Volume: 5 | Number 11 | pp. 1545 –1554 ISSN: 2633-352X (Print) | ISSN: 2633-3538 (Online)

ijor.co.uk

DOI: https://doi.org/10.61707/g5mrf609

Leadership Styles and Corporate Social Responsibility: A Case Study of the Construction Industry in Bangkok, Thailand

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Abstract

This study examines the influence of various leadership styles on Corporate Social Responsibility (CSR) within Bangkok's rapidly growing construction industry. The researchers surveyed 859 individuals through site administration from 1,278 construction sites. Utilizing Structural Equation Modeling to analyze data from construction companies, the study found a correlation between transformational and ethical leadership styles and the successful implementation of CSR initiatives. The study emphasizes how vital organizational culture and employee engagement are in strengthening the connection between leadership and corporate social responsibility. The findings underscore the positive impact on employee engagement when leaders involve them in decision-making. By promoting higher engagement, companies can improve their CSR efforts. Transformational leadership significantly impacts positive results by establishing a clear vision that aligns with corporate social responsibility values. Highlighting the significance of ethical leadership, it becomes evident that adhering to moral principles in leadership can significantly contribute to a strong emphasis on CSR. To achieve a crucial outcome, it is advised that construction firms emphasize fostering transformational and ethical qualities in their leadership development programs. In addition, implementing participative strategies can significantly improve corporate social responsibility practices. This research provides a valuable framework for companies seeking to improve their CSR efforts and offers insights for policymakers interested in promoting sustainable development in the industry.

Keywords: Leadership Styles, Corporate Social Responsibility, Construction Industry, Transformational Leader, Ethical Leader.

INTRODUCTION

The scarcity of limited resources indicates rapid urban expansion (Wu et al., 2024). Organizations must integrate Corporate Social Responsibility (CSR) into their business strategies and make it an integral part of their global activities rather than treating it as a standalone initiative or secondary policy (Al Frijat et al., 2023; Kulkarni & Aggarwal, 2024). It is concerning that businesses are depleting natural resources in the construction industry. Because it generates pollution, affects the atmosphere, and causes noise. Although construction is crucial in driving economic progress, it ultimately improves living standards if it can address environmental concerns (Chen et al., 2024). This study holistically addresses the implications of infrastructure development to be carried out by the construction sector in Bangkok, Thailand, where the focus is Southeast Asian urban growth (Frank Legal & Tax, 2023). It explores the impact of all differing leadership styles on CSR initiatives and their perception and effectiveness within the construction industry. This study has given some fundamentals on how the construction sector, managers, and policy-makers can run an eco-friendly and social-oriented construction industry (Alaloul et al., 2022). It was obtained by finding solutions and effectively spreading the message. However, the enormous contribution of this research is that it can also increase the theoretical and practical understanding of these diseases. As a research topic, leadership and CSR in the construction business is entirely meaningful and aimed at adding to what is already available and providing the basis for future research. Furthermore, the primary targets are expected to have carried projects to the point of reality for the building sector of Bangkok and other areas and, therefore, to fuel ethical businesses

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and green growth. This case aims to explore the reality and techniques used by the construction companies in Bangkok on different scales using quantitative and case study methods (Kazemi et al., 2023). The study seeks to discover how various leadership styles create the places where CSR initiatives are a success and draw the needed allowances to enable an advanced framework that will enhance theoretical comprehension and practical implementation.

Therefore, this study delved into leadership styles in the construction business, which can contribute to CSR. By analyzing this correlation in Bangkok's specific environment, the research aims to develop environmental and ethical business strategies in a more urbanized world.

Research Objectives

To investigate how leadership styles (transformational, transactional, servant, ethical, and participative) directly influence CSR practices in Bangkok's construction industry.

To explore the mediating role of organizational culture and employee engagement in the relationship between leadership styles and CSR practices.

To analyze the interconnected effects of various leadership styles, organizational culture, and employee engagement on CSR practices within the construction industry.

LITERATURE REVIEW

Leadership Styles and CSR

Leadership styles have been extensively studied in various industries because they significantly impact organizational outcomes, such as CSR initiatives (Wang et al., 2023). According to Obeidat et al. (2019), transformational leadership is believed to improve employee engagement and CSR due to its ability to motivate, energize, and generate new ideas. Is the goal met? In contrast, transactional leadership, which focuses on explicit exchange between leader and followers, has received mixed reviews on its impact on CSR, with some studies emphasizing its effectiveness in an objective context and transparent rewards (Sitorus & Hendratmoko, 2024). Servant leadership emphasizes the development and well-being of people and communities and is inherently consistent with CSR principles (Greenleaf, 1977). A recent study by (Aboramadan et al., 2024) supports this convergence, showing a strong relationship between servant leadership behavior and CSR performance. Ethical leadership, which includes legitimate behavior through personal actions and interpersonal relationships (Brown et al., 2005), has created an ethical climate promoting CSR (Khokhar et al., 2023). Their research shows that ethical leaders can influence their organizations to go beyond compliance and engage in voluntary CSR practices. Participatory leadership, with a democratic process of involving employees in decision-making, can empower employees and result in higher CSR performance (Cabrera-Luján et al., 2023). This participation can foster a sense of ownership and alignment with CSR initiatives, which is crucial for successful implementation. Additionally, aligning leadership style and organizational culture is essential to this capability. According to Koeswayo et al. (2024), organizational cultures that value CSR often reflect leadership styles, with transformational and ethical leadership being particularly influential.

- H₁: Transformational leadership has a direct positive association with Organizational culture
- H₂: Transactional leadership has a direct positive association with Organizational culture
- H₃: Servant leadership has a direct positive association with Organizational culture
- H₄: Ethical leadership has a direct positive association with Organizational culture
- H₅: Transformational leadership has a direct positive association with Employee engagement
- H₆: Transactional leadership has a direct positive association with Employee engagement
- H₇: Servant leadership has a direct positive association with Employee engagement

H₈: Ethical leadership has a direct positive association with Employee engagement

H₉: Transformational leadership has a direct positive association with CRS Practice

H₁₀: Transactional leadership has a direct positive association with CRS Practice

H₁₁: Servant leadership has a direct positive association with CRS Practice

H₁₂: Ethical leadership has a direct positive association with CRS Practice

Organizational Culture and CSR

Organizational culture encompasses shared values, beliefs, and values within an organization. It is led actions and practices, including all businesses' corporate social responsibility (CSR) policies (Schein, 2010). The culture within an organization can significantly influence the success of CSR by providing an environment that embraces social responsibility or resists change toward sustainable practices. Hofstede et al. (1991) found that organizational culture is not only a single entity but can also be divided into different components, such as individual and collective, and power distance, which may affect CSR activities differently. A study by Ahsan (2024) has introduced a Competing Values Framework that divides organizational culture into four types: race, hierarchy, market, hierarchy, and race-branded culture, which is transformational and management, CSR rather than market culture perspective but more aligned with practices, which prioritize efficiency and consistency (Abdelwahed & Soomro, 2024). In the construction industry, the role of organizational culture is critical because of the impact of the enterprise on the environment and the local community. As Cuesta-Valiño et al. (2024) have noted, the subset of organizational culture, companies with strong safety cultures are more likely to integrate CSR deeper into their business strategy. Furthermore, the impact of leadership on organizational culture cannot be overstated. Leadership also plays a vital role in shaping and delivering the norms and values that underpin the company culture (Schein, 2010). For example, transformational leaders who exhibit strong social and environmental values can foster a culture that supports CSR (Bass & Avolio, 1994). Recent research has begun to examine how organizational culture mediates the relationship between leadership style and CSR. For example, Asif et al. (2024) found that certain leadership styles, such as transformational and ethical leadership, are particularly effective in fostering a culture that supports CSR initiatives.

H₁₃: Organizational culture has a direct positive association with CRS Practice

Employee Engagement and CSR

Employee engagement has been a focus of organizational studies and is viewed as a driving influence on performance, innovation, and employee retention (Srisorn et al., 2023). Engagement is often defined as entrepreneurship psychological investment in their organization (Uppal et al., 2024). Recent discourse suggests that engaged employees demonstrate high passion, commitment, and willingness to go beyond their legitimate needs to contribute to organizational success (Patil et al., 2024). This perspective is supported by Harter, Schmidt, and Hayes (2002), who found a strong relationship between communication and performance outcomes, with communication contributing to both top-line revenue and bottom-line performance. Due to its job-based nature, the construction industry presents unique challenges and opportunities for employee engagement. This requires a dynamic communication process that addresses dynamic dynamics and adaptation needs. Petersen's research highlights the importance of increasing efficiency and currency conversion in the construction industry (Saka et al., 2024). Furthermore, the relationship between leadership, organizational culture, and employee engagement has become an increasing issue. In terms of CSR, there is growing evidence that CSR activities are positively associated with employee engagement. When employees see their organization as socially responsible, they develop a greater sense of pride and loyalty, which translates into higher levels of engagement (Anderson, 2023). This relationship highlights the role of CSR in fulfilling ethical obligations, employee motivation, and engagement. Considering the construction industry, Han et al. (2024) found that CSR practices in construction organizations significantly and positively impact employee engagement, leading to motivated and independent employees. Despite the acknowledgment of the importance of employee engagement, there is a gap in understanding the

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nuances of how different leadership styles in the construction industry affect employee engagement in CSR. If we address that gap in this issue, the current study seeks to explore the strategies leaders can use to increase employee engagement in CSR action strategies.

H₁₄: Employee engagement has a direct positive association with CRS Practice

METHODOLOGY

Sampling and Survey Administration

This study examined executives of construction companies in Bangkok, Thailand, which comprise a workforce of more than 400 laborers. A comprehensive analysis was conducted on 1,278 construction sites (National Statistical Office Thailand, 2022). The hypotheses were tested using an online survey. While online surveys have limitations, it is worth noting that online questionnaires can be a convenient and effective method for collecting data. The sample size for the population was determined to be 859 individuals using the G*Power software program. The effect size used in this study is 0.3, with a statistical power of 0.80 (Faul et al., 2007). The degrees of freedom (df) were determined using the formula [NI (NI+1)/2-NP], in Which NI (Number of indicators) represents 31 observed variables, and NP (Number of parameters) represents 79 where [31(31+1)/2-79] (Schumacker & Lomax, 2010). The result of this computation yields a value of 417 for df. This study used a Structural Equation Modeling (SEM) technique, using AMOS licensed software version 24 and SPSS software package version 21 to analyze the correlation coefficient and descriptive statistics. A stratified random sample (Ghosh, 1958) was employed, with a proportionate number of individuals in 50 districts area in Bangkok.

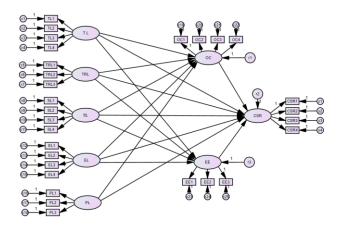


Figure 1 Structural equation modeling

Data was gathered for this research between December 2023 and January 2024 using an online survey conducted via Google Forms. An email and Google link notification were sent to 945 individuals (10% more in the event of insufficient data loss), with a URL to access the survey immediately.

Measurement

A pilot study was performed during October and November 2023, using a sample of site administrators. The pilot test consisted of a total of 30 surveys. Following the completion of a reliability evaluation, many components were modified. Except for the respondents' demographic information, all questions were evaluated using a 5-point Likert scale (Likert, 1932) from strongly disagree to strongly agree. The questionnaires were administered utilizing latent variables, specifically Transformational Leadership (TL1-TL2), Transactional Leadership (TRL1-TRL3), Servant Leadership (SL1-SL4), Ethical Leadership (EL1-EL4), Participative Leadership (PL1-PL3), Organization Culture (OC1-OC4), Employee Engagement (EE1-EE3), and CSR Practice (CSR1-CSR4). The reliability test using Cronbach's alpha coefficient determined that scores ranging from .71 to .93 indicate that the instrument is reliable. Following the Kolmogorov-Smirnov test on

each variable, the researchers concluded that the p-value is \geq .05, the skewness index (SI) is below 3.00, and the kurtosis index (KI) is below 10 (Kline, 2011). Based on these findings, it may be inferred that the data conforms to a normal distribution.

Data analysis

The data was evaluated, and the offered hypotheses were investigated using structural equation modeling (SEM). At first, a correlation analysis was performed to establish the bivariate correlations between all the variables under investigation. The correlation coefficient ranged from 0.32 to 0.82 and was statistically significant at a significance level of 0.05 (table 2). The exogenous variables examined in this research are Transformational Leadership, Transactional Leadership, Servant Leadership, Ethical Leadership, and Participative Leadership. The endogenous variables, which function as mediators, are organizational culture and employee engagement. These variables are used as predictors of CSR practice.

The research used a hierarchical framework, which allowed for a step-by-step understanding of the specific contributions made by each tier in the model to clarify the practice of corporate social responsibility (CSR). This method considered both the immediate and secondary effects. The research used a robust maximum likelihood estimate to account for any deviations from normality in the data. The assessment of model fit adequacy was performed using various indices, including the Chi-Square test, degree of freedom, relative Chisquare test, Goodness of Fit Index (GFI), Adjusted Goodness-of Fit Index (AGFI), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Root Mean Square Residual (RMR). The Norm Fit Index (NFI).

Result and Discussion

Table 1 The demographic of respondents

Participants	0/0
Gender	
Male	98.13
Female	1.39
Non-binary/Third gender	0.34
Prefer not to say	0.11
Age	
under 30 years	6.16
31-35 years	76.01
36-40 years	14.20
40 years or older	3.60
Education	
High school or equivalent	9.42
Bachelor's degree	84.40
Master's degree	6.05
Doctorate's degree	0.11
Job title	
General manager	15.71
Site engineer	26.19
Project engineer	39.46
Project manager	14.55
Project director	4.07
Year of experiences	
Less than one year	0.23
1-5 years	52.96
6-10 years	44.00
11-20 years	3.02
More than 20 years	-
Size of construction site	
400-500 employees	44.35
601-800 employees	29.22
801-900 employees	24.79
More than 9001 employees	1.62

Table 2 Correlations among observed variables, alpha reliabilities (In parenthesis), and descriptive statistics

24. EE2 (.75) \(\frac{.31* \cdot .36* \cdot .37*}{\cdot .37* \cdot .43*} \) 25. EE3 (.77) \(\frac{.38* \cdot .37* \cdot .43*}{\cdot .43*} \) 26. CSR1 (.77) \(\frac{.42* \cdot .42*}{\cdot .48*} \) 27. CSR2 28. CSR3 29. CSR4 (.81) \(.38* \cdot .38* \cdo	Vari	ables	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29
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9. SL2 (89).73*.65*.70*.67*.76*.64*.51*.56*.61*.63*.66*.65*.65*.68*.47*.57*.57*.58*.56*.66*.47* 10. SL3 (80).60*.58*.67*.59*.58*.41*.55*.49*.55*.58*.58*.62*.61*.45*.51*.51*.73*.77*.72* 11. SL4 (73).55*.54*.47*.57*.35*.49*.48*.62*.56*.67*.59*.59*.41*.61*.50*.41*.51*.41* 12. EL1 (71).55*.56*.51*.39*.45*.48*.51*.50*.51*.58*.59*.41*.45*.50*.58*.47*.51* 13. EL2 (73).53*.54*.37*.50*.43*.65*.57*.59*.61*.63*.43*.52*.56*.45*.41*.45* 14. EL3 (72).53*.37*.43*.48*.68*.72*.68*.69*.67*.54*.61*.62*.41*.69*.67*.51* 15. EL4 (81).35*.42*.88*.68*.62*.70*.66*.66*.47*.57*.58*.47*.72*.47* 16. PL1 (71).31*.36*.69*.65*.68*.64*.44*.54*.57*.43*.52*.56* 17. PL2 (92).38*.65*.70*.67*.66*.64*.51*.56*.61*.54*.61*.62* 18. PL3 (83).60*.58*.67*.59*.99*.61*.55*.99*.91*.61*.55*.49*.47*.57*.58* 20. OC2 (71).55*.56*.51*.39*.43*.43*.51*.50*.51*.58*.39*.43*.43*.52*.56*.61*.62* 21. OC3 (81).53*.74*.37*.50*.39*.43*.43*.53*.50*.51*.58*.39*.43*.43*.53*.50*.61*.54*.41*.45*.57*.58*.43*.52*.56*.61*.62* 22. OC4 (84).53*.37*.43*.43*.53*.30*.35*.39*.43*.43*.53*.30*.35*.39*.43*.35*.30*.35*.32*.39*.43*.35*.30*.35*.32*.39*.43*.35*.30*.35*.32*.39*.43*.35*.30*.35*.33*.34*.37*.35*.39*.43*.35*.30*.35*.32*.39*.43*.35*.30*.35*.33*.35*.33*.35*.33*.35*.33*.35*.33*.35*.33*.35*.33*.35*.33*.35*.33*.35*.33*.35*.33*.35*.33*.35*.33*.35*.33*.35*.33*.35*.33*.35*.33*.35*.33*.33	7.	TRL3	(.92) .64* .79* .79* .68* .62* .70* .66* .66* .47* .57* .58* .79* .68* .62* .44* .66* .55* .73* .58* .47* .59* .61*
10. SL3 (80) .60* .58* .67* .59* .58* .58* .58* .58* .62* .61* .45* .51* .51* .73* .77* .72* 11. SL4 (73) .55* .54* .47* .57* .35* .49* .48* .62* .56* .67* .59* .59* .41* .61* .50* .41* .51* .41* 12. EL1 (71) .55* .56* .51* .39* .45* .48* .51* .50* .51* .58* .50* .41* .45* .50* .58* .47* .51* .51* .41* 13. EL2 (73) .53* .54* .47* .50* .43* .65* .57* .59* .61* .63* .43* .52* .56* .45* .41* .45* 14. EL3 (72) .53* .37* .43* .48* .68* .62* .70* .66* .66* .47* .57* .58* .47* .47* .51* 15. EL4 (81) .35* .42* .48* .68* .62* .70* .66* .66* .47* .57* .57* .58* .47* .72* .47* 16. PL1 (71) .51* .36* .69* .65* .68* .64* .44* .54* .57* .43* .52* .56* .61* .45* .51* .54* .61* .62* 18. PL3 (83) .60* .58* .67* .59* .59* .51* .58* .94* .47* .57* .58* .47* .75* .58* .47* .75* .58* .47* .75* .58* .75* .75* .75* .75* .75* .75* .75* .75	8.	SL1	(.87) .79* . ^{75*} .69* .65* .65* .68* .64* . ^{44*} .54* .57* .58* .65* .66* .51* .58* .50* .72* .56* .66* .51* .37* .**
11. SLA	9.	SL2	(.89) .73* .65* .70* .67* .76* .64* .51* .56* .61* .63* .66* .65* .65* .65* .68* .47* .57* .58* .56* .66* .47* .**
12. EL1 (71).55*.56*.51**_39*.45*.48*_5.1*.50*.51*.58*_50*.41*.45*.50*.58*.67*.51*.58* 13. EL2 (73).53*.54*.37*.50*_*_*.43*.65*.57*.59*.61*_*.63*.35*.52*.56*.45*.41*.45* 14. EL3 (72).53*.37*.43*.48*_6.68*.72*.68*.69*.72*.67*.51*.56*.61*.62*.41*.69*.67*.51* 15. EL4 (81).35*.42*.48*.68*.72*.68*.69*.70*.66*.66*.66*.75*.55*.55*.59*.61*.54*.61*.62*.41*.69*.67*.51* 16. PL1 (71).31*.36*.60*.65*.65*.68*.64*.44*.54*.57*.55*.51*.56*.61*.54*.61*.62* 17. PL2 (92).38*.65*.70*.67*.66*.66*.51*.54*.51*.56*.61*.54*.61*.62* 18. PL3 (83).60*.58*.67*.59*.59*.50*.61*.54*.41*.57*.58* 19. OC1 (84).55*.54*.57*.53*.39*.45*.48*.44*.54*.57*.58* 20. OC2 (71).55*.56*.51*.39*.45*.43*.59*.61*.62* 21. OC3 (81).53*.54*.37*.50*.43*.43*.59*.61*.49*.43*.59*.61*.62* 22. OC4 (84).53*.37*.34*.48*.35*.49*.48*.35*.49*.48* 23. EE1 (91).35*.42*.48*.39*.45*.48* 24. EE2 (75).31*.36*.37*.50*.43* (83).75*.42*.48* 25. EE3 (77).38*.37*.43*.48*.35*.49*.48* 27. CSR2 CSR2 CSR2 CSR3 (81).38	10.	SL3	(.80) .60* .58* .67* .59* .41* .55* .49* .55* .58* .58* .62* .61* .45* .51* .51* .73* .77* .72*
13. EL2 (73).53* 54*.37*.50* 43*.65*.57*.59*.61*.62*.41*.62*.41*.69*.67*. 14. EL3 (72).53*.37*.43*.43*.48*.68*.72*.68*.69*.67*.54*.61*.62*.41*.69*.67*. 15. EL4 (81).35*.42*.48*.68*.62*.70*.66*.66*.47*.57*.58*.47*.72*.47*. 16. PL1 (71).31*.36*.69*.65*.67*.66*.66*.64*.44*.54*.57*.48*.61*.56*.41*.62*.11*.	11.	SL4	(.73) ·55* ·54* ·47* _{* * *} ·57* ·35* ·49* ·48* _* ·62* ·56* _* ·67* ·59* ·41* _{* *} ·61* ·50* ·41* ·51* ·41* _{* * * * *}
14. EL3 (72) 53* 37* 43* 48* 68* 72* 68* 69* 67* 54* 61* 62* 41* 69* 67* 15. EL4 (81) 35* 42* 48* 68* 62* 70* 66* 66* 47* 57* 58* 47* 72* 47* 16. PL1 (71) 31* 36* 69* 65* 68* 64* 44* 55* 43* 57* 43* 52* 56* (82) 38* 65* 70* 67* 66* 66* 51* 56* 61* 54* 61* 62* 18. PL3 (83) 60* 58* 67* 59* 59* 61* 55* 49* 47* 57* 58* 19. OC1 (84) 55* 54* 57* 35* 49* 48* 44* 57* 48* 57* 48* 57* 58* 66* 61* 20. OC2 (71) 55* 56* 51* 39* 45* 75* 51* 56* 61* (81) 53* 34* 37* 50* 61* 62* (82) 38* 65* 70* 67* 67* 66* 64* 51* 56* 61* 54* 61* 62* (83) 60* 58* 67* 59* 59* 59* 61* 55* 49* 47* 57* 58* (84) 55* 54* 57* 55* 54* 57* 55* 49* 47* 57* 58* (84) 55* 54* 57* 55* 48* 57* 55* 49* 48* 44* 55* 61* 62* (84) 55* 54* 37* 50* 48* 44* 54* 57* (84) 55* 54* 37* 50* 48* 44* 54* 57* (84) 53* 37* 43* 48* 35* 49* 48* (85) 53* 37* 43* 48* 35* 49* 48* (86) 53* 37* 42* 48* 39* 45* 48* (87) 35* 42* 48* 39* 45* 48* (88) 60* 58* 67* 59* 59* 59* 59* 59* 59* 59* 59* 59* 59	12.	EL1	(.71) .55* .56* .51* .39* .45* .48* .51* .50* .51* .50* .51* .50* .41* .45* .50* .58* .47* .51*
15. ELA (81) .35* .42* .48* .68* .62* .70* .66* .66* .47* .57* .58* .47* .72* .47* .81* .10* .10* .10* .10* .10* .10* .10* .1	13.	EL2	(.73) .53* .54* .37* .50* .43* .65* .57* .59* .61* .63* .43* .52* .56* .45* .41* .45*
16. PL1 (71) .31* .36* .69* .65* .68* .64* .44* .54* .57* .43* .52* .56* .68* .64* .44* .54* .57* .43* .52* .56* .68* .68* .64* .44* .54* .57* .43* .52* .56* .61* .54* .48* .88* .88* .88* .88* .88* .88* .8	14.	EL3	(.72) ************************************
17. PL2 (92) 38*.65*.70*.67*.59*.66*.64*.51*.56*.61*.54* (83) .60*.58*.67*.59*.59*.61*.55*.49*.47*.57*.58* (83) .60*.58*.67*.59*.59*.61*.55*.49*.47*.57*.58* (84) .55*.54*.57*.57*.35*.49*.48*.44*.54*.57* (84) .55*.54*.57*.30*.43*.75*.51*.56*.61*.56*.61*.54* (84) .55*.54*.57*.35*.49*.48*.44*.54*.57* (81) .53*.54*.37*.50*.43*.59*.61*.49* (81) .53*.54*.37*.50*.43*.59*.61*.49* (84) .53*.37*.43*.48*.35*.49*.48* (84) .53*.37*.43*.48*.35*.49*.48* (84) .53*.37*.43*.48*.35*.49*.48* (85) .54*.37*.36*.37*.37*.43*.48*.35*.49*.48* (86) .53*.37*.36*.37*.36*.37*.36*.37*.38*.37*.38*.37*.38*.38*.38*.38*.38*.38*.38*.38*.38*.38	15.	EL4	(.81) .35* .42* .48* .68* .62* .70* .66* .66* .47* .57* .58* .47* .72* .47* .**
18. PL3 (83) ************************************	16.	PL1	(.71) .31* .36* .69* .65* .65* .65* .68* .64* .44* .54* .57* .43* .52* .56* .4* .4* .54* .57* .43* .52* .56*
19. OC1 (84) .55*.54*.57* .35*.49*.48*.44*.54*.57* 20. OC2 (71) .55*.56*.51* .39*.45*.75* .51*.56*.61* 21. OC3 (81) .53*.54*.37*.50* .43*.59*.61*.49* 22. OC4 (84) .53*.37*.43*.48*.35*.49*.48* (84) .53*.37*.43*.48*.35*.49*.48* (84) .53*.37*.43*.48*.35*.49*.48* (84) .53*.37*.43*.48*.35*.49*.48* (85) .53*.37*.43*.48*.35*.49*.48* (86) .55*.56*.51*.30*.45*.50*.41*.98* (87) .35*.42*.48*.39*.45*.48* (88) .53*.37*.43*.48*.35*.49*.48* (88) .53*.37*.43*.48*.35*.49*.48* (88) .53*.37*.43*.48*.35*.49*.48* (88) .53*.37*.43*.75* (88) .75*.42*.48* (93) .75*.42*.48* (93) .75*.42*.48* (93) .75*.42*.48* (93) .75*.42*.48* (93) .75*.42*.48* (93) .75*.42*.48* (94) .75*.42*.48* (95) .75*.42*.48* (97) .31*.36*.37*.43*.75* (98) .75*.42*.48* (98) .75*.42*.48* (98) .75*.42*.48* (99) .75*.42*.48* (9	17.	PL2	(.92) .38* .65* .70* .67* .66* .64* .51* .56* .61* .54* .61* .62*
20. OC2 21. OC3 22. OC4 23. EE1 24. EE2 25. EE3 26. CSR1 27. CSR2 28. CSR3 29. CSR4 21. OC3 ((71) .55* .56* .51* .39* .45* .75* .51* .56* .61* .49* .8* .8* .8* .8* .8* .8* .8* .8* .8* .8	18.	PL3	(.83) .60* .59* .67* .59* .61* .55* .49* .47* .57* .58* * * * * * * * * * * * * * * * * * * *
21. OC3 (81) .53* .54* .37* .50* .43* .59* .61* .49* 22. OC4 (84) .53* .37* .43* .48* .35* .49* .48* 23. EE1 (91) .35* .42* .48* .39* .45* .48* 24. EE2 (.75) .31* .36* .37* .50* .43* 25. EE3 (.77) .38* .37* .43* .75* (.77) .38* .37* .43* .75* (.77) .38* .37* .43* .75* (.78) .28* .28* .28* .28* .28* .28* .28* .28*	19.	OC1	(.84) .55* .54* .57* * * * * * * * * * * * * * * * * * * *
22. OC4 23. EE1 24. EE2 25. EE3 26. CSR1 27. CSR2 28. CSR3 29. CSR4	20.	OC2	(.71) .55* .56* ^{.51*} _* .39* .45* ^{.75*} _* .51* ^{.56* .61*} _*
23. EE1	21.	OC3	(.81) .53* ·54* .37* .50* .43* ·59* .61* .49* .** * * * * * * * * * * * * * * * * *
24. EE2 (.75) \(\frac{.31* \cdot .36* \cdot .37*}{\cdot .37* \cdot .43*} \) 25. EE3 (.77) \(\frac{.38* \cdot .37* \cdot .43*}{\cdot .43*} \) 26. CSR1 (.77) \(\frac{.42* \cdot .42*}{\cdot .48*} \) 27. CSR2 28. CSR3 29. CSR4 (.81) \(.38* \cdot .38* \cdo	22.	OC4	(.84) · 53* · .37* · .43* · .48* · .35* · .49* · .48* * * * * * * * * * *
25. EE3 26. CSR1 27. CSR2 28. CSR3 29. CSR4 (77) \(\begin{array}{cccccccccccccccccccccccccccccccccccc	23.	EE1	(.91) · 35* · 42* · 48* * * * * * * 39* · 45* · 48*
26. CSR1 27. CSR2 28. CSR3 29. CSR4 (.93) $.75^* .42^* .48^*$ (.93) $.75^* .42^* .48^*$ (.93) $.75^* .42^* .48^*$ (.93) $.75^* .42^* .48^*$ (.93) $.75^* .42^* .48^*$	24.	EE2	$(.75) {.31* \atop *} {.36* \atop *} {.37* \atop *} .50* .43*$
27. CSR2 28. CSR3 29. CSR4 (.75) .31* .36* (.81) .38* (.81) .38*	25.	EE3	.38*.37*.43*.75* (.77) * * * *
28. CSR3 29. CSR4 (.81) .38*	26.	CSR1	(.93) ·75* .42* * .48*
29. CSR4 (.83)	27.	CSR2	(.75) ·31* ·36* * *
1VI 5 +.34+.34+.24+.13+.21+.113.94+.004.003.904.214.314.324.104.214.234.174.304.304.204.134.334.224.304.114.334.47			4.3 5 4.34 4.34 4.24 4.15 4.21 4.11 3.94 4.08 4.06 3.98 4.21 4.31 4.32 4.16 4.21 4.23 4.17 4.34 4.38 4.36 4.28 4.15 4.33 4.22 4.36 4.11 4.53 4.47
S.D. $0.4 \atop 1 0.41 0.48 0.44 0.42 0.37 0.44 0.42 0.37 0.47 0.48 0.45 0.51 0.49 0.49 0.52 0.57 0.53 0.42 0.37 0.40 0.41 0.39 0.50 0.49 0.48 0.49 0.51 0.52 0.49 0.41 0.48 0.44 0.42 0.37 0.44 0.42 0.37 0.47 0.48 0.45 0.51 0.49 0.49 0.52 0.57 0.53 0.42 0.37 0.40 0.41 0.39 0.50 0.49 0.48 0.49 0.51 0.52 0.49 0.41 0.48 0.44 0.42 0.37 0.44 0.42 0.37 0.47 0.48 0.45 0.51 0.49 0.49 0.52 0.57 0.53 0.42 0.37 0.40 0.41 0.39 0.50 0.49 0.48 0.49 0.51 0.52 0.49 0.41 0.48 0.44 0.42 0.37 0.44 0.42 0.37 0.47 0.48 0.45 0.51 0.49 0.49 0.52 0.57 0.53 0.42 0.41 0.49 0.49 0.48 0.49 0.51 0.52 0.49 0.41 0.49 0.49 0.41 0.49 0.49 0.41 0.49 0.41 0.49 0.41 $	S.	.D.	

Note: TL1: Inspirational Motivation, TL2: Idealized Influence, TL3: Intellectual Stimulation, TL4: Individualized Consideration, TRL1: Contingent Reward, TRL2: Management by Exception (Active), TRL3: Management by Exception (Passive), SL1: Empathy, SL2: Stewardship, SL3: Servant's Heart, SL4: Humility, EL1: Fairness, EL2: Integrity, EL3: Ethical Guidance, EL4: Role Clarification,

PL1: Involvement in Decision Making, PL2: Encouraging Team Input, PL3: Delegating Authority, OC1: Innovation and Risk Taking, OC2: Attention to Detail, OC3: Outcome Orientation, OC4: People Orientation, EE1: Vigor, EE2: Dedication, EE3: Absorption, CSR1: Environmental Management Practices (Environmental Responsibility), CSR2: Community Involvement (Social Responsibility), CSR3: Economic Performance (Economic Responsibility), CSR4: Business Ethics (Ethical Responsibility) *p < .05, two-tailed, **p<.01, two-tailed.

Dependent Variables	Organizational Culture			Employee Engagement			CSR Practices		
Independent Variables	TE	DE	ΙE	TE	DE	ΙE	TE	DE	I
Transformational Leadership	.78	.78	-	.65	.65	-	.92	.92	- :
_	(.02)	(.02)	-	(.11)	(.11)	-	(.23)	(.23)	(
Transactional Leadership	.63	.63	-	.66	.66	-	.78	.78	
•	(.04)	(.04)	-	(.02)	(.02)	-	(.03)	(.03)	(.)
Servant Leadership	.41	.41	-	.52	.52	-	.73	.73	
_	(.01)	(.01)	-	(.01)	(.01)	-	(.02)	(.02)	(.)
Ethical Leadership	.54	.54	-	.61	.61	-	.84	.84	
_	(.02)	(.02)		(.03)	(.03)	-	(.04)	(.04)	(.)
Participative Leadership	.84	.84	-	.79	.79	-	.81	.81	
	(.11)	(.11)	-	(.11)	(.11)	-	(.01)	(.01)	(.)
Organizational Culture	-	-	-	-	-	-	.41	.41	
-	-	-	-	-	-	-	(.02)	(.02)	
Employee Engagement	-	-	-	-	-	-	.39	.39	
	-	-	-	-	-	-	(.03)	(.03)	
R-Square		.78			.76			.93	

Table 3 Model Summary

Table 3 presents that Transformational Leadership has the most substantial positive directed effects on Organizational Culture ($\beta = .78$), Employee Engagement ($\beta = .65$), and CSR Practices ($\beta = .92$), and also indirect effect via Organization culture and employee engagement ($\beta = .96$), indicating it is highly influential across all outcomes. Transactional Leadership positively directed influences on Organizational Culture (β = .63) and CSR Practices ($\beta = .78$), Employee Engagement ($\beta = .66$), and also indirect effect via Organization culture and employee engagement (β = .60). Servant Leadership positively directed effects on Organizational Culture ($\beta = .41$), CSR Practices ($\beta = .73$), with a more substantial effect on the latter. It also influences Employee Engagement ($\beta = .52$). Also, it has an indirect effect via Organization culture and employee engagement (β = .53). Ethical Leadership positively impacts Organizational Culture (β = .54), Employee Engagement (β = .61) and CSR Practices (β = .84) and also indirect effect via Organization culture and employee engagement ($\beta = .70$), suggesting it is particularly effective for CSR. Participative Leadership shows the most substantial effect on Organizational Culture ($\beta = .84$), substantial effects on Employee Engagement $(\beta = .79)$ and CSR Practices ($\beta = .81$), and also indirect effect via Organization culture and employee engagement ($\beta = .65$). All leadership styles have a significant direct effect on CSR Practices, with Transformational and Ethical Leadership being the most impactful.

The model fit is good, with all indices suggesting a good fit. The GFI, AGFI, CFI, TLI, and NFI are all above .95, the RMSEA is very low at .05, and the RMR at .04, indicating a model that fits with empirical data. The R-Square values for Organizational Culture (.78), Employee Engagement (.76), and CSR Practices (.93) are high. This means the model explains a substantial portion of the variance in these outcomes, indicating that the leadership styles, as modeled, are strong predictors of Organizational Culture, Employee Engagement, and CSR Practices. Standard errors in each variable are low (e.g., .02 for the path from Transformational Leadership to Organizational Culture), which suggests the estimates are precise.

DISCUSSION

The study revealed the significant influence of different leadership styles on corporate social responsibility practices in Bangkok's construction industry. Transformational leadership is considered the most impactful style and closely aligns with CSR practices. Previous research has shown that transformational leaders, through their vision and charisma, are influential in cultivating a culture of social responsibility (Wang et al.,2023). These leaders usually embody CSR values, helping to spread these principles throughout the organization (Bass & Avolio, 1994). Leaders who prioritize ethics significantly influence corporate social responsibility (CSR) practices, as demonstrated by Zhang et al.'s (2024) research. This study suggests that when leaders provide an appropriate example and demonstrate ethical behavior, they inspire employees to

prioritize corporate social responsibility (CSR). Ethical leadership significantly impacts CSR, especially in industries like construction, where ethical considerations are crucial due to their environmental and social effects (Ayoko, 2022). A study by Tsinga-Mambadja et al. (2024) revealed how significantly communicating CSR affects nonprofit organizations in South Africa. The research found that leadership styles, like transformational and ethical leadership, are closely connected to CSR practices, with participative leadership also playing a role. This finding is consistent with the research conducted by Lui et al. (2024), which highlights the impact of leadership style and organizational culture on nurse presenteeism and productivity in public hospitals in Hong Kong.

CONCLUSION

A recent study in Bangkok's construction sector has revealed a significant discovery, emphasizing the critical influence of different leadership styles on the success of Corporate Social Responsibility (CSR) efforts. Transformational and ethical leadership are critical drivers of CSR programs, illustrating their vital role in encouraging sustainable practices. Transformational leadership, which emphasizes vision and inspiration, and ethical leadership, focusing on moral values, are crucial elements that align with CSR principles. In addition, the participative leadership style has been recognized as a significant factor, emphasizing the critical role of inclusive decision-making processes in improving CSR activities. The study also explores the critical roles of organizational culture and employee engagement, highlighting that they are crucial in driving CSR rather than secondary outcomes of corporate operations. A strong organizational culture, with a focus on CSR values and a dedicated workforce committed to fulfilling the organization's social responsibilities, plays a significant role in mitigating the influence of leadership on CSR outcomes. The complex interplay between leadership styles, organizational culture, and employee engagement creates a multifaceted web of factors shaping construction companies' CSR landscape. The strong R-Square values from the study support the argument that a significant amount of variance in CSR practices can be attributed to these interconnected elements.

With a deep understanding of the dynamics, the study offers several recommendations for industry practitioners and policymakers. First and foremost, construction firms must strongly emphasize fostering the growth and influence of visual and principled leaders. Implementing targeted training programs and performance metrics that align leadership development with CSR goals can be a valuable initiative. In order to cultivate a conducive environment for CSR, companies must add to the DNA of organizational culture that promotes CSR values and embeds them in all hierarchies, from top management to frontline employees. Creating a culture that embraces CSR requires incorporating it into the company's perspective, consistently emphasizing its significance, and acknowledging and incentivizing behaviors and accomplishments that align with CSR. Engagement strategies should ensure that employees fully grasp the significance of CSR and actively contribute to its implementation. Enhanced engagement can be emphasized through various mechanisms, such as promoting transparent communication channels, organizing team-building activities focusing on corporate social responsibility (CSR), and providing opportunities for employees to participate actively in CSR decision-making processes. The study highlighted the intricate nature of CSR in the construction sector and underlined the pivotal importance of leadership within it. By adopting creative leadership approaches, cultivating a supportive organizational environment, and placing a strong emphasis on employee involvement, construction companies in Bangkok have the potential to improve their CSR initiatives and set a positive example for sustainable growth and ethical business conduct. This could potentially inspire other sectors both locally and globally.

Author Contributions

Conceptualization, and Fei (FZ), and Sipnarong (SK); methodology, Sipnarong (SK); software, Sipnarong (SK); validation, Fei (FZ), Walton (WW), Min (MY), and Phatthararuethai (PK); formal analysis, Sipnarong (SK); investigation, Lin (LX) and Fei (FZ); resources, Lin (LX), and Phatthararuethai (PK); data curation, Sipnarong (SK); writing—original draft preparation, Sipnarong (SK); writing—review and editing, Fei (FZ); visualization, Fei (FZ); supervision, Fei (FZ); project administration, Fei (FZ); funding acquisition, Walton (WW). All authors have read and agreed to the published version of the manuscript.

Conflict of Interest

The authors declare that there are no conflicts of interest regarding the publication of this paper. The research was conducted independently, without any influence from external organizations or entities that could potentially benefit from the study's outcomes.

Acknowledgment

We extend heartfelt thanks to our co-authors, whose insights and diligence were instrumental in shaping this research. I am also profoundly grateful to the participants from the construction industry in Bangkok for their cooperation and engagement, which were fundamental to our study's success.

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