



A Micro-Level Implementation Mechanism to Enhance Corporate Sustainability Performance: A Social Identity Perspective

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According to United Nations Agenda 2030, the concept of corporate sustainability is deemed to be a significant driver for sustainable development. The literature of corporate sustainability has paid little consideration to the conceptual understanding of sustainability implementation process in organizations to enhance corporate sustainability performance. Therefore, this paper aims to develop the process of effective implementation of sustainability in organizations. Drawing upon social identity theory, this study proposes that the CEO's responsible leadership may enhance corporate sustainability performance by involving employees in sustainability activities. Using data from 313 middle managers from 38 organizations listed on the Pakistan stock exchange (PSX), the study found that employee involvement in sustainability activities mediates the relationship between CEO responsible leadership and corporate sustainability performance.

Key words: *Responsible leadership, Employee involvement, Corporate Sustainability Performance, Implementation mechanism.*

Introduction

During the past two decades, the way of doing business has completely transformed due to the dynamic, versatile, and volatile business environment. In this era, rapid shift in the stages of the economic cycle (i.e., recession, depression, and recovery stage) have been seen. These drastic changes in economic situation have garnered the attention of business researchers regarding corporate sustainability. Subsequently, a noticeable increase in corporate sustainability research can be observed in recent years.



In this context, most researchers have focused on conceptualizing corporate sustainability and assessing corporate sustainability performance through various techniques including indexes and ratings based on various indicators that reflect corporate sustainability performance (Dočekalová & Kocmanová, 2016). However, in the body of research, little attention is given to the implementation mechanism of corporate sustainability activities in an organization that may enhance the corporate sustainability performance. Some researchers, such as Asif and Searcy (2011) and Baumgartner and Rauter (2017) shed light on integration of corporate sustainability with business strategy and processes but most studies focus on macro-level factors of organization that include organizational systems, processes, structure, and culture. To gain a clear understanding of the implementation mechanism of corporate sustainability, deep insight of micro-level organizational factors is necessary.

The emerging literature on organizational theory and strategy highlighted the importance of micro-level factors in explaining the higher-level phenomena. Micro-level factors are a distinct part of the macro-level factor that describe how the smaller effect explains the broader aspect. Therefore, Carmeli, Brammer, Gomes, and Tarba (2017) argued that macro-level implementation mechanisms of corporate sustainability could not be effective until streamlined and synchronized with micro-level organizational factors.

In this regard, the present study calls attention to two important micro-level organizational factors, i.e., employee involvement in sustainability activities and CEO responsible leadership that may enhance corporate sustainability performance. Employee involvement is considered a key component of the implementation of organizational strategies (Qi & Wang, 2018) and it can be enhanced with positive organizational identification (Carmeli et al., 2017). Similarly, responsible leadership is an emerging phenomenon that focuses on stakeholder (investors, employees, customers, and suppliers, etc.) inclusion in developing and implementing organizational strategies (Voegtlin, 2011). Subsequently, it enhances stakeholder trust in the organization and more specifically, employee job satisfaction, organizational commitment (Waldman & Galvin, 2008) and organizational citizenship behaviour (Groves & LaRocca, 2011). Specifically, CEO responsible leadership can prove to be most effective in attaining the required outcomes because of its vast scope of responsibility and power (Voegtlin, 2016). Moreover, Luque, Washburn, Waldman, & House (2008) noted that CEO's who engaged more in responsible leadership style increased their firm performance and had more control over the firm stakeholders, however its relationship with employee involvement in sustainability activities has never been investigated.

This investigation is important for two main reasons. First, it will clarify the role of responsible leaders in enhancing employee involvement in sustainability activities by including them in organizational strategy development and implementation. Second, it will explain the



phenomenon of corporate sustainability performance at the micro-level of the organization. Therefore, to develop a micro-level implementation mechanism of corporate sustainability, the present study used a social identity theory lens to posit that a responsible leader may enhance corporate sustainability performance through employee involvement in sustainability activities.

Literature Review

CEO's Responsible Leadership

The CEO is the most effective and important person in the development and implementation of organizational strategies. This concept in leadership perspective has gained reasonable attention from researchers in the last decade. In this era, most studies explored different leadership styles focusing on the CEO and their relationship with organizational performance. For instance, Wang, Tsui, & Xin (2011) found the positive relationship between CEO transformational leadership styles and positive employee attitudes. Similarly, CEO transactional leadership enhances firm performance (Wang et al., 2011). More specifically, there is a positive impact of CEO servant leadership styles and employee performance (Huang, Li, Qiu, Yim, & Wan, 2016). This stream of research also established the positive association of CEO ethical leadership with organizational citizenship behaviour (Shin, 2012) and corporate social responsibility (Wu, Kwan, Yim, Chiu, & He, 2014). These findings confirmed that organizational outcomes reflect the embedded behaviours in different CEO leadership styles.

Specifically talking about CEO responsible leadership style, Maak et al. (2016) were first to explore this and its relationship with political CSR. According to them, there are two CEO responsible leadership styles, i.e. instrumental and integrative. The former style is task focused, whereas the latter is relationship focused. The integrative style is a strong representative of CEO responsible leadership (Maak, 2007; Maak & Pless, 2006; Voegtlin, 2011). Therefore, the present study considered the integrative style as CEO responsible leadership because it includes the high stakeholder mobilization and engagement (Maak et al., 2016) that distinguishes responsible leadership from other leadership styles.

CEO's Responsible Leadership and Employee Involvement in Sustainability Activities

A stakeholder perspective advocates the shared value creation for both organization and society. This shared sense of vision pushes leaders to be socially responsible through the process of inclusion comprising both internal and external stakeholders. Therefore, Voegtlin (2011) found a positive effect of responsible leadership on employee job satisfaction. Most prior studies confirm the relationship between responsible leadership and positive employee job behaviour. For instance, responsible leaders can motivate employees, enhance employee commitment, and develop positive employee behaviour towards their job (Koh, Fernando, &



Spedding, 2018) which consequently enhance employee retention in the organization (Haque, Fernando, & Caputi, 2019). Further, Voegtlin (2011) considered the hierarchical position of a responsible leader as an important factor.

Specifically, the CEO responsible leadership can be proved to be the most effective to attain the required outcomes because of its vast scope of responsibility and power (Voegtlin, 2016). Consistent with this, Luque, Washburn, Waldman, & House (2008) noted that CEO's who engaged more in responsible leadership style had increased their firm performance and had more control over the stakeholders of the firm. These findings can be linked with the results of Carmeli et al. (2017), who established the association between organizational identification and employee involvement in sustainability-oriented behaviours. Therefore, it can be asserted that employees can be involved in sustainability activities by identifying the positive discursive role of their CEO demonstrated through responsible leadership. Hence, we hypothesized that CEO engaging in responsible leadership might enhance employee involvement in sustainability activities.

Hypothesis 1: CEO's responsible has a positive association with employee involvement in sustainability activities.

Employee Involvement in Sustainability Activities and Corporate Sustainability Performance

Traditionally, as per motivational theories, managers make use of extrinsic and intrinsic rewards to enhance employee motivation and retention as research evidences that employee retention increases when employees are involved in their job and find it interesting and meaningful (Kanungo, 1982). Exploration of employee involvement has been limited in prior studies. However, recent studies have explored its antecedents and outcomes (Qi & Wang, 2018) and found the outcomes of employee involvement are related to employee commitment, employee productivity (Khan, Jam, Akbar, Khan, & Hijazi, 2011) organizational performance (Qi & Wang, 2018) and employees OCB (Zhang, 2014).

These findings highlight the vitality of employee involvement in the context of organizational success. Although substantial research has been conducted on employee involvement during the last decade, most of the research focused on the instrumental antecedents and outcomes of employee involvement. In this perspective, limited attention has been given to normative outcomes of employee involvement through affective commitment (Carmeli et al., 2017) as employee involvement has served as the implementation driver of organizational strategies (Qi & Wang, 2018). Therefore, this study hypothesized that employee involvement in sustainability activities might increase corporate sustainability performance.



Hypothesis 2: Employee involvement in sustainability activities is positively associated with corporate sustainability performance.

Mediating Effect of Employee Involvement in Sustainability Activities

Based on social identity theory, integrating the hypotheses as mentioned above of direct effects between constructs, the present study proposed that employee involvement in sustainability activities mediates the relationship of exogenous and endogenous variables of the study. Leadership has a strong relationship with organizational performance through employee involvement (LePine, Zhang, Crawford, & Rich, 2016). Therefore, leaders must understand employee interests and motivational needs and align them with the overall organization strategy, to gain intended results by enhancing employee performance (van Knippenberg & van Kleef, 2016). Leaders are required to motivate employees to enhance employee involvement that ultimately leads to sustainability (Al Mehrzi & Singh, 2016). Ghaffari et al. (2017) explained that leaders could enhance employee job satisfaction through fair treatment of employees. Similarly, responsible leaders can enhance employee job satisfaction and employee commitment through collaboration to determine shared values.

Moreover, Al Mehrzi & Singh, (2016) comment that employee involvement is vital for sustainability and leadership is an important determinant of employee involvement. Furthermore, Acharya & Jena (2016) pointed the need for research on employee involvement to gain the organizational sustainability, and employee involvement can be increased through ethics of care towards employees (Carmeli et al., 2017). Hence, it is hypothesized that CEO responsible leadership might enhance corporate sustainability performance through employee involvement in sustainability activities.

Hypothesis 3: Employee involvement in sustainability activities mediates the relationship between CEO's responsible leadership and corporate sustainability performance.

Methods

In this research, data was collected from 326 questionnaires that were distributed to middle managers of 38 organizations listed in KSE 100 Index of the Pakistan stock exchange. The survey was carried out over a six month period from August 2018 to January 2019. A total of 326 questionnaires was received from 38 organizations from the 400 distributed questionnaires. 13 incomplete questionnaires were not included in the analyses therefore, a total 313 questionnaires were used in the analysis. All respondents were working as departmental heads (middle managers) and the majority (83%) of the respondents were male. They were aged between 31 to 57 years and worked in their current department for more than five years (84%) while being part of the organization for more than ten years (93%). Most of them belong to an



organization having more than 5000-10000 employees (37%). The data were analyzed by applying Partial Least Squares Structural Equation Modelling (PLS-SEM) using Smartpls 3.0 software.

Measures

CEO Responsible Leadership

This construct is measured by five items developed by (Voegtlin, 2011) having the reliability of ($\alpha = 0.905$). It is measured on a 5-point Likert itemized rating scale response format, ranging from “(1) not at all to (5) frequently, if not always”. The responsible leadership scale is adopted to take the employees perception about CEO’s responsible leadership. A sample item is “Our CEO demonstrates awareness of the relevant stakeholder claims.”

Employee Involvement in Sustainability Activities

Employee Involvement in Sustainability Activities is measured by nine items on 5-point Likert scale adopted by (Carmeli et al., 2017) from the original scale of job involvement by (Kanungo, 1982) having the reliability of ($\alpha = .94$). Sample item of the scale is: “The most important things that happen to me involve the work I do to improve sustainability in this organization”.

Corporate Sustainability Performance

It is operationalized as a reflective-reflective second-order hierarchical construct in terms of environmental, economic, and social performance. Of the 18 items in a 5-point Likert scale, eight refer to environmental performance, 4 to economic performance, and 6 to social performance adopted from (Wijethilake, 2017). The scale was originally developed by (Bansal, 2005) but validated by (Wijethilake, 2017) and established reliabilities of dimensions of the construct ($\alpha = 0.97$), ($\alpha = 0.93$) and ($\alpha = 0.88$) respectively and reliability of the overall scale is ($\alpha = 0.91$.) Sample items of the measurement of this variable are: “Used waste as inputs for own processes” (Corporate Environmental Performance), “Reduced costs of inputs for same level of outputs” (Corporate Economic Performance) and “Considered interests of stakeholders in investment decisions by creating a formal dialogue” (Corporate Social Performance).

Aggregation of Data

RWG(j) measure by James, Demaree, and Wolf (1984) was applied to use individual-level variables at the firm level, ensuring agreement among the middle managers of each firm. The RWG(j) was first calculated to analyze within-group agreement among respondents. Then, to assess the variance between groups and within groups, intra-class correlation coefficients ICC (1) and ICC (2) were computed. ICC (1) measured sum of squares errors (between-group) that

represent the differences in individual perceptions due to different group associations (James et al., 1984; Ostroff, 1992; A. Y. Zhang, Tsui, & Wang, 2011).

In contrast, ICC (2) quantifies “the proportional consistency of variance and can be calculated by comparing the mean-square-between group minus the mean-square-within the group to the mean-square-between group based on the results of a one-way ANOVA” (Ostroff, 1992, p. 966). Table 1 below shows the agreement indices for the five scales used to measure the research model of the study. The RWG value varies from 0.71 to 0.93, with a mean of 0.80 for all the variables. The ICC (1) for studied variables varies from 0.23 to 0.29, with an average of 0.27. The ICC (2) varies from 0.65 to 0.71, with an average of 0.70. These results confirm a high level of agreement and reliability in the studied variable scores.

Table 1: Agreement indices of first-order constructs

Variable	Rwg(j)	ICC1	ICC2	F-Ratio	P-Value
RL	0.93	0.29	0.71	3.45	0.00
EI	0.76	0.28	0.70	3.33	0.00
CEnvP	0.82	0.23	0.65	2.82	0.00
CEcoP	0.76	0.28	0.70	3.34	0.00
CSocP	0.71	0.28	0.70	3.36	0.00

Note: RL-Responsible Leadership, EI- Employee Involvement in Sustainability Activities, CEnvP-Corporate Environmental Performance, CEcoP-Corporate Economic Performance, CSocP-Corporate Social Performance.

Measurement Model

This study performed Confirmatory Factor analysis (CFA) to validate the measurement model (outer model) by examining the relationship between items/indicators and their respective underlying construct. Since the model consists of first and second order construct (high order construct), assessing the measurement model included both constructs. All item loadings for reflective constructs were inspected to pass a cut-off point of 0.5 to measure reliability, as recommended by Hair et al. (2010). Therefore, items with a loading of less than 0.5 were eliminated from further consideration (See Table 2 below). Higher loadings mean that there is more shared variance between the construct and low loadings shows very small explanatory power of the model, as well as reducing the estimated parameters linking the construct (Hulland, 1999). Table 2 below represents the measurement model for this study.

Table 2: Result Summary for Reliability and Validity of Constructs

Second Order	AV E	CR	First Order	Item s	Load ings	Alp ha	AV E	CR	Items deleted
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						(α)			
			Responsible Leadership	RL1	0.720	0.905	0.704	0.921	
				RL2	0.954				
				RL3	0.751				
				RL4	0.953				
				RL5	0.787				
			Employee Involvement in Sustainability Activities	EI5	0.912	0.955	0.848	0.965	EI1,EI2,EI3,EI4
				EI6	0.918				
				EI7	0.938				
				EI8	0.936				
				EI9	0.900				
Corporate Sustainability Performance	0.65	0.70	Corporate Environmental Performance	CEn vP1	0.912	0.973	0.839	0.977	
				CEn vP2	0.902				
CEn vP3	0.940								
CEn vP4	0.931								
CEn vP5	0.945								
CEn vP6	0.908								
CEn vP7	0.924								
CEn vP8	0.864								
			Corporate Economic Performance	CEc oP1	0.921	0.935	0.836	0.953	
				CEc oP2	0.928				
				CEc oP3	0.928				
				CEc oP4	0.880				

				CSo cP1	0.830	0.8 67	0.7 13	0.9 09	CSocP 5,CSoc P6
			Corporate Social Performance	CSo cP2	0.866				
				CSo cP3	0.799				
				CSo cP4	0.881				

Construct Reliability and Validity

The reliability of each item/construct is assessed by examining the loadings of the respective items on their respective latent construct and composite reliability that is known as the internal consistency of the measure. Meanwhile, construct validity can be measured through convergent and discriminant validity (Hair, Hult, Ringle, & Sarstedt, 2017).

Convergent Validity

Convergent validity is the state where different items utilised in the study to assess the aforesaid construct are in accord (Hair, Hult, Ringle, & Sarstedt, 2014). Outer loadings and the value of the average variance extracted (AVE) are used to assess the convergent validity. AVE value of 0.5 and higher should be achieved to prove that the latent variable explains more than half of its indicators' variance (Hair et al., 2010). To assess convergent validity, outer loadings, composite reliability (CR), and the average variance extracted (AVE) were assessed. The factor loadings less than 0.5 were deleted, resulting in final AVE and CR to be above the standard value of 0.5 and 0.7, respectively (refer to Table 2).

Discriminant Validity

“Discriminant validity can be defined as a situation where two or more distinctively different concepts are not correlated to one another” (Hair et al., 2014, p. 112). The methods that are used to establish the construct discriminant validity are Fornell-Larcker Criterion and Heterotrait-Monotrait Ratio (HTMT) Analysis. Further, discriminant validity for reflective model can be established through the Fornell-Larcker Criterion and Heterotrait-Monotrait Ratio (HTMT) Analysis. According to Fornell-Larcker Criterion, the square root of AVE for each latent construct should be greater than the correlations of any other latent construct. As shown in Tables 3 and 4 below respectively, the square root of AVE for each construct is higher than the correlation for each construct. Similarly, in Heterotrait-Monotrait Ratio (HTMT) Analysis, discriminant validity exists when all the values of HTMT ratio are less than 0.85. As

shown in Tables 5 and 6 below respectively, the HTMT ratio of each indicator against its respective indicator was less than 0.85, which indicates discriminant validity among indicators.

Table 3: Fornell-Larcker Criterion Analysis for Checking Discriminant Validity of First Order Constructs

	CEcoP	CEnvP	CSocP	EI	RL
CEcoP	0.915				
CEnvP	0.220	0.916			
CSocP	0.209	0.273	0.799		
EI	0.142	0.557	0.017	0.921	
RL	0.080	0.296	0.086	0.685	0.839

Table 4: Fornell-Larcker Criterion Analysis for Checking Discriminant Validity of Inner Model

	CSP	EI	RL
CSP	0.682		
EI	0.501	0.921	
RL	0.290	0.685	0.839

Note: The square root of AVE values are shown on the diagonals and printed with bold, non-diagonal elements are the latent variable correlation. RL-Responsible Leadership, EI-Employee Involvement in Sustainability Activities, CSP-Corporate Sustainability Performance

Table 5: Heterotrait-Monotrait Ratio (HTMT) Analysis for Checking Discriminant Validity of First Order Constructs

	CEcoP	CEnvP	CSocP	EI	RL
CEcoP					
CEnvP	0.216				
CSocP	0.231	0.262			
EI	0.150	0.578	0.079		
RL	0.113	0.291	0.162	0.629	

Note: RL-Responsible Leadership, EI- Employee Involvement in Sustainability Activities, CEnvP-Corporate Environmental Performance, CEcoP-Corporate Economic Performance, CSocP-Corporate Social Performance.

Table 6: Heterotrait-Monotrait Ratio (HTMT) Analysis for Checking Discriminant Validity of Inner Model

	CSP	EI	RL
CSP			
EI	0.493		
RL	0.310	0.629	

Note: RL-Responsible Leadership, EI- Employee Involvement in Sustainability Activities, CSP-Corporate Sustainability Performance

The Establishment of Second-Order Constructs

In this study, corporate sustainability performance (CSP) is conceptualized as a second-order reflective-reflective construct. The second-order construct was assessed using the repeated indicator in which all the first-order constructs are taken out together as a reflective measure of second-order constructs in PLS model (Becker, Klein, & Wetzels, 2012; Wetzels, Odekerken-schröder, & Oppen, 2009). Hence, the second-order construct was measured directly by all indicators of first-order constructs.

The theory of corporate sustainability performance is based on the concept of sustainable development that has three highly related but distinct dimensions (Bansal, 2005). Similarly, prior studies found the three factors of corporate sustainability performance (CSP) are highly intercorrelated (Wijethilake, 2017). The average correlation of these three factors is 0.74 and meets one condition of the reflective construct, but it alone is not enough and needs statistical support through confirmatory tetrad analysis (CTA-PLS). Therefore, before establishing the CSP as a second-order reflective construct, CTA-PLS approach was applied, a first in studies in this field.

CTA-PLS is a better statistical measure to determine whether the latent / higher order construct is reflective or formative (Hair, Hult, Ringle, & Sarstedt, 2017). This approach is based on evolution construct indicators in the form of the tetrad. The latent construct is said to be reflective when all the tetrad values are non-significant (J. F. Hair et al., 2017; Svensson et al., 2018). Table 7 below provides the CTA-PLS results explaining that none of the tetrads is significant to provide empirical support to reflective models.

Table 7: Confirmatory Tetrad Analysis (CTA-PLS)

Dimension	Tetrad	Original Value	CI ^a Low	CI ^a Up
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Corporate Environmental Performance	1,2,3,4	0.010	-0.001	0.023
	1,2,4,3	0.006	-0.008	0.021
	1,2,3,5	0.006	-0.006	0.019
	1,3,5,2	-0.001	-0.011	0.010
	1,2,3,6	-0.003	-0.015	0.008
	1,2,3,7	0.008	-0.002	0.019
	1,2,3,8	0.010	-0.002	0.024
	1,2,5,4	0.004	-0.008	0.017
	1,2,7,4	0.011	-0.002	0.026
	1,2,8,4	0.016	-0.001	0.035
	1,5,6,2	0.005	-0.006	0.018
	1,5,7,2	-0.001	-0.009	0.007
	1,6,8,2	-0.004	-0.012	0.002
	1,3,7,8	0.001	-0.010	0.011
	1,4,6,7	-0.007	-0.028	0.013
	1,5,6,8	-0.008	-0.024	0.007
	1,5,7,8	0.008	-0.006	0.024
2,3,6,4	-0.022	-0.050	0.004	
2,3,5,7	-0.009	-0.025	0.005	
2,6,7,5	0.014	-0.004	0.033	
Corporate Economic Performance	1,2,3,4	-0.011	-0.034	0.011
	1,2,4,3	-0.007	-0.017	0.002
Corporate Social Performance	1,2,3,4	0.001	-0.015	0.017
	1,2,4,3	0.009	-0.004	0.024
	1,2,3,5	0.004	-0.015	0.024
	1,3,5,2	0.005	-0.005	0.015
	1,2,3,6	-0.006	-0.023	0.009
	1,2,4,5	0.005	-0.005	0.016
	1,2,5,6	0.013	-0.006	0.035
	1,3,4,6	0.010	-0.006	0.027
	1,3,6,5	0.006	-0.021	0.034

Assessment of Structural Model

Direct Effect

The structural model can be ascertained by conducting a bootstrapping procedure (Zhao, Lynch, & Chen, 2010). The structural model assessment was performed to test the developed hypotheses relationships. The values of path coefficient (β) and coefficient of determination (R^2) were computed primarily to assess structural model. Afterwards bootstrap analysis was conducted to test statistical significance after computing the path estimates in the structural model. Bootstrap analysis was performed to assess the statistical significance of the β values.

Figure 1. Unstandardized estimated of hypothesized model. $P < 0.5$ (two-tailed test)



The strength of hypothesized relationships of constructs is represented by β values. Thus, the β values for this study were analysed, as shown in Figure 1 above and Table 8 below. Next, the coefficient determination or R^2 was analysed. The value of R^2 represents the variance explained by the exogenous variables in the endogenous variable (Hair et al., 2014). The cut-off value for acceptable R^2 differs (Moksony & Heged, 1990) but prior studies consider R^2 value of 0.26 and above as substantial, which means that the estimated model fits the data very well (Hair et al., 2017). However, the value of $R^2 > 0.1$ is acceptable in social science and business research (Duarte & Raposo, 2010). In this study, there are two endogenous variables, one is employee involvement in sustainability activities-EI (used as mediator), and corporate sustainability activities-CSP (final dependent variable) appear to have an R^2 value of 0.47 and 0.25 respectively (see Table 9). However, the R^2 value of corporate sustainability performance is slightly low than the substantial criteria laid down by (Cohen, 1988) but accounting for the nature of the model and sample size it can be considered as substantial (Duarte & Raposo, 2010; Moksony & Heged, 1990).

Table 8 below presents the results of the direct effect hypothesized in this study. The results from the output of the bootstrapping PLS-SEM confirm that there is a significant positive relationship between responsible leadership and employee involvement in sustainability activities ($\beta = 0.69$, $t = 10.33$, $p < 0.01$), employee involvement in sustainability activities and corporate sustainability performance ($\beta = 0.50$, $t = 4.47$, $p < 0.01$). Therefore, hypotheses 1 and 2 are supported. However, the R^2 value of corporate sustainability performance is slightly low than the substantial criteria laid down by (Cohen, 1988) but accounting for the nature of the model and sample size it can be considered as substantial (Duarte & Raposo, 2010; Moksony & Heged, 1990).

Table 8: Summary of the Direct Effect

Hypotheses	Relationship	Beta	SE	t-value	Statistic Decision
H1	RL -> EI	0.69	0.06	8.90**	Supported
H2	EI -> CSP	0.50	0.11	4.30**	Supported

Note: $p < 0.01$

Analysing Predictive Relevance (Q^2)

The predictive relevance Q^2 was employed to assess the capability of the research model to make a prediction (Duarte & Raposo, 2010; Götz, Liehr-Gobbers, & Krafft, 2010). The predictive relevance proposes that the model must be capable enough to predict each endogenous latent construct indicator. The blindfolding procedure was performed to obtain the value of Q^2 . Blindfolding procedure is only practical to endogenous latent variables that hold a reflective measurement model specification. According to Hair et al. (2014), a Q^2 greater than 0 implies that the model has predictive relevance, while a value less than 0 indicates a lack of predictive relevance. Values of 0.02, 0.15, and 0.35 indicate that an exogenous construct has a small, medium, and large predictive relevance for a certain endogenous construct (Hair et al., 2014). In this study, there are two reflective endogenous variables – employee involvement in sustainability activities and corporate sustainability performance. Results of the predictive relevance are presented in Table 9 below.

Table 9: Predictive Relevance for Endogenous Variables (Q^2) and Coefficient of Determination (R^2)

Constructs	Q^2	Result of Predictive Relevance	R^2	Result of Coefficient of Determination
Employee Involvement in Sustainability Activities	0.36	Large	0.47	Substantial
Corporate Sustainability Performance	0.11	Medium	0.25	Substantial

Indirect Effect

In examining indirect effect of mediation using PLS, the repeated indicator approach is appropriate in case of 2nd order reflective-reflective model (Becker et al., 2012; J. Hair, Hollingsworth, Randolph, & Chong, 2017). “For the repeated indicator approach, a higher-order latent variable can be constructed by specifying a latent variable that represents all the manifest variables of the underlying lower-order latent variables” (Becker et al., 2012, p. 365). By conducting a bootstrap procedure, the indirect effect of the model was extracted. Table 10 below shows the indirect effect among variables. The results of the bootstrap analysis confirm the mediation of employee involvement in sustainability activities (EI) between the relationship of responsible (RL) and corporate sustainability performance-CSP ($\beta = 0.34$, t-value = 4.04, $P < 0.01$). Hence, hypothesis 3 is also supported.

Table 10: Summary of the Specific Indirect Effect

Hypotheses	Relationship	Beta	SE	T	Statistic Decision
H3	RL -> EI -> CSP	0.34	0.08	4.04	Supported

Note: $p < 0.01$

A summary of hypotheses testing is presented in Table 11 below.

Table 11: Summary of Hypotheses Testing

Hypotheses	Descriptions	Result
H1	CEO's responsible has a positive association with employee involvement in sustainability activities.	Supported
H2	Employee involvement in sustainability activities is positively associated with corporate sustainability performance.	Supported
H3	Employee involvement in sustainability activities mediates the relationship between CEO's responsible leadership and corporate sustainability performance.	Supported

Discussion

Responsible leadership is an ethical construct that places additional stresses on stakeholder involvement (including employees, customers, suppliers, etc.) in the decision-making process that can affect them both directly or indirectly (Voegtlin, 2011, 2016). Thus, the connotation of stakeholder inclusion makes it distinct from ethical leadership style. This study aims to determine the direct relationship between CEO responsible leadership and employee involvement in sustainability activities.

Theoretical Implications

The result from the output of PLS-SEM algorithms and bootstrapping confirms the positive significant direct relationship between CEO responsible leadership and employee involvement in sustainability activities ($\beta = 0.69$, $t = 10.33$, $p < 0.01$) with an R^2 value of 0.47. These results are consistent with Han, Wang, & Yan (2019); Mariappanadar (2018) who revealed that when employees perceive differentiated leadership style, they get more involved in their respective jobs. Similarly, this study found that employees get involved in sustainability activities due to CEO responsible leadership style. More specifically, it is implied that when employees are involved in decision making regarding sustainability initiatives, they become more involved in sustainability activities because they identify their CEO as a responsible leader.

These findings also validate the outcomes of Han et al. (2019) that responsible leadership enhances employee autonomous motivation to be involved in sustainability activities by taking



care of organizational stakeholders (Voegtlin, 2016). These research findings also synchronize with the research of Carmeli, Brammer, Gomes, & Tarba (2017), who found that an organizational ethic of care can enhance employee involvement in sustainability-oriented behaviour through employee positive organizational identification and affective reactions towards organizational sustainability. Likewise, this study found responsible leadership an appropriate leadership style that enhances employee involvement in sustainability activities by focusing on the relationship of all organizational stakeholders, including employees.

Secondly, this study unveils that corporate sustainability performance can be enhanced by employee involvement in sustainability activities ($\beta = 0.50$, $t = 4.47$, $p < 0.01$) with an R^2 value of 0.26. These results explain that employees play a vital role in enhancing corporate sustainability performance by involving themselves in sustainability activities. In other words, organizational outcomes are subject to employee involvement in relative activities. This supports the findings of Qi & Wang (2018); Smith, Wallace, Vandenberg, & Mondore (2018), who explained that workgroup task and workgroup citizenship performance is based on the prevalent employee involvement climate in the organization. Similarly, in the light of our findings, it is argued that the more employees get involved in the decision making of a corporate sustainability initiative, the more they will involve themselves in corporate sustainability activities that result in enhanced corporate sustainability performance. This study also provides empirical support that adds to the findings of Vicente et al. (2015) that presented employee involvement as an integral factor for business sustainability implementation.

Finally, following social identity theory, the indirect effect of CEO responsible leadership on corporate sustainability performance through employee involvement in sustainability activities was assessed. A significant indirect effect (mediation) among the observed variables ($\beta = 0.34$, $t = 4.04$, $p < 0.01$) was found. This means that a CEO who is a responsible leader may enhance corporate sustainability performance through employee involvement in sustainability activities. As discussed in the previous section, responsible leaders focus on stakeholder (including employees) inclusion in the decision-making process (Voegtlin, 2016) regarding sustainability initiatives. Thus employees are compelled to involve themselves in sustainability activities (Carmeli et al., 2017), resulting in corporate sustainability performance.

These findings provide support to the findings of Law, Hills, & Hau (2017); Vlachos, Panagopoulos, Bachrach, & Morgeson (2017), that employee corporate responsibility attributes are dependent on leader's corporate responsibility attributes that in turn enhance corporate sustainability performance. Thus, this study contributes to social identity theory that employee involvement in instrumental or normative activities is subject to top leadership behaviour. Moreover, it contributes to sustainability theory by clarifying the role of CEO responsible leadership and employee involvement in sustainability activities in enhancing corporate sustainability performance.



Practical Implications

The present study has several practical implications. First, it provides a framework to the leaders, specifically CEOs, for enhancing their corporate sustainability performance at the micro level. The findings suggest that the CEO as the most powerful person in the organization (Wiggenhorn, Pissaris, & Gleason, 2016) compels employees to be involve in sustainability activities through responsible leadership. In this regard, the CEO should focus on inclusion of employees in the decision making process and create awareness through workshops and training programs, especially regarding sustainability initiatives (Law et al., 2017). Further, by implementing effective sustainability activities, the organization achieves corporate sustainability that is the key element of sustainable development (Bergman, Bergman, & Berger, 2017). In other words, this framework helps the organizations to contribute to sustainable development through corporate sustainability that fulfills their social responsibility obligations. Finally, the findings highlight the importance of employees in the implementation of organizational strategies by aligning their preferences with organizational goals. It explains that employees must be taken into consideration by the leadership regarding organizational strategies as a central part of the implementation mechanism such that they can take their part in achieving organizational goals without being a target of skepticism (Vlachos et al., 2017).

Future Research Directions

This study has several limitations that provide opportunities for future research. First, the data is analyzed at the firm level by getting responses from middle managers as to their perceptions about the CEO's responsible leadership, employee involvement in sustainability activities, and corporate sustainability performance. It is suggested that future studies should test this model at group level including employees and their supervisors as study respondents to confirm the findings at a different level of organization. A further limitation is that this is a cross-sectional study in which data is collected at one point in time.

Further studies may extend this research utilizing experimental, longitudinal, or time-series design to allow for causal implications. Also, several studies highlighted the importance of employee involvement in sustainability activities, but its antecedents are still to be explored (Carmeli et al., 2017). Therefore, in addition to the CEO responsible leadership, it is suggested that the inclusion of organizational variables be made to the proposed model of the study to test their independent effect on employee behaviour. It will add to the research field regarding the contribution and significance of organizational culture in the suggested framework. Finally, the differences among national culture may influence the results of the study and hence it is proposed that this research model be tested in various countries to generalize the study findings.



Conclusion

This study extended conceptual understanding and empirically tested the effective implementation mechanism of corporate sustainability. Prior studies suggested that employees are the key elements of the organization in the implementation of organizational strategies. Therefore, this research investigated whether corporate sustainability performance could be enhanced by CEO responsible leadership through employee involvement in sustainability activities. It is essential to involve employees in sustainability activities to obtain the desired results of sustainability initiatives. Further, employees are highly influenced by CEO leadership style, and responsible leadership includes the process of inclusion of employees in organizational decision making. Thus, responsible CEO leadership may improve employee confidence and motivate involvement in sustainability activities.

REFERENCE



- Acharya, A., & Jena, L. K. (2016). Employee engagement as an enabler of knowledge retention: resource-based view towards organisational sustainability. *International Journal of Knowledge Management Studies*, 7(3/4), 238.
- Asif, M., & Searcy, C. (2011). An integrated management systems approach to corporate sustainability. *European Business Review*, 23(4), 353–367.
- Bansal, P. (2005). Evolving sustainably: A longitudinal study of corporate sustainable development. *Strategic Management Journal*, 26(3), 197–218.
- Baumgartner, R. J., & Rauter, R. (2017). Strategic perspectives of corporate sustainability management to develop a sustainable organization. *Journal of Cleaner Production*, 140, 81–92. Elsevier Ltd.
- Becker, J., Klein, K., & Wetzels, M. (2012). Hierarchical latent variable models in PLS-SEM: Guidelines for using reflective-formative type models. *Long Range Planning*, 45(5–6), 359–394. Elsevier Ltd.
- Bergman, M. M., Bergman, Z., & Berger, L. (2017). An empirical exploration, typology, and definition of corporate sustainability. *Sustainability (Switzerland)*, 9(5), 1–13.
- Carmeli, A., Brammer, S., Gomes, E., & Tarba, S. Y. (2017). An organizational ethic of care and employee involvement in sustainability-related behaviours: A social identity perspective. *Journal of Organizational Behaviour*, 38(9), 1380–1395.
- Dočekalová, M. P., & Kocmanová, A. (2016). Composite indicator for measuring corporate sustainability. *Ecological Indicators*, 61, 612–623.
- Duarte, P. A. O., & Raposo, M. L. B. (2010). A PLS model to study brand preference: An application to the mobile phone market. In V. E. Vinzi, W. W. Chin, J. Henseler, & H. Wang (Eds.), *Handbook of Partial Least Squares: Concepts, Methods and Applications* (pp. 449–485). New York: Springer US.
- Ghaffari, S., Shah, I. M., Burgoyne, J., Nazri, M., & Aziz, J. S. A. (2017). Investigating the mediation role of respect for employees on the relationship between participative leadership and job satisfaction. *Australian Journal of Basic and Applied Sciences*, 11, 1–12.
- Götz, O., Liehr-Gobbers, K., & Krafft, M. (2010). Evaluation of structural equation models using the partial least squares (PLS) approach. In V. Esposito Vinzi, W. W. Chin, J. Hensler, & H. Wang (Eds.), *Handbook of partial least squares* (pp. 691–711). Springer Berlin Heidelberg.



- Groves, K. S., & LaRocca, M. A. (2011). Responsible leadership outcomes via stakeholder CSR values: Testing a values-centered model of transformational leadership. *Journal of Business Ethics*, 98(S1), 37–55.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2010). *Multivariate Data Analysis* (7th ed.). New Jersey: Prentice Hall.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2014). *A Primer on Partial Least Squares Structure Equation Modelling (PLS)*. California, USA: Sage Publications Ltd.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A Primer on Partial Least Squares Structure Equation Modelling (PLS)* (2nd Editio.). California, USA: Sage Publications Ltd.
- Hair, J., Hollingsworth, C. L., Randolph, A. B., & Chong, A. Y. L. (2017). An updated and expanded assessment of PLS-SEM in information systems research. *Industrial Management & Data Systems*, 117(3), 442–458.
- Han, Z., Wang, Q., & Yan, X. (2019). How responsible leadership motivates employees to engage in organizational citizenship behaviour for the environment: A double-mediation model. *Sustainability*, 11(605), 1–13.
- Haque, A., Fernando, M., & Caputi, P. (2019). The Relationship Between Responsible Leadership and Organisational Commitment and the Mediating Effect of Employee Turnover Intentions: An Empirical Study with Australian Employees. *Journal of Business Ethics*, 156(3), 759–774. Springer Netherlands.
- Huang, J., Li, W., Qiu, C., Yim, F. H., & Wan, J. (2016). The impact of CEO servant leadership on firm performance in the hospitality industry. *International Journal of Contemporary Hospitality Management*, 28(5), 945–968.
- James, L. R., Demaree, R. G., & Wolf, G. (1984). Estimating within-group interrater reliability with and without response bias. *Journal of Applied Psychology*, 69(1), 85–98.
- Kanungo, R. N. (1982). Measurement of job and work involvement. *Journal of Applied Psychology*, 67(3), 341–349.
- Khan, T. I., Jam, F. A., Akbar, A., Khan, M. B., & Hijazi, S. T. (2011). Job involvement as predictor of employee commitment: Evidence from Pakistan. *International Journal of Business and Management*, 6(4), 252–262.
- van Knippenberg, D., & van Kleef, G. A. (2016). Leadership and affect: Moving the hearts and minds of followers. *The Academy of Management Annals*, 10(1), 799–840.



- Koh, C., Fernando, M., & Spedding, T. (2018). Exercising responsible leadership in a Singapore context. *Leadership & Organization Development Journal*, 39(1), 34–50.
- Law, M. M. S., Hills, P., & Hau, B. C. H. (2017). Engaging employees in sustainable development – A case study of environmental education and awareness training in Hong Kong. *Business Strategy and the Environment*, 26(1), 84–97.
- LePine, M. A., Zhang, Y., Crawford, E. R., & Rich, B. L. (2016). Turning their pain to gain: Charismatic leader influence on follower stress appraisal and job performance. *Academy of Management Journal*, 59(3), 1036–1059.
- Luque, M. S. De, Washburn, N. T., Waldman, D. A., & House, R. J. (2008). Unrequited profit : How stakeholder and economic values relate to subordinates' perceptions of leadership and firm performance. *Administrative Science Quarterly*, 53(4), 626–654.
- Maak, T. (2007). Responsible leadership, stakeholder engagement, and the emergence of social capital. *Journal of Business Ethics*, 74(4), 329–343.
- Maak, T., & Pless, N. M. (2006). Responsible leadership in a stakeholder society - A relational perspective. *Journal of Business Ethics*, 66(1), 99–115.
- Maak, T., Pless, N. M., & Voegtlin, C. (2016). Business statesman or shareholder advocate? CEO responsible leadership styles and the micro-foundations of political CSR. *Journal of Management Studies*, 53(3), 463–493.
- Mariappanadar, S. (2018). The impact of dissonance in schema based leadership perceptions on employee engagement: Evidence from Australia. *Personnel Review*, 47(7), 1309–1329.
- Al Mehrzi, N., & Singh, S. K. (2016). Competing through employee engagement: a proposed framework. *International Journal of Productivity and Performance Management*, 65(6), 831–843.
- Moksony, F., & Heged, R. (1990). Small is beautiful: The use and interpretation of r^2 in social research. *Szociológiai Szemle*, (Special issue), 130–138.
- Ostroff, C. (1992). The relationship between satisfaction, attitudes, and performance: An organizational level analysis. *Journal of Applied Psychology*, 77(6), 963–974.
- Pryshlakivsky, J., & Searcy, C. (2017). A heuristic model for establishing trade-offs in corporate sustainability performance measurement systems. *Journal of Business Ethics*, 144(2), 323–342. Springer Netherlands.



- Qi, F., & Wang, W. (2018). Employee involvement , public service motivation , and perceived organizational performance : testing a new model. *International Review of Administrative Sciences*, 84(4), 746–764.
- Shin, Y. (2012). CEO Ethical Leadership, Ethical Climate, Climate Strength, and Collective Organizational Citizenship Behaviour. *Journal of Business Ethics*, 108(3), 299–312.
- Smith, M. B., Wallace, J. C., Vandenberg, R. J., & Mondore, S. (2018). Employee involvement climate, task and citizenship performance, and instability as a moderator. *The International Journal of Human Resource Management*, 29(4), 615–636. Routledge.
- Svensson, G., Ferro, C., Høgevold, N., Padin, C., Carlos Sosa Varela, J., & Sarstedt, M. (2018). Framing the triple bottom line approach: Direct and mediation effects between economic, social and environmental elements. *Journal of Cleaner Production*, 197, 972–991. Elsevier Ltd.
- Vicente, S., Alves, A. C., Carvalho, M. S., & Costa, N. (2015). Business Sustainability through Employees Involvement : A Case Study. *FME Transactions*, 43, 362–369.
- Vlachos, P. A., Panagopoulos, N. G., Bachrach, D. G., & Morgeson, F. P. (2017). The effects of managerial and employee attributions for corporate social responsibility initiatives. *Journal of Organizational Behaviour*, 38(7), 1111–1129.
- Voegtlin, C. (2011). Development of a scale measuring discursive responsible leadership. *Journal of Business Ethics*, 98(S1), 57–73.
- Voegtlin, C. (2016). What does it mean to be responsible? Addressing the missing responsibility dimension in ethical leadership research. *Leadership*, 12(5), 581–608.
- Waldman, D. A., & Galvin, B. M. (2008). Alternative perspectives of responsible leadership. *Organizational Dynamics*, 37(4), 327–341.
- Wang, H., Tsui, A. S., & Xin, K. R. (2011). CEO leadership behaviours, organizational performance, and employees' attitudes. *Leadership Quarterly*, 22(1), 92–105. Elsevier Inc.
- Wetzels, M., Odekerken-schröder, G., & Oppen, C. Van. (2009). Using pls path modeling hierarchical and empirical construct models: Guidelines and empirical illustration. *MIS Quarterly*, 33(1), 177–195.
- Wijethilake, C. (2017). Proactive sustainability strategy and corporate sustainability performance: The mediating effect of sustainability control systems. *Journal of Environmental Management*, 196, 569–582. Elsevier Ltd.



- Witjes, S., Vermeulen, W. J. V., & Cramer, J. M. (2017). Exploring corporate sustainability integration into business activities. Experiences from 18 small and medium sized enterprises in the Netherlands. *Journal of Cleaner Production*, 153, 528–538. Elsevier Ltd.
- Wu, L. Z., Kwan, H. K., Yim, F. H. kit, Chiu, R. K., & He, X. (2014). CEO Ethical Leadership and Corporate Social Responsibility: A Moderated Mediation Model. *Journal of Business Ethics*, 130(4), 819–831.
- Zhang, A. Y., Tsui, A. S., & Wang, D. X. (2011). Leadership behaviours and group creativity in Chinese organizations: The role of group processes. *Leadership Quarterly*, 22(5), 851–862. Elsevier Inc.
- Zhang, S. (2014). Impact of job involvement on organizational citizenship behaviours in China. *Journal of Business Ethics*, 120, 165–174.
- Zhao, X., Lynch, J. G., & Chen, Q. (2010). Reconsidering Baron and Kenny: Myths and truths about mediation analysis. *Journal of Consumer Research*, 37, 197–206.