) *How does the leaders' ethical behaviour mediate the relationship between the **three leadership dimensions (EMP, LONG and STK)** and sustainability leadership dimensions?*

To examine the managerial perceptions of sustainability leadership in Sri Lankan organizations it is important to examine the context-specific factors that influence the leader's attitudes, behaviours and perceptions. By doing so, this study seeks to find perceptions of organizational leadership in the developing world from the sustainability perspective.

Sustainability leadership in organizations has attracted attention in the developing world more than in the developed world as the former faces more unique and diverse challenges (Khavul & Bruton, 2013; Selvarajah, Meyer, Jayakody, & Sukunesan, 2020). Most organizations in the developing world aim to maximize short-term profit compared with businesses in developed countries (Bin, 2020; Karande, Rao, & Singhapakdi, 2002). Hence, understanding and incorporating context-specific values and beliefs help managers to include them in their sustainability strategies (Edjossan-Sossou, Galvez, Deck, Al Heib, Verdel, Dupont, & Morel, 2020; Khavul & Bruton, 2013).

2. Literature Review

Similar to the effective leadership behaviours developed by Yukl (2012), a group of East Asian researchers (Selvarajah, Duignan, Suppiah, Lane, & Nuttman, 1995) has developed a similar leadership concept called "excellence in leadership" to understand the perceptions of leadership behaviours in different cultural contexts. This concept enables researchers to explain how organizational leaders in a particular culture perceive an excellent leader within their organizations. To achieve this objective, Selvarajah et al. (1995) developed 94 leadership behavioural statements in the APEL questionnaire.

In order to examine Sri Lankan managers' perceptions of sustainability leadership, this study first explored the sustainability leadership literature pertaining to Sri Lanka and identified five excellent leadership dimensions that influence sustainability leadership among Sri Lankan managers: concern for employees (EMP), stakeholder relationships (STK), and long-term orientation (LONG), which were identified as variables with a direct impact on sustainability leadership while leaders' ethical behaviour (SUSTHINK) and change leadership (CHNG) were identified as mediating variables.

2.1 Context-Specific Nature of Sustainability Leadership

Traditionally, the leadership literature considers organizational leadership to be a universal phenomenon (Bass, 1990; Bass & Avolio, 1993; Fahr, Podsakoff, & Cbeng, 1987; Murdoch, 1967; Wakabayashi & Green, 1984). Most of the previous leadership literature is biased towards America, which caused Wijewardena and Wimalasiri, (1996) and Peterson and Hunt (1997) to criticize the inadequacy of Western-based leadership theories to explore diverse organizational leadership characteristics of non-Western cultures. In a globalised market, awareness of diverse cultural values helps leaders to make optimal decisions that match the local context (Javidan & House, 2001; Scanduraa & Dorfman, 2004; Triandis, 1995). The importance of local cultural values was deemed important in some of the early studies such as Parson's (1951). Those organizations that accept cultural diversity are always able to outperform their counterparts (Avery & Bergsteiner, 2010, 2011). Hence, the leader's

knowledge of diverse cultural values in the local market will create excellent leadership that has a minimum impact on the triple bottom line (Avery & Bergsteiner, 2011; Hargett & Williams, 2009; Khavul & Bruton, 2013; Selvarajah et al., 2020).

This gave rise to the urgency to identify diverse leadership styles across cultures (Hofstede, 1986; Hofstede & Bond, 1988; House et al., 1999; House & Javidan, 2004) and to re-examine the concepts surrounding leadership and accept the influence of diverse cultural values, beliefs and behaviours. Following this line, researchers such as Laurent (1986) began to examine the perception of leadership as a culture-specific concept in order to explore leadership as a culture-specific concept. Moving further, Selvarajah, Meyer and Davuth (2012), Selvarajah, Meyer and Donovan (2013) and Selvarajah et al. (2020) used the cognitive approach to explain the influence of cultural values, norms, attitudes and beliefs on diverse leadership behaviours in different cultural contexts. Following the cultural context perspective in examining leadership, Dunphy and Benn (2013); Hargett and Williams (2009) and Selvarajah et al. (2020) explored context-specific factors that influence sustainability in a particular culture. The model and the leadership behavioural statements used to develop this study were also tested in different cultures (Selvarajah, Meyer, & Donovan, 2013; Selvarajah et al., 2020) and confirmed as successful in examining managerial leadership in different contexts.

2.2 Context of the Study

The selection of a Sri Lankan managerial sample was theoretically important because most research on leadership has focused on Western cultures (House & Aditya, 1997), and there is a growing demand for leadership studies in non-Western and culturally diverse contexts (Bass, 1990; Hamlin & Patel, 2020). Sri Lanka has often been described as a developing economy after recently emerging from 30 years of civil war—a nation that is now poised to accelerate its economic development in a sustainable manner (Central Bank of Sri Lanka, 2018; Gunarathne, De Alwis, & Alahakoon, 2020). However, Sri Lanka still faces several diverse challenges such as corruption, environmental pollution and regionally balanced economic development, in its way forward to achieving sustainable economic performance (Geekiyana & Vithanage, 2015; Gunarathne et al., 2020; Ministry of Environment, 2012). Thus, developing a sustainability leadership model as done in this study has significance for managers in a complex business environment such as Sri Lanka. Developing a sustainability leadership model will allow researchers and practitioners to identify sustainable managerial skills, behaviours and capacities to facilitate the development of sustainability leadership efforts in Sri Lanka's industrialization process. As the sustainability of business has now become an important aspect in the Sri Lankan organizational context, Sri Lankan managers were considered suitable respondents for this study.

2.3 Independent Variables Measuring Leadership Dimensions

The following literature review explains how leadership dimensions relating to stakeholder relationships (STK), long-term perspective (LONG) and concern for employees (EMP) can become an essential component in achieving sustainability leadership.

2.3.1 Stakeholder Relationship

Society consists of complex and interrelated networks with diverse stakeholders where leadership is responsible for ensuring unity and harmony within society (Salem, 2012; Ghassim & Foss, 2020). The stakeholder perspective has often been identified as a core strategic leadership competency (Donaldson & Preston, 1995; Polansky, 1995; Porter & Kramer, 2006; Post et al., 2002; Wondirad, Tolkach, & King, 2020). Strong stakeholder relationships help managers to maximize the longevity of business success (Avery & Bergsteiner, 2011; Murphy, 2002; Post, Preston, & Sachs, 2002) and even improve innovation and marketing ability (Löfsten, Klofsten, & Cadorin, 2020; Sohal, Gordon, Fuller, & Simon, 1999).

Historically, Sri Lankan society has been a patriarchal one (Hewage, Teicher, Alam, & VanGramberg, 2008; Kamalika, 2008; Nanayakkara, 1999). Its patrimonial and feudal elements, a caste-based social structure, and religious institutions have all played a role in the pre-colonial Sri Lankan social system (Hewage et al., 2008), and its hierarchical structure with a high power distance (Liyanage, 1996b) confirms that Sri Lankan society is still often characterized by inequality in the distribution of power and authority between the social classes and even within the workplace (Chandrakumara & Sparrow, 2004). Sri Lankan corporate culture shows clear disparity in the distribution of power between managers and non-managers (Hewage, 2011), where it is commonly observed that managers dominate their subordinates, subordinates are afraid to disagree with their managers, managerial decision-making is autocratic, and leadership behaviours are paternalistic (Nanayakkara, 1999). Some popular Japanese management practices that promote team work are also common in contemporary Sri Lankan organizations (Hewage, 2011; Wickramasinghe, Hopper, & Rathnasiri, 2004).

2.3.2 Long-Term Perspective

In Sri Lankan society, parents often expect their children to seek permission for even minor tasks in the belief that their children's wisdom and experience will develop under their supervision as they mature with age (Liyanage, 1996a). This is also common in the Sri Lankan organizational context where subordinates expect their managers' support as they respect the authority and status of managers (Liyanage, 1996a). In addition, most Asian managers respect rank, expect status recognition in social situations, treat managers as ritual personalities and courtesies are consistently observed by most of the Asian management (Wijewardena & Wimalasiri, 1996). Edirisinghe (2008) also found that most corporate-level bank managers are responsible for competitive, supplier, economic and political analysis while marketing managers are mostly responsible for customer analysis, and operational managers for technological analysis. Sri Lankan culture, which is identified as femininity-oriented (Hewamanne, 2020), seems to be reflected through many Sri Lankan managers who demonstrate such femininity values in their daily decision-making while their subordinates often establish a patriarchal relationship with their supervisors (Liyanage 1996a).

2.3.3 Concern for Employees

Most Asian managers maintain close employee relationships and are more group-oriented than their Western counterparts (Wijewardena & Wimalasiri, 1996). From pre-colonial Sri Lankan society, major decisions relating to trade were based on common agreement between community leaders and villagers reflecting the collectivistic values of Sri Lankan people which these values are still observable within the contemporary Sri Lankan working class (Hewage et al., 2008). Often, Sri Lankan managers take care of their subordinates as if they were their children, creating a relationship as of a father looking after his children (Liyanage, 1996a). This creates a working family along different levels in the organizational hierarchy and strong group participation. The manager's relationship with employees also influences their performance appraisal (Jayawardana, O'Donnell, & Jayakody, 2013). Sri Lankan managers often arrange annual staff trips, award ceremonies and other socio-cultural events to motivate employees (Hewage, 2011). Therefore, Sri Lankan managers perceive employee unions as a powerful force that can have a strong influence on their business decisions (Hewage, 2011).

2.4 *Dependent Variables in Measuring Sustainability Leadership*

There are three dimensions that explain the sustainability leadership of Sri Lankan managers, namely, leader's concern for "excellence in leadership" (EXL), "firm's financial performance" (FIN) and "social and environment performance" (ENV). EXL aims to identify the combination of excellent leadership behaviours that are desirable for good leadership by surpassing others in a particular organization (Selvarajah & Meyer, 2008; Selvarajah et al., 2020). The Asian perspectives of the leadership (APEL) model developed by Selvarajah, Dulgan, Suppiah, Lane, and Nuttman (1995) have since been used on many occasions (for example, Selvarajah, 2008; Selvarajah & Meyer, 2006, 2008; Selvarajah et al., 2012; Selvarajah et al., 2020) to examine the leadership perceptions of managers across different industries, countries and societies. ENV aims to identify perceptions of excellent leadership behaviours that are important for the welfare of society and the protection of natural resources. FIN aims to identify the perceptions of excellent leadership behaviours important for the healthy financial performance of the organization.

2.5 *Mediating Variables and Hypotheses*

2.5.1 Leader's Commitment to Change

Organizational change has often been highlighted as an essential dimension of sustainability (Avery & Bergsteiner, 2010; Dunphy & Benn, 2013; Dunphy et al., 2014; Gilbert, 2019). Organisations that respond through change improve their competitiveness and maximise stakeholder wealth (Dunphy et al., 2014). For this purpose, organisations need change leaders rather than change managers to drive organisations towards success (Caldwell, 2003). The developing nations face enormous challenges relating to sustainability (Ovadge, 2014). The lack of change leadership skills in the developing countries impede organisational transformation into sustainability. In Sri Lanka, most managers have few innovative skills, entrepreneurial attitudes and readiness to accept risk, resulting in negative attitudes to organisational change (Wickramasinghe et al., 2004). Also, in the Sri Lankan context, changes in international management practices, rising oil prices and living costs, shrinking demand for the country's exports, heavy reliance on imports, and the lag in its economic development (Central Bank of Sri Lanka, 2018) are influencing Sri Lankan managers to change their businesses as a usual means to compete internationally. Hence, this study identifies leader's commitment to change as a mediating variable to achieve sustainable leadership.

2.5.2 Manager's Ethical Behaviour

Manager's ethical thinking for maintaining trustworthy and responsible relations would create sustainability leadership (Doppelt, 2012). In Sri Lanka rewards and recognition for lower-performing managers are often inadequate; so, subordinates tend to maintain an economic relationship (transactional leadership) rather than social engagement (transformational leadership) with their senior management (Jayawardana, O'Donnell, & Jayakody, 2013). Sri Lankan managers care for their employees and think of their employees' work-life balance and welfare facilities (Abeysekera, 2007). The present managers of Sri Lankan organizations reflect both colonial Western business practices such as profit maximization, productivity, efficiency, competition, and risk management and Asian values such as loyalty, trust, cooperation, compassion, tolerance, morality and empathy thus creating a new breed of Asian managers (Wijewardena & Wimalasiri, 1996). The 30-year war between the LTTE and the Sri Lankan Government has meant that many Sri Lankan youths of that war-torn period grew up being suspicious, fearful and mistrustful of each other (UNDP, 2019). Most Sri Lankan employees expect their managers to be exemplary in character and to follow good practices even in their personal lives resulting in most Asian managers maintaining good personal relations with their subordinates (Wijewardena & Wimalasiri, 1996). They would like to offer long-term training opportunities and promotions and other career opportunities to their employees to advance up the organization's career ladder compared to managers in Western societies (Wijewardena & Wimalasiri, 1996). These attitudes have made Asian managers reluctant to lay off employees, preferring to maintain a moderately high level of job security compared with Western organizations (Wijewardena & Wimalasiri, 1996). Most young Sri Lankans believe that traditional social values such as ethnocentrism, power distance between different levels in the hierarchy, and the male-dominant cultural values of Sri Lankan society are inappropriate and are barriers to social harmony (UNDP, 2019). Supporting this, both the traditional and Western education systems in Sri Lanka have promoted environmental protection attitudes among new generations to come (United Nations Educational Scientific and Cultural Organization, 2018).

Based on the above literature in total there were 18 hypotheses (Appendices 1 and 2) developed to test the relationship between the three independent variables and the three dependent variables and the two mediating variables.

3. Research Methodology

Sustainability leadership has been mainly examined in qualitative research studies done in Western cultures or economically developed nations paving the way for this study to use a deductive-quantitative approach supported by prior logical reasoning based on previous qualitative research. In developing the model, the existing sustainability leadership models were explored and modified to suit the sustainability dimensions of the social, political, economic and cultural contexts of Sri Lanka.

The respondents in this study are practicing full-time managers across different demographic profiles in Sri Lanka. As many as 1632 questionnaires were distributed, of which 821 were returned and of which 596 questionnaires were used for further analysis.

The final sample consisted of 88.4% Sinhalese, 8.1% Tamils, and 3.5% Burghers and other ethnic groups. The majority of the sample (80%) were Buddhists, 10% Christians, 6% Hindu, 3.2% were Islamic and 0.8% of other religions. Males formed 69% of the sample 31% and females 31%. Of the respondents 60% were below 35 years with the majority of the respondents, 48%, having less than five years of managerial experience. 72% of the respondents were employed in the private sector while 28% worked in the public sector.

3.1 Measures of Leadership Behavior

The data were gathered using a questionnaire developed in English, and a Likert-type scale was used to measure leadership behavioural aspects. As a basis, 94 leadership behavioural items (Selvarajah et al., 1995) were used to measure eight variables in the model while nine items in the ENV variable were self-developed with the support of literature such as Kalshoven, Den Hartog and De Hoogh (2011) and three items in the FIN were self-developed using the support of the Global Reporting Initiative (2016). Statistical tests, namely, exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and structural equation modeling (SEM) techniques based on SPSS and AMOS software (Hinkin, 1998) were used to analyze the data.

4. Results

The sample was split into two independent samples using the random split sample option in SPSS (Joreskog, 1993; Hinkin, 1998). The first sample consisted of 120 responses (calibration sample) and was used for EFA. The second independent sample (validation sample) consisted of 476 responses and was used for CFA.

4.1 EFA Results

Appendices 3 and 4 give the results of the exploratory factor analysis. Principal axis factoring (PAF) (Schmitt, 2011) and Direct Oblimin with Kaiser Normalization (Costello & Osborne, 2005) were chosen to perform the EFA. The ten items measuring EXL confirmed a one-factor solution with a KMO value of 0.875, Cronbach's alpha of 0.892 and confirmed 51.2% of the variance of EXL was explained by these ten statements. The second dependent variable of ENV confirmed a one-factor solution. KMO value was 0.883, Cronbach's alpha 0.910 confirmed the 11 statements used in the questionnaire to measure ENV and was reliable where 53.57% of variance of ENV was explained by these 11 statements. EFA confirmed the four items included in the third dependent variable of FIN as a one-factor solution with a Cronbach's alpha of 0.874, and a KMO value of 0.788 confirming a 73.62% explanation of variance in FIN by these four items.

The EFA test examined the 22 items measuring the CHNG and suggested removing CHNG1, CHNG2, CHNG4, CHNG5, CHNG7, CHNG8, CHNG10, CHNG11, CHNG17, CHNG18, CHNG21 and CHNG22. After removing the 12 items, the Cronbach alpha was 0.885, and 50% of the variance was explained by the remaining 10 items. The second mediating variable measuring SUSTHINK consisted of 19 statements. The EFA suggested removing SUS3, SUS6, SUS7, SUS10, SUS11, SUS17 and SUS18. KMO value of 0.876, Cronbach's alpha of 0.886 and 53.92% of the variable was explained by the remaining 12 items.

Eleven behavioural statements were identified to measure STK. The KMO value was 0.878 and Cronbach's alpha was 0.875. It confirmed that the remaining seven statements explained 57.34% of the variance of STK construct. LONG construct had 17 behavioural statements. Low factor loading on eight items confirmed the removal of LONG3, LONG7, LONG8, LONG9, LONG10, LONG11, LONG12 and LONG13. The Cronbach's alpha of LONG is 0.873 and confirmed 50% of the variance in LONG measured by the remaining 9 items. EMP was measured by 11 leadership statements though low factor loading confirmed removing four items, namely, EMP3, EMP4, EMP5 and EMP11. Once the remaining seven items were removed it confirmed measuring 55.14% of the variance of LONG with a Cronbach's alpha value of 0.862 and KMO value of 0.869.

4.2 CFA Results

A CFA was carried out using AMOS Version 23. Appendix E shows that the descriptive model fits the statistics obtained from each CFA. ML estimation via the bootstrap method (Kline, 2005; Ullman, 2006) was used as the sample data showed a deviation from the normal distribution. All the model fit statistics were confirmed as good model fit (Appendix E). For prior testing of the hypotheses three measurement models were developed and tested for construct validity and reliability (Bagozzi, Yi, & Phillips, 1991). Three measurement models (Appendix F) were developed to test construct validity and reliability. The first measurement model consists of three dependent variables (EXL, ENV and FIN) and confirmed as a good fit for the data (bootstrap p-value insignificant at $p > 0.05$, CFI, GFI, AGFI values were above 0.9, TLI > 0.95 , RMR < 0.10 and the SRMR and RMSEA < 0.05). The second measurement model consisted of two mediating variables (CHNG and SUSTHINK). To improve the model fit CHNG6, SUS9, SUS13 and SUS15 were removed from the measurement model. The third measurement model for the three independent variables suggested removing LONG1, LONG5, LONG6, LONG14, STK9 and STK10. The final measurement model confirmed a good model fit with a Chi-square value of 60.154 (sig), insignificant P-value, CFI, GFI, AGFI and TLI values above 0.9 and the SRMR and RMSEA values less than 0.5.

Each of the three measurement models was tested individually for discriminant validity, reliability and multicollinearity (Appendix F). Discriminant validity was tested using the method suggested by Fornell and Larcker (1981). All the three measurement models confirmed its convergent validity of the constructs as suggested by Hair and Anderson (2010). All the correlations in each of the three models confirmed significant p-values ($p < 0.001$). All the three measurement models confirmed that their correlation values were less than 0.9 confirming that there was no multicollinearity between the constructs as recommended by Tabachnick and Fidell (2001).

4.3 Common Method Bias

As the data used in this study was highly exposed to common method bias, some procedural remedy was applied. To eliminate the common method bias the questionnaire of this study ensured the anonymity of the respondents and their organization, and included a brief description of each construct at the beginning of each section of the questionnaire (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Several statistical remedies were used to understand the common method bias as recommended by Podsakoff et al. (2003). These statistical methods helped to prove that the inter-item correlation was not purely influenced by the common method variance (Korsgaard & Roberson, 1995). First, Harman's single factor model was used to examine common method bias

(Podsakoff et al., 2003) and was tested using three EFAs on three measurement models. The results confirmed the first model with three dependent constructs as having three factors with Eigen values greater than 1, and these three factors explained 62.5% of the variance of that model. The second measurement model with two mediating constructs confirmed two factors having Eigen values greater than 1 and with 61.9% of variance in the mediating model. The third EFA for the third measurement model confirmed three factors with Eigen Values greater than 1 while these factors accounted for 62.8% of the variance in the final independent measurement model. Harman’s single factor test was conducted through the CFA method on the three separate measurement models. Sample moments option confirmed that each of the three measurement models in this study needed more than one factor to explain the constructs in the final three measurement model. The severity of methods variance was also tested using CFA on competing models that increase in complexity (McFarland & Sweeney, 1992; Podsakoff & Organ, 1986). The difference in Chi-square statistics was performed for the three measurement models with a simpler model. Each of the three hypothesized measurement models resulted in a better model fit of the data than the tested simpler model.

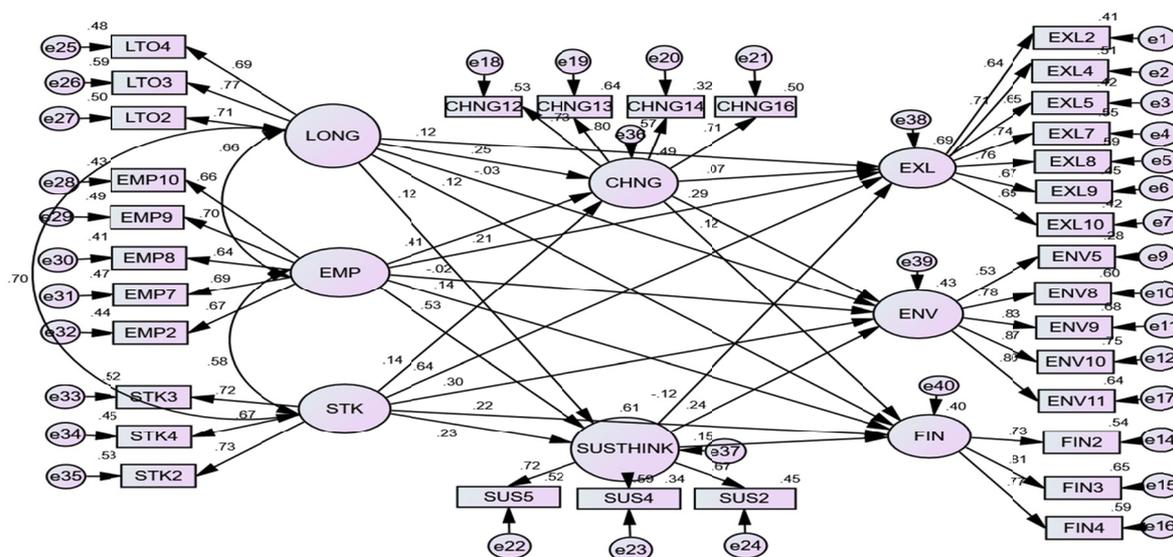


Figure 1. Developing the final SEM for sustainability leadership

Chi-square=732.681 (df = 469) significant p-values of 0.000 and bootstrap 1,000 sample 0.004, CMIN/DF = 1.562, CFI = 0.961, GFI = 0.916, AGFI = 0.900, TLI = 0.956, RMR = 0.026, RMSEA = 0.034

The bootstrap method as well as the non-parametric method was used for SEM analysis as recommended by Ullman (2006). The initial SEM analysis confirmed a satisfactory level of model fit statistics [Chi-square = 732.681 (df = 469), CMIN/DF = 1.562, CFI = 0.961, GFI = 0.916, AGFI = 0.900, TLI = 0.956, RMR = 0.026 and RMSEA = 0.034] indicating a good model fit for the sample data.

4.4 Hypothesis Testing

In total there were 18 hypotheses (Appendices 1 and 2) to test the relationship between the three independent variables and the three dependent variables and the two mediating variables. Research using multiple hypotheses tests needs to ensure that their statistical analysis and the results are free from Type I errors and Type II errors (Gordi & Khamis, 2004). Hence, the Bonferroni method (Morrison, 1990) was used to control Type I errors in this study. Accordingly, each individual test was compared and confirmed at $p < 0.0018$ level ($0.05/27 = 0.0018$) not $\alpha = 0.05$. Tables 1 and 2 below confirm that the standardized regression weights indicating the effect of EMP on CHNG and SUSTHINK was significant ($p < 0.001$) while the effect of LONG on SUSTHINK and STK to CHNG was insignificant. The standardized regression weights from LONG to CHNG and STK to SUSTHINK were only significant at $p < 0.01$. The paths from CHNG to ENV were significant only at $p < 0.001$. However, the paths from CHNG to EXL and FIN were insignificant whereas the path from SUSTHINK to ENV was significant at $p < 0.05$ confirming a weak relationship.

The direct relationship between STK and the three dependent variables was significant whereas all the paths

from LONG to three dependent variables were insignificant. The only direct path was from EMP to EXL but it was weak (significant at $P < 0.05$).

The mediating variables and their effects were tested separately (Tables 1 and 2 below). Due to objections to using the Baron and Kenney (1986) approach for mediation testing in complex models, the study used two other methods, namely, the bootstrapping approach of Baron and Kenney (1986) with a 99% significance level and the Chi-square difference test statistics.

Table 1. Mediation influence of CHNG on the relationship between independent variables and the dependent variables

Hypotheses	Path	Direct without mediator	Bootstrapping 99.9% ^a and 95% ^b CI, 1000 samples			Chi-square difference test $\Delta\chi^2(1)$ Significance 99 %	Decision based on Mathieu and Taylor (2006)	Support
			Direct with mediator	Indirect effect	Total effect			
H1	STK → EXL	0.622 *** ^{a/b}	0.612 (ns) ^a 0.612 *** ^b	0.007(ns) ^{a/b}	0.62 (ns) ^a 0.62 *** ^b	64.588 ***	Direct	No
H2	STK → ENV	0.392 *** ^{a/b}	0.325*** ^{a/b}	0.027(ns) ^{a/b}	0.353 *** ^{a/b}	16.213 ***	Direct	No
H3	STK → FIN	0.270 *** ^{a/b}	0.226(ns) ^a 0.226 * ^b	0.012(ns) ^{a/b}	0.237(ns) ^a 0.237 * ^b	7.072 **	Direct	No
H4	LONG → EXL	0.117 (ns) ^{a/b}	0.094(ns) ^{a/b}	0.014(ns) ^{a/b}	0.108(ns) ^{a/b}	1.249 (ns)	No mediation	No
H5	LONG → ENV	0.072 (ns) ^{a/b}	-0.019(ns) ^{a/b}	0.063(ns) ^a 0.063 * ^b	0.044(ns) ^{a/b}	0.044 (ns)	Indirect	No
H6	LONG → FIN	0.174 (ns) ^{a/b}	0.123(ns) ^{a/b}	0.027(ns) ^{a/b}	0.150(ns) ^{a/b}	1.577 (ns)	No mediation	No
H7	EMP → EXL	0.173 (ns) ^a 0.173 *** ^b	0.114(ns) ^{a/b}	0.02(ns) ^{a/b}	0.133(ns) ^{a/b}	2.912 (ns)	Direct	No
H8	EMP → ENV	0.213 (ns) ^a 0.213 *** ^b	0.024(ns) ^{a/b}	0.08(ns) ^a 0.08 * ^b	0.104(ns) ^{a/b}	0.120 (ns)	Full	Yes
H9	EMP → FIN	0.260 *** ^{a/b}	0.114(ns) ^{a/b}	0.04(ns) ^{a/b}	0.184(ns) ^{a/b}	2.70 (ns)	Direct	No

Note. ^a = 99.9 % significance level (according to Bonferroni method)

$P < 0.0018 = ***$

ns = not significant

^b = 95% significance level

$P < 0.001 = ***$

$P < 0.01 = **$

$P < 0.05 = *$

Table 2. Mediation influence of manager's ethical behaviour on the relationship between independent and dependent variables

Hypotheses	Path	Direct without mediator	Bootstrapping 99.9% ^a and 95% ^b CI, 1000			Chi-square difference test $\Delta\chi^2$ (1) Significance 99 %	Decision based on Mathieu and Taylor (2006)	Support
			Direct with mediator	Indirect effect	Total effect			
H10	STK → EXL	0.622 *** ^{a/b}	0.632(ns) ^a 0.632 ** ^b	-0.021(ns) ^{a/b}	0.610 (ns) ^a 0.610 ** ^b	66.858 ***	Direct	No
H11	STK → ENV	0.392 *** ^{a/b}	0.312 *** ^{a/b}	0.048(ns) ^a 0.048 * ^b	0.360 *** ^{a/b}	13.948 ***	Partial	Yes
H12	STK → FIN	0.270 *** ^{a/b}	0.221(ns) ^a 0.221 * ^b	0.03(ns) ^{a/b}	0.250 (ns) ^a 0.250 * ^b	6.554 *	Direct	No
H13	LONG → EXL	0.117 (ns) ^{a/b}	0.088(ns) ^{a/b}	-0.008(ns) ^{a/b}	0.080 (ns) ^{a/b}	1.011 (ns)	No mediation	No
H14	LONG → ENV	0.072 (ns) ^{a/b}	-0.015(ns) ^{a/b}	0.014(ns) ^{a/b}	0.000(ns) ^{a/b}	0.026 (ns)	No mediation	No
H15	LONG → FIN	0.174 (ns) ^{a/b}	0.119(ns) ^{a/b}	0.009(ns) ^{a/b}	0.127(ns) ^{a/b}	1.445 (ns)	No mediation	No
H16	EMP → EXL	0.173 (ns) ^a 0.173 ** ^b	0.162(ns) ^a 0.162 * ^b	-0.049(ns) ^{a/b}	0.113(ns) ^{a/b}	4.685 *	Direct	No
H17	EMP → ENV	0.213 (ns) ^a 0.213 ** ^b	0.009(ns) ^{a/b}	0.094(ns) ^a 0.094 * ^b	0.103(ns) ^{a/b}	0.012 (ns)	Full	Yes
H18	EMP → FIN	0.260 *** ^{a/b}	0.133(ns) ^{a/b}	0.070(ns) ^{a/b}	0.203(ns) ^a 0.203 * ^b	1.827 (ns)	Direct	No

Note. ^a = 99.9 % significance level (according to Bonferroni method)

P < 0.0018 = *** and ns = not significant

^b = 95% significance level

P < 0.001 = ***

P < 0.01 = **

P < 0.05 = *

ns = not significant

5. Discussion

5.1 Excellence in Leadership

The insignificant results of this study on the relationship between change leadership and excellent leadership confirmed that change activities have no positive impact on excellent leadership in Sri Lankan organisations (see Table 1 above). That is, Sri Lankan managers who participated in this study do not believe that being committed to organizational change activities will help them to become excellent leaders in their organizations. Although at the international level, change orientation is considered as essential to succeed in management (Armenakis, Harris, & Mossholder, 1993), in the Sri Lankan context managers have negative attitudes toward change as they are fear of trade unions action (Wickramasinghe et al., 2004).

Sri Lankan managers' weak preference for long-term orientation in decision making as a means of achieving sustainability leadership is also identified in this study. It was found that managerial perceptions of long-term orientation were the least important leadership dimension in predicting Sri Lankan managerial perceptions of sustainable leadership.

The insignificant results of this study could not confirm the positive influence of traditional long-term oriented cultural and social values on Sri Lankan managerial perceptions. Therefore, this raises the question of whether in more recent times long-term orientation has become a secondary leadership skill among Sri Lankan managers. The results confirm that Sri Lankan managers believe that long-term orientation in their decision-making will positively influence their decisions that encourage organizational change. Hence, being careful and thinking of the long-term impact of change-related decisions are quite useful for sustainability in the Sri Lankan context. Especially, the long-term impact on the employees through a possible organizational change decision would protect the managers' dignity as well as limit any possible losses such as employee strikes that damage the business.

The insignificant results in this study relating to manager's ethical behaviour and excellent leadership confirm

that the leader's ethical and responsible behaviours have no positive impact on managerial perceptions of excellent leadership in Sri Lankan organizations. Hence, Sri Lankan managers do not perceive that being trustworthy, honest, ethical and responsible in their leadership thinking is essential for excellent leadership in their organizations. This challenges the findings of Wickramasinghe et al. (2004), and Wijewardena and Wimalasiri (1996), who claimed that ethical and responsible leadership were essential for leadership success in Sri Lankan organizations.

There is no mediation effect of CHNG on the relationship between STK and EXL, where there is only a direct relationship between STK and EXL. The leadership statements show that team work, trustworthiness, and personal relationships are important for a manager to be stakeholder-orientated in the Sri Lankan organizational context. The literature relating to Sri Lankan managers emphasizes the strong desire of Sri Lankan managers to be collectivistic, team-oriented and to arrange social gatherings that develop strong relationships with its stakeholders (Hewege, 2011; Hewege et al., 2008; Ranugge, 2000; Wijewardena, 1992; Wijewardena & Wimalasiri, 1996). Sri Lankan cultural values that prioritize strong mutual relationships, trustworthiness, honesty, compassion, obedience and care for others have probably influenced Sri Lankan managers to perceive themselves as responsible for developing a strong relationship with stakeholders in order to become sustainable leaders. Also, Sri Lankan managers give more priority to solving crucial employee matters, showing empathy towards employees, and being ready to sacrifice their time as they believe this enables them to transform their organization and to excel in organizational leadership. This suggests that Sri Lankan managers should demonstrate affection, caring and other paternalistic behaviours towards stakeholders including employees to achieve excellent management success in the Sri Lankan organizational context.

5.2 Sri Lankan Manager's Concern for Social and Environmental Sustainability

The difference in the Chi-square test to examine the mediation of CHNG on STK and ENV confirmed that there was no mediation effect of CHNG on the relationship between STK and ENV, but only a direct relationship between the variables. This confirmed that Sri Lankan manager's strong team work and public relationship management directly enabled them to ensure environmental and social sustainability. Sri Lankan Buddhist values and the rituals and respect towards the Bodhi tree also influence Sri Lankan attitudes to collectively protect the environment (Kariyawasam, 1996). This finding is in line with that of Avery and Bergsteiner (2011); Caldwell (2003); Hargett and Williams (2009); Parkin (2010) and Salem (2012) whose research suggested that managers' positive attitudes towards stakeholder relationships improve social and environmental sustainability. The findings are in line with Fernando and Almeida (2012) suggestions that Sri Lankan managers believe that they can ensure sustainability through encouraging collaboration, networking, public relationships and team work with diverse stakeholders.

This finding contradicts the findings of Crawford and Nahmias (2010), who suggested that stakeholder relationships are essential to change organizations. High influential power and authority (Chandrakumara & Sparrow, 2004), social mistrust especially due to ethnic conflicts (Somasundaram & Sivayokan, 2013), high power distance between social classes, influence of imperialism (Wijewardena & Wimalasiri, 1996) have impacted on Sri Lankan leaders to perceive that stakeholder relationships are not important for changing their organization.

Partial mediation indicates that Sri Lankan managers' stakeholder orientation enhances their decisions for ethical behaviour, which, in turn, enables them to achieve environmental and social sustainability. Although the literature suggests having strong stakeholder relationships helps managers to achieve successful organizational transformation, the findings of this study indicate that Sri Lankan managers' perceptions of stakeholder orientation do not support this concept. Cultural values such as resistance to change and strong employee union power seem to have influenced Sri Lankan managers to perceive stakeholder relationships as insignificant for successful change implementation. However, managers' ignorance of the participation of stakeholders in change implementation is also identified in the literature as the main reasons for common disputes between Sri Lankan managers and labour unions (Wickramasinghe et al., 2004).

This study's insignificant results regarding the direct relationship between long-term orientation and social and environmental sustainability confirm that Sri Lankan managers perceive long-term orientation as having no significant effect on protecting the social and natural environment. This suggests instances where Sri Lankan employees prefer quick solutions from their managers for their grievances (Wickramasinghe et al., 2004); thus, spending too much time or deep analysis of the problem would probably be perceived as threatening social and environmental harmony. These experiences might influence managers to perceive being long-term oriented in decision making as a disadvantage in protecting society and environment.

This study's insignificant results regarding the direct relationship between employee orientation and social and environmental sustainability confirm that Sri Lankan managers do not believe that being employee-oriented will positively impact on their perceptions of social and environmental sustainability. That is, Sri Lankan managers do not believe transformational leadership behaviours such as delegation, sharing authority and autonomy, and encouraging leader-member communication and employee decision-making have a direct influence on social and environmental sustainability.

The findings confirm that Sri Lankan managers perceive organizational-change-related activities as essential for achieving social and environmental sustainability. For example, the Sri Lankan garment industry has changed its traditional practices to face international competition through introducing more socially and environmentally responsible production methods (Perry, 2013).

The significant results confirm that Sri Lankan managerial perceptions relating to manager's ethical behaviour positively influence their perceptions of social and environmental sustainability. Sri Lankan cultural values have influenced Sri Lankan managers to believe their attitudes towards social harmony, safety, caring and self-discipline, which, in turn, help to protect their immediate environment and social sustainability. Even, leaders with of exemplary character that conduct ethical practices even in their personal lives were respected by employees (Wijewardena & Wimalasiri, 1996) so managers fear breaching ethical standards may harm their personal image and could prevent them from achieving paternalistic leadership relations with their subordinates (Wickramasinghe & Hopper, 2005). Such cultural values have no doubt influenced Sri Lankan managers to perceive their ethical behaviour as an important leadership dimension for enabling social and environmental harmony. The young generations of Sri Lanka consider traditional values of ethnocentrism, power distance between different levels in the hierarchy, and the male-dominant cultural values as barriers to social harmony (UNDP, 2019). It seems values are promoting organizational leaders to think more ethically to achieve social and environmental protection (United Nations Educational Scientific and Cultural Organization, 2018).

This study's bootstrap mediation results confirm that employee engagement and social and environmental sustainability are fully mediated through the two mediators of change leadership and ethical behaviour. Cultural diversity, ethnic conflict, dependence on export and import markets, risks associated with natural disasters, and financial and economic dependence on developed countries may have previously influenced Sri Lankan managers to believe that employee engagement is not enough to ensure environmental, social and economic sustainability. The cultural, political and economic transformation of Sri Lanka has instead influenced its managers to believe they can enhance environmental, social and economic sustainability by changing their organizations, as well as through encouraging manager's ethical behaviour.

In conclusion, these results have confirmed that Sri Lankan managers perceive that they can achieve environmental and social sustainability via engagement with stakeholders and employees, but not by being long-term-oriented.

5.3 Firms' Concern for Financial Sustainability

Achieving financial targets and focusing on maximizing productivity are the two measures of this construct, the second item being the most important leadership behaviour in this construct. This study's significant results regarding the relationship between stakeholder relationships and the firm's financial performance confirm that Sri Lankan managers believe that stakeholder relationships improve their firm's future prosperity. This might be due to a weak national economy, rising costs of manufacturing, an exports-driven economy that demands cheap manufacturing costs, the impact of international financial crises, and shrinking of the world's consumption (Central Bank of Sri Lanka, 2018) seem to have influenced Sri Lankan managers to be concerned about collaborating with diverse parties as a means of strengthening firms' financial performances. Sri Lankan managers believe that increasing stakeholder value rather than shareholder value would enhance financial performance of the organization (Fernando & Almeida, 2012).

Bootstrap mediation test results confirmed that the two mediators have no significant influence on the relationship between the stakeholder relationships and the firm's financial performance. The insignificant results confirm that Sri Lankan managers do not believe they can achieve greater organizational financial performance outcomes by promoting manager's ethical behaviour in their decisions. This might be a reason why Sri Lankan managers perceive that being ethical and responsible will build their personal image as most respected managers rather than increasing the financial performance of their organization. The insignificant result of this study regarding the relationship between change leadership and financial performance, contradicts the suggestion made by Ferguson and Reio (2010) that management's change efforts should positively influence the firm's performance. Cultural values that resist change and the cost associated with it might have influenced Sri Lankan

managers to perceive that a possible organizational change would mean greater cost than income for the organization.

6. Conclusion

This study aimed to examine the mediation effect of managers' change-related attitudes and ethical behaviour on creating sustainability leadership in Sri Lankan organizations. Three leadership dimensions (EMP, LONG and STK) were identified as influencing managerial perceptions of sustainability leadership in Sri Lanka.

The results of this study suggest that long-term orientation is the least important leadership dimension in achieving sustainability leadership in Sri Lankan organizations while stakeholder relationship is the most important leadership dimension.

The literature emphasizes the importance of organizational change as novel and important leadership dimensions that ensure sustainability leadership. However, the standardized regression weights and the results of the mediation analysis of this study show that the perceptions of the manager's commitment to organizational change only influence establishing environment and social sustainability, and do not influence either the perceptions of excellent leadership or concern for financial performance. Hence, the results show that change leadership attitudes are essential for establishing social and environmental sustainability in the Sri Lankan context. Resistance to change that is common among many Sri Lankan managers suggests that they can enhance their change attitudes via formal management training programs. Therefore, HR units and departments of Sri Lankan organizations should design management training programs to enhance these change managerial skills.

The mediation test results confirm that the relationship between the manager's perception of employee engagement and concern for social and environmental sustainability is fully mediated by the managers' commitment to organizational change and their ethical behaviour. That is, Sri Lankan managers believe they can only enhance social and environmental sustainability by encouraging organizational change and by promoting manager's ethical behaviour in their decision making.

6.1 Recommendations

6.1.1 For Managers

Improving leadership skills such as team management skills and public relations management skills is important for sustainability leadership in Sri Lanka. Managers should also identify and categorize diverse stakeholders such as employees, customers, trade unions, industry associations and supply chain partners based on their potential importance for the organization and managing these stakeholders to enhance sustainability in Sri Lankan organizations.

Since the results confirm the power of stakeholder relationship and employee engagement Sri Lankan organizations should prioritize customer satisfaction and seek more ways of gathering employee feedback to enhance organizational sustainability. Surveys and face-to-face communications could also be used to identify employee satisfaction, especially with their immediate managers. Expatriates and foreign managers of MNCs understanding the 'soft side' of Sri Lankan cultural values would help to achieve sustainability leadership in the Sri Lankan organizational context.

It will also be useful for HR managers, management trainers and consultants to acknowledge and support sustainability as a main learning objective of management training and employee development programs at all levels in the organizational hierarchy. These programs should aim to develop sustainability management skills especially in developing trust and confidence among their subordinates and to be more employee-oriented in their decision-making towards creating sustainable leadership. Managers can organize local and international management forums to share stories of excellent sustainable organizations which would probably benefit managers.

6.1.2 For Policy Makers

This study highlights the importance of management training and development programs conducted by educational institutes through workshops, seminars and conferences involving the corporate sector for sharing practical ways of achieving social, environmental and economic sustainability.

Proactive coordination between the private and public sector should be encouraged to fulfill real community needs rather than corporations trying to invest in *ad hoc* CSR projects that do not solve the true problems of society.

Policymakers should encourage local authorities such as the environmental and accounting authorities (e.g., Sri Lanka Accounting Standards, International Accounting Standards) and quality standard bodies such as the

International Organization for Standards to update their standards and disclosure requirements at the international level. These new changes should be effectively communicated and implemented by the corporate sector to ensure the sustainability of Sri Lankan organizations.

6.2 Future Research

This study was limited to the Sri Lankan organizational context and hence future researchers could extend this to other countries to develop a sustainability leadership model that is useful for describing more diverse managerial perceptions of sustainability. Future researchers could conduct invariance testing and cross-cultural comparative studies to analyze managerial perceptions of sustainability leadership characterized as multicultural and multi-ethnic.

This study confirms the importance of managers' ethical behaviour to achieve sustainable leadership. Future scholars could explore the influence of Buddhist philosophy in shaping managerial behaviours via invariance testing that concentrates on a larger sample of Buddhist managers especially focusing on the tradition of spiritualism, which has been largely ignored by management scholars.

Further, they could identify how manager's ethical behaviour emerges within oneself, and how these moral attitudes gradually extend to one's immediate family, and then to society in the Sri Lankan cultural context. Hence, future researchers could investigate diverse philosophical and cultural factors that influence management perceptions relating to manager's ethical behaviour that would enhance the social, environmental and financial sustainability of the firm.

It was identified here that Sri Lankan managers' negative attitudes to change hinder their achievement of excellence in leadership. Thus, future researchers could explore how change-oriented leadership skills can improve the leadership attitudes of Sri Lankan managers, too. Future researchers could also examine the aggregate influence of national cultural values on managerial perceptions *via* a much larger representative sample using a longitudinal design such as the multi-wave method. Managers' preference for short-term oriented decision making could be further explored with a much larger and representative managerial sample using either quantitative or qualitative methodology. The methodology, questionnaire and the research approach used in this study could be used to explore sustainability leadership in other regions, countries and industries. Comparative studies could also be conducted using larger samples across multiple industries, countries and regions.

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Appendix A

Hypotheses development to test manager's ethical behaviour mediates the relationship between leadership excellence and sustainability leadership dimensions

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- H1: The leader's ethical behaviour mediates the relationship between concern for stakeholder relationship and excellent leadership in the Sri Lankan organisational context.
- H2: The leader's ethical behaviour mediates the relationship between concern for stakeholder relationship and concern for social and environmental sustainability in the Sri Lankan organisational context.
- H3: The leader's ethical behaviour mediates the relationship between concern for stakeholder relationship and concern for financial performance in the Sri Lankan organisational context.
- H4: The leader's ethical behaviour mediates the relationship between long-term decision making and excellent leadership in the Sri Lankan organisational context.
- H5: The leader's ethical behaviour mediates the relationship between long-term decision making and concern for social and environmental sustainability in the Sri Lankan organisational context.
- H6: The leader's ethical behaviour mediates the relationship between long-term decision making and concern for financial performance in the Sri Lankan organisational context.
- H7: The leader's ethical behaviour mediates the relationship between employee engagement and excellent leadership in the Sri Lankan organisational context.
- H8: The leader's ethical behaviour mediates the relationship between employee engagement and concern for social and environmental sustainability in the Sri Lankan organisational context.
- H9: The leader's ethical behaviour mediates the relationship between employee engagement and concern for financial performance in the Sri Lankan organisational context.
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Appendix B

Hypotheses development to test the organisational change mediates the relationship between leadership excellence and sustainability leadership dimensions

H10: The leader's commitment to organisational change (CHNG) mediates the relationship between concern for stakeholder relationship (STK) and excellent leadership (EXL) in the Sri Lankan organisational context.

H11: The leader's commitment to organisational change (CHNG) mediates the relationship between concern for stakeholder relationship (STK) and concern for social and environmental sustainability (ENV) in the Sri Lankan organisational context.

H12: The leader's commitment to organisational change (CHNG) mediates the relationship between concern for stakeholder relationships (STK) and concern for financial performance (FIN) in the Sri Lankan organisational context.

H13: The leader's commitment to organisational change (CHNG) mediates the relationship between long-term decision making (LONG) and excellent leadership (EXL) in the Sri Lankan organisational context.

H14: The leader's commitment to organisational change (CHNG) mediates the relationship between long-term decision making (LONG) and concern for social and environmental sustainability (ENV) in the Sri Lankan organisational context.

H15: The leader's commitment to organisational change (CHNG) mediates the relationship between long-term decision making (LONG) and concern for financial performance (FIN) in the Sri Lankan organisational context.

H16: The leader's commitment to organisational change (CHNG) mediates the relationship between employee engagement (EMP) and excellent leadership (EXL) in the Sri Lankan organisational context.

H17: The leader's commitment to organisational change (CHNG) mediates the relationship between employee engagement (EMP) and concern for social and environmental sustainability (ENV) in the Sri Lankan organisational context.

H18: The leader's commitment to organisational change (CHNG) mediates the relationship between employee engagement (EMP) and concern for financial performance (FIN) in the Sri Lankan organisational context.

Appendix C

1) Exploratory factor analysis solutions for excellent leader (EXL)

Item label	Statement	Factor loading	Cronbach's alpha	% variance
EXL07	Motivate employees	0.774	0.892	51.2%
EXL08	Organise work time effectively	0.770		
EXL05	Have confidence in dealing with work and with people	0.762		
EXL06	Listen when employees want to say something	0.730		
EXL02	Create a sense of purpose and enthusiasm in the workplace	0.695		
EXL10	Have a strategic vision for the organisation	0.638		
EXL01	Continue to learn how to improve performance	0.632		
EXL04	Give recognition for good work	0.607		
EXL03	Develop strategies to gain a competitive edge in the industry	0.588		
EXL09	Be honest	0.542		

2) Exploratory factor analysis solutions for concern for social and environmental sustainability (ENV)

Item label	Statement	Factor loading	Cronbach's alpha	% variance
ENV7	Show concern for sustainability issues	0.811	0.910	53.57%
ENV6	Engage in work that makes your community a better place	0.796		
ENV8	Be environmentally responsible	0.778		
ENV10	Identify the impact of your actions on the natural environment	0.764		
ENV3	Promote staff welfare and development	0.741		
ENV2	Be socially responsible	0.710		
ENV11	Continuously learn how to protect the environment	0.691		
ENV4	Establish a friendly working environment	0.668		
ENV9	Encourage recycling of items and materials in your department	0.629		
ENV5	Work as a volunteer in your community	0.554		
ENV1	Be sensitive to people of different backgrounds	0.505		

3) Exploratory factor analysis solutions for concern for financial performance of the firm (FIN)

Item label	Statement	Factor loading	Cronbach's alpha	% variance
FIN4	Ensure maximum returns to investors	0.901	0.874	73.62%
FIN2	Achieve financial targets	0.858		
FIN3	Focus on maximising productivity	0.789		
FIN1	Understand potential financial impacts of every decision	0.673		

4) Exploratory factor analysis solutions for leaders' commitment to change (CHNG)

Item label	Statement	Factor loading	Cronbach's alpha	% variance
CHNG19	Think frequently about the practice of management	0.778	0.885	50%
CHNG20	Try different approaches to management	0.755		
CHNG15	Keep up-to-date on management literature	0.717		
CHNG16	Look for and use the positive aspects of other cultures	0.715		
CHNG14	Have formal management training	0.665		
CHNG13	Have a multicultural orientation and approach	0.649		
CHNG12	Foster an international perspective in the organisation	0.635		
CHNG9	Be skilled in work-related technology	0.603		
CHNG6	Be knowledgeable about work of the industry	0.552		
CHNG3	Be competitive	0.528		

5) Exploratory factor analysis solutions for manager's ethical behaviour (SUSTHINK)

Item label	Statement	Factor loadings	Cronbach's alpha	% variance
SUS14	Speak clearly and concisely	0.750	0.886	53.92%
SUS5	Cope with pressures of work	0.710		
SUS12	Select work wisely to avoid overload	0.662		
SUS2	Accept responsibility for mistakes	0.659		
SUS13	Share power	0.654		
SUS4	Choose management ethics before self or the organization	0.638		
SUS15	Think about the specific details of any particular problem	0.630		
SUS1	Be dependent and trustworthy	0.607		
SUS9	Have a sense of humour	0.585		
SUS16	Treat most people as if they were trustworthy and honest	0.584		
SUS19	Write clearly and concisely	0.577		
SUS8	Follow what is morally right – not what is right for self or the organisation	0.508		

6) Exploratory factor analysis solutions for stakeholder relationships (STK)

Item label	Statement	Factor loading	Cronbach's alpha	% variance
STK9	Respect the self-esteem of others	0.789	0.875	57.34%
STK2	Act as a member of a team	0.760		
STK4	Be skilled in public relations	0.749		
STK8	Negotiate with various professionals and interest groups	0.728		
STK10	Respond to expectations of consumers	0.719		
STK3	Be consistent in dealing with people	0.616		
STK7	Listen to the advice of others	0.590		

7) Exploratory factor analysis solutions for long-term-oriented decision-making (LONG)

Item label	Statement	Factor loading	Cronbach's alpha	% variance
LONG16	Understand and analyse complex problems	0.819	0.873	50%
LONG15	Think about what may happen in the future	0.727		
LONG14	Think about the general implications of any problem	0.711		
LONG2	Be logical in solving problems	0.662		
LONG17	Use economic indicators for planning purposes	0.623		
LONG1	Be consistent in making decisions	0.617		
LONG4	Be prepared to compromise on important work issues	0.613		
LONG6	Focus on the task-in-hand	0.593		
LONG5	Deal with work problems openly and honestly	0.566		

8) Exploratory factor analysis solutions for employee engagement (EMP)

Item label	Statement	Factor loading	Cronbach's alpha	% variance
EMP9	Support decisions made jointly by others	0.768	0.862	55.14%
EMP7	Delegate	0.709		
EMP2	Allow subordinates authority and autonomy	0.705		
EMP10	Trust those to whom work is delegated	0.691		
EMP6	Consider suggestions made by employees	0.679		
EMP1	Allow other people time to do things	0.668		
EMP8	Make allowances for emotional pressure on staff at work	0.608		

Appendix D

Summary of the exploratory factor analysis (EFA) results

EFA number	Construct	Original statements	Statements removed	Statements retained after EFA	Cronbach's alpha value	% variance explained
Dependent variables (sustainability leadership)						
1	Excellent leader (EXL)	EXL 1-10	None	EXL 1 to 10	0.892	51.2%
2	Concern for social and environmental sustainability (ENV)	ENV 1-11	None	ENV 1 to 11	0.910	53.57%
3	Concern for financial performance of the firm (FIN)	FIN 1-4	None	FIN 1 to 4	0.874	73.62%
Mediating variables						
4	Leader's commitment to change (CHNG)	CHNG 1-22	CHNG 1, 2, 4, 5, 7, 8, 10, 11, 17, 18, 21, 22	CHNG 3, 6, 9, 12, 13, 14, 15, 16, 19, 20	0.885	50.00%
5	Manager's ethical behaviour (SUSTHINK)	SUS 1-19	SUS 3, 6, 7, 10, 11, 17, 18	SUS 1, 2, 4, 5, 8, 9, 12, 13, 14, 15, 16, 19	0.886	53.92%
Independent variables (leadership dimensions)						
6	Stakeholder relationships (STK)	STK 1-11	STK 1, 5, 6, 11	STK 2, 3, 4, 7, 8, 9, 10	0.875	57.34%
7	Long-term decision-making (LONG)	LONG 1-17	LONG 3, 7, 8, 9, 10, 11, 12, 13	1, 2, 4, 5, 6, 14, 15, 16, 17	0.873	50.00%
8	Employee engagement (EMP)	EMP 1-11	EMP 3, 4, 5, 11	EMP 1, 2, 6, 7, 8, 9, 10	0.862	55.14%
Total		105	35	70		

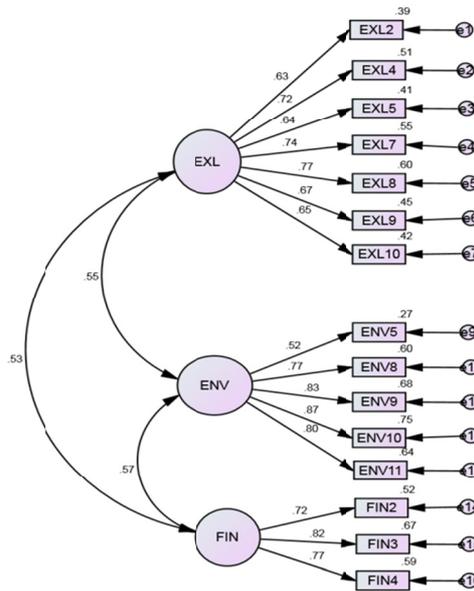
Appendix E

Summary of the model fit statistics for confirmatory factor analysis (CFA)

CFA number and construct name	Chi-square (df)	Boot-strap p-value	CMIN/df	CFI	GFI	AGFI	TLI	RMSEA	RMR	SRMR
Dependent variable(s)										
CFA1 (EXL)	38.219 (14)	0.075 (ns)	2.73	0.980	0.976	0.953	0.971	0.06	0.016	0.029
CFA2 (ENV)	2.835 (5)	1.000 (ns)	0.567	1.000	0.998	0.993	1.000	0.000	0.005	0.0074
CFA3 (FIN)	1.962 (1)	1.000(ns)	1.962	0.998	0.997	0.984	0.994	0.045	0.013	0.000
Mediating variable(s)										
CFA4 (CHNG)	14.910 (5)	0.109 (ns)	2.982	0.985	0.988	0.964	0.970	0.065	0.016	0.023
CFA5 (ETHICS-SUSTHINK)	25.083 (9)	0.088 (ns)	2.787	0.975	0.983	0.960	0.958	0.061	0.022	0.0315
Independent variable(s)										
CFA6 (STK)	17.466 (5)	0.078 (ns)	3.493	0.981	0.985	0.955	0.963	0.072	0.015	0.028
CFA7 (LONG)	36.45 (14)	0.06 (ns)	2.604	0.978	0.978	0.956	0.967	0.058	0.018	0.0304
CFA8 (EMP)	7.447 (5)	0.784 (ns)	1.489	0.996	0.994	0.982	0.992	0.032	0.011	0.0173

Appendix F

1) Final measurement model for sustainability leadership (dependent variables)



Note. Chi-square=156.371(df= 87), p-value (bootstrap p-value 95% CT with 1,000 samples) =0.000 (0.077), CMIN/DF=1.797, CFI=0.979, GFI=0.958, AGFI=0.942, TLI= 0.974, RMSEA= 0.041, RMR= 0.021, SRMR=0.036

Validity, reliability and correlation of the measurement model for sustainability leadership (dependent variables)

Construct	Cronbach's alpha	EXL	ENV	FIN
EXL	0.863	0.476		
ENV	0.868	0.303	0.590	
FIN	0.813	0.282	0.326	0.594

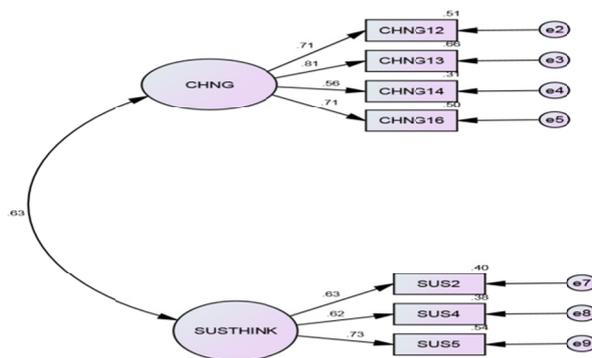
Note. All correlations are significant at p < 0.001

Diagonal values represent the AVE values of the individual variable.

Summary of measurement model for sustainability leadership (dependent variables)

Construct	Statement	Factor loading	Cronbach's alpha	AVE			
EXL	Create a sense of purpose and enthusiasm in the work place (EXL2)	0.626	0.863	0.476			
	Give recognition for good work (EXL4)	0.716					
	Have confidence in dealing with work and with people (EXL5)	0.641					
	Motivate employees (EXL7)	0.743					
	Organise work time effectively (EXL8)	0.775					
	Be honest (EXL9)	0.669					
	Have a strategic vision for the organisation (EXL10)	0.647					
	ENV	Work as a volunteer in your community (ENV 5)			0.522	0.868	0.590
		Be environmentally responsible (ENV 8)			0.775		
		Encourage recycling of items and materials in your department (ENV 9)			0.827		
Identify the impact of your actions on the natural environment (ENV 10)		0.868					
Continuously learn how to protect the environment (ENV 11)		0.800					
FIN	Achieve financial targets (FIN 2)	0.724	0.813	0.594			
	Focus on maximising productivity (FIN 3)	0.816					
	Ensure maximum returns to investors (FIN 4)	0.770					

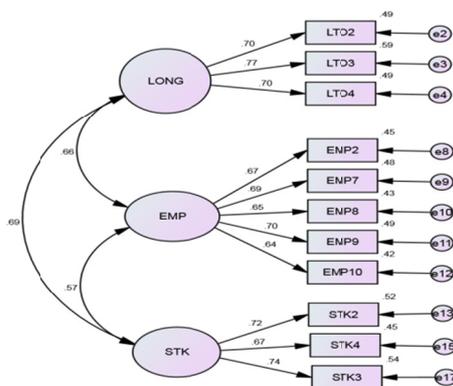
2) Final measurement model for mediating variables



n.b. The AVE value between the two constructs (i.e., 0.468) was greater than the squared correlations between the variables (i.e., 0.397), which confirmed discriminant validity as recommended by Fornell and Larcker (1981)

3) Final measurement model for leadership excellence dimensions (independent variables)

Construct	Statement	Factor loading	Cronbach's alpha	Variance extracted
CHNG	Foster an international perspective in the organisation (CHNG12)	.714	0.795	0.497
	Have a multicultural orientation and approach (CHNG 13)	.814		
	Have formal management training (CHNG14)	.560		
	Look for and use the positive aspects of other cultures (CHNG16)	.708		
ETHICS (SUSTHINK)	Accept responsibility for mistakes (SUS2)	.632	0.693	0.439
	Choose management ethics before self or the organisation (SUS4)	.619		
	Cope with pressures of work (SUS5)	.732		



Summary of measurement model for independent variables

Construct	Statement	Factor loading	Cronbach's alpha	AVE
STK	Act as a member of a team (STK2)	0.722	0.752	0.504
	Be consistent in dealing with people (STK3)	0.736		
	Be skilled in public relations (STK4)	0.671		
LONG	Be logical in solving problems (LTO2)	0.704	0.769	0.526
	Be objective when dealing with work conflicts (LTO3)	0.770		
	Be prepared to compromise on important work issues (LTO4)	0.699		
EMP	Allow subordinates authority and autonomy (EMP2)	0.670	0.803	0.452
	Delegate (EMP7)	0.693		
	Make allowance for emotional pressure on staff at work (EMP8)	0.654		
	Support decisions made jointly by others (EMP9)	0.699		
	Trust those to whom work is delegated (EMP10)	0.644		

Validity, reliability and correlation of the measurement model for independent variables

	Cronbach's alpha	LONG	EMP	STK
LONG	0.769	0.526		
EMP	0.803	0.434	0.452	
STK	0.752	0.482	0.329	0.504

Note. All the correlation values are significant at $p < 0.001$. Diagonal values represent the AVE values of the individual variable.

Appendix G**Total standardized effect of excellence leadership dimensions on sustainability leadership**

Path	Standardised total effects
LONG → EXL	0.118 (ns) ^{a,b}
LONG → ENV	0.071 (ns) ^{a,b}
LONG → FIN	0.172 (ns) ^{a,b}
EMP → EXL	0.173 (ns) ^a 0.173 ** ^b
EMP → ENV	0.221 (ns) ^a 0.221 ** ^b
EMP → FIN	0.267 *** ^{a,b}
STK → EXL	0.621 (ns) ^a 0.621 ** ^b
STK → ENV	0.391 *** ^{a,b}
STK → FIN	0.270 (ns) ^a 0.270 ** ^b

Note. **a = 99.9 % significance level (according to Bonferroni method)**

P < 0.0018 = *** and ns = not significant

b = 95% significance level

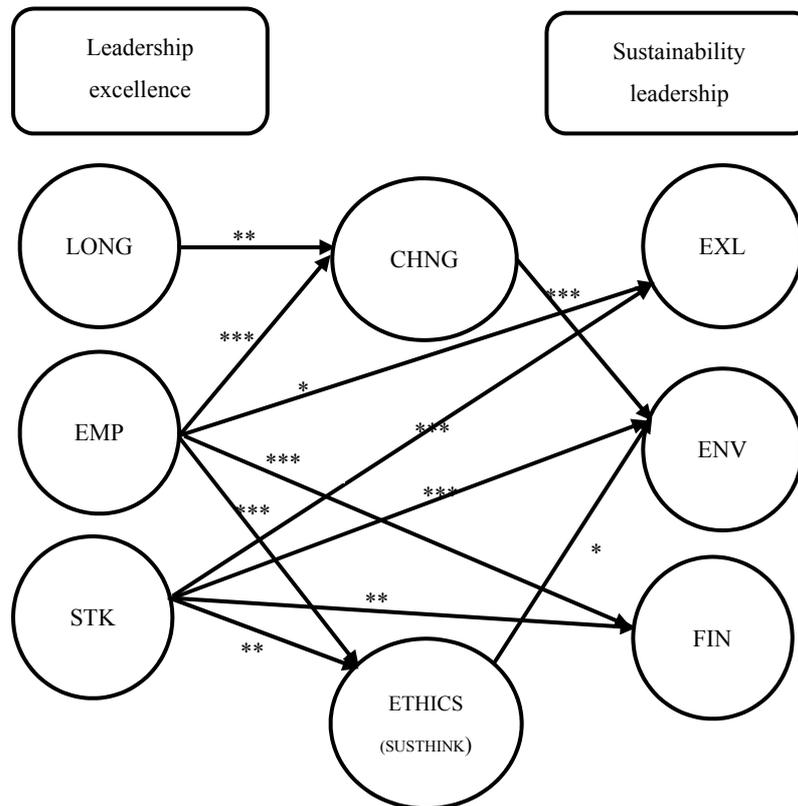
P < 0.0018 = ***

P < 0.01 = **

P < 0.05 = * and ns = not significant.

Appendix H

Sustainability leadership structural model with only significant paths



Note. Only significant paths shown with bootstrap p-values, $p < 0.05 = *$, $p < 0.01 = **$ and $p < 0.001 = ***$.

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