

CORPORATE SOCIAL RESPONSIBILITY AND MARKET-BASED PERFORMANCE: EXPLORING BI-DIRECTIONAL RELATIONSHIP IN AN EMERGING ECONOMY

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ABSTRACT

Corporate Social Responsibility (CSR) is a critical indicator for bridging corporately responsible behavior and stakeholder inclusion towards achieving long-term development. While stakeholder and reputation-building theories suggest that CSR can affect organizational performance, slack resource theory proposes organizational performance can affect CSR. Accordingly, it indicates that CSR initiatives and firm performance have a bidirectional relationship. Despite many unidirectional studies conducted to examine CSR and firm performance interplay in diverse contexts, studies on bidirectional analyses to test contrasting theoretical standpoints in a single study are rare. However, examining the bi-directional role of CSR is crucial as it provides insights into using CSR as a strategic investment decision within the competitive organizational context. Therefore, this study aims to examine the relationship between CSR and market-based performance as a bidirectional study from an emerging country perspective. Study data was collected from the sustainability/CSR disclosures in annual reports published between 2011 and 2020 by the top hundred companies (identified based on market capitalization) listed on the Colombo Stock Exchange (CSE) in Sri Lanka using judgmental sampling. The CSR was measured using a weighted CSR score assessed based on a comprehensive CSR index with thirty sub-dimensions. Market-based performance was measured using earnings per share (EPS) and firm value, and the control variables were firm size and leverage. The data was analyzed in two phases to examine the two-way linkage between CSR and market-based performance using the fixed effect panel regression technique. The findings concluded that CSR positively impacts market-based performance, confirming the role of CSR as a strategic driver to enhance future profitability. However, the study could not find any bidirectional impact of market-based performance on CSR in an emerging context. Although higher CSR affects higher external performance, higher market-based performance does not affect increased CSR in Sri Lanka. It may be because external performance indicators represent only the future profitability of firms, and these indicators are generally highly volatile over a long period, especially in emerging countries like Sri Lanka.

Keywords: *Bi-directional, Corporate social responsibility, Market-based performance, Slack resource theory, Stakeholder theory*

1. INTRODUCTION

Even after the COVID-19 global pandemic, business firms are moving forward while satisfying wider stakeholder needs to achieve sustainable business objectives (Yadav & Srivastava, 2023). During the last three decades, an increased involvement of external stakeholders in business decision-making has led companies to rethink social and ethical business practices and re-design their business operations to be more socio-eco-friendly (Ansong, 2017). As a result, most business firms have incorporated social, ethical, and environmental concerns into their business policies and practices (Crifo & Forget, 2015). Accordingly, CSR has become a significant component of organizational competitiveness and sustainable growth (Dyllick & Hockerts, 2002) that links to sustainable development (Anser et al., 2018; D'Amato & Falivena, 2020). Interestingly, scholars have paid increased attention to examining the linkage between CSR and various performance dimensions (Djalilov et al., 2015; Galant & and Cadez, 2017) from developed and developing country perspectives (Bocquet et al., 2017; Endrikat et al., 2014; Jeewantha et al., 2019; Jeewanthi et al., 2021; Khan et al., 2023; Kim et al., 2015). While stakeholder and reputational building theories suggest that CSR has a relationship with firm performance, slack resource theory proposes that firm performance has a relationship with CSR (Maqbool & Hurrah, 2021). Although these contrasting theories and related empirical findings reveal that CSR and firm performance have a bidirectional relationship (Gu, 2023; Maqbool & Hurrah, 2021), many prior studies have focused on exploring the connection between either CSR and firm performance or firm performance and CSR as unidirectional studies and have revealed diverse findings (Akhter & Hassan, 2023; Janamrung & Issarawornrawanich, 2015; Jeewanthi et al., 2021). However, Kao et al. (2018) highlighted that one-directional studies may be biased due to the endogeneity problem.

Examining the bi-directional relationship between CSR and firm performance is crucial to understanding how CSR can be used as a strategic driver. Hence, this study aims to explore the two-way relationship between CSR and firm performance concerning firms' market-based indicators (Auer & Schuhmacher, 2016). Examining this relationship is significant as the empirical findings on this relationship are rare. Although CSR generally reflects the companies' external stakeholder interaction and communication, investigating its relationship with external performance interplay is largely negligent (Ahsan et al., 2022; Al-Dhamari et al., 2022). Therefore, more empirical findings are required to justify the relationship between CSR and financial performance, with a special focus on market-based performance indicators. Thus, market-based measurements were used to test whether managers' involvement in CSR and the resulting shareholders' interactions can enhance the firm external performance or whether firms' market-based performance can enhance the managers' involvement in CSR for future profitability and vice-versa (Barnea & Rubin, 2010).

In the literature, only a few bi-directional studies on CSR and performance have been conducted (Cao et al., 2023; Kao et al., 2018), with the least attention given to developing countries (Kao et al., 2018; Maqbool & Hurrah, 2021). Despite many CSR-firm performance studies conducted related to Sri Lanka (Fernando & Pandey,

2012; Jeewanthi et al., 2021; Niresh & Silva, 2018), to the best of the author's knowledge, so far, none of the studies have been conducted as bidirectional studies in the Sri Lankan context. Examining this linkage is crucial, as CSR is a voluntary disclosure practice in Sri Lanka that focuses on enhancing stakeholder interactions. Therefore, this study answers the following main research question;

“Does CSR have a bi-directional relationship with market-based performance in developing country perspective?”.

This study contributes to the literature in several ways. First, it addresses the recent calls for bi-directional studies between CSR and firm performance from a developing country perspective (Maqbool & Hurrah, 2021). Next, it provides valuable first-hand empirical insights on the CSR and market-based performance bi-directional interplay in Sri Lanka. The study confirms the application of stakeholder and reputation-building theories by revealing that CSR is a significant predictor of external performance in the Sri Lankan context. While the study confirms that stakeholder and reputation-building theories are applicable to explain CSR-performance interplay, slack resource theory was found not relevant to explain managers' involvement in CSR in Sri Lanka. Even though this study extends the prior unidirectional CSR studies to examine bi-directional studies using multiple theories, findings could not support the CSR-performance bidirectional interplay. Therefore, the findings call for further research on two-way CSR-performance interplay using larger observations from different emerging contexts to test contrasting theories and empirical findings. Findings are useful for the academicians, business community, and broader stakeholders to get valuable insight into the role of responsible corporate behavior, CSR investment limits, external performance levels, investor behavior, and how to manage CSR to gain external competitive advantages strategically.

The rest of the sections are organized into four. Section two reviews the literature. Section three presents the methodology employed for the study, followed by the results and discussion. The last section offers the conclusions and suggestions for further research.

2. LITERATURE REVIEW

2.1 Defining Corporate Social Responsibility (CSR)

CSR is an evolving and multidimensional practice that reports businesses' commitment to acting ethically, contributing to economic development, and enhancing the quality of life of workers and the public at large (Jitmaneroj, 2018). It shows the link between the company and society by allocating resources to social concerns (Maqbool & Hurrah, 2021; Yadav & Srivastava, 2023). Various scholars have defined CSR differently due to the complexity of business interactions with ecology, society, and economic systems (Sheehy & Feaver, 2014). McWilliams and Siegel (2001) defined CSR as actions that advance the greater good and necessitate more than merely adhering to legal obligations. The World Business Council for Sustainable Development (WBCSD, 2000) defined CSR as “the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of

the local community and society at large” (p. 3). Disclosure of CSR refers to proactively communicating the corporations’ economic, environmental, social, and ethical concerns to stakeholders, fostering constructive dialogue, and promoting transparency (Kolk, 2016). Thus, it helps enhance the accountability and transparency of organizational activities while promoting ethical corporate behavior (Carroll, 1991). This study defines CSR as voluntary reporting initiatives that reveal a business organization's involvement in environmental, social, and ethical matters and stakeholder relationships (Van Marrewijk, 2003).

2.2 Frameworks and Guidelines for CSR

Over the years, CSR has been identified and reported based on different models, frameworks, and guidelines (Kao et al., 2018). CSR Pyramid, Global Reporting Initiative (GRI) guidelines, G4 guidelines for sustainability reporting, ISO 26000, the framework of the United Nations Global Compact, Carbon Disclosure Project (CDP), and the Universal Declaration of Human Rights are some of the most known guidelines for CSR reporting (Carroll, 1991; Galant & Cadez, 2017; Sheehy & Feaver, 2014). There are many vehicles to externally report responsibility actions, such as corporate websites, separate responsibility reports, and dedicated sections in the annual report (Buchanan et al., 2018; Cho et al., 2019).

CSR reporting practices in all countries are different due to their inherent contextual, legal, social, and environmental factors (Kabir & Akinnusi, 2012; Sheehy & Feaver, 2014). Hence, business organizations can adopt any standard reporting structure, such as GRI G3 guidelines, ISO 26000, or any context-specific guidelines for CSR reporting (Fernando & Pandey, 2012; Sheehy & Feaver, 2014). Subsequently, CSR has been elaborated with many organizational functions and recognized more broadly with wider dimensions. While Carroll (1991) proposed a CSR pyramid that includes economic, legal, ethical, and philanthropic responsibilities, ISO 26000 emphasized six dimensions of CSR: organizational governance, human rights and ethical organizational behavior, human resources, environmental management, fair operating practices, and community relationships (Para-González & Mascaraque-Ramírez, 2019). According to Lima Crisóstomo et al. (2011), CSR consists of three main dimensions: the stakeholder, environmental, and social dimensions on how the enterprise contributes to a better society. For this study, the authors adopted a comprehensive framework linking ISO 26000 dimensions and the framework proposed by Wu et al. (2015). The adopted CSR framework includes fair operating practices, community involvement, environmental management, organizational governance, labor practices, and human rights and shareholder involvement (ISO 26000, Para-González and Mascaraque-Ramírez, 2019, Wu et al., 2015).

2.3 Firm Market-Based Performance

Financial performance refers to the efficient and effective use of resources to generate revenue and profitability over a specific period (Mohamud, 2018). The firm’s performance in the recent corporate world is evaluated based on their social interactions and behaviors with financial measures (Chung et al., 2018). Hence, external market-based performance indicators are critical in this regard. They are

more sensitive to market-specific and external organizational performance characteristics. Some market-based performance indicators are earnings per share (EPS), firm value (FMV), price-earnings ratio, share return, and market-to-book ratio (Auer & Schuhmacher, 2016; Fahad & Busru, 2021). It shows the entity's ability to earn future intangible profits (Mohamud, 2018; Yoon & Chung, 2018). Firm value, EPS, market-to-book ratio, and price-earnings ratio are widely used market-based measures (Crisóstomo et al., 2011; Jeewanthi et al., 2019; Kao et al., 2018). Higher earnings quality, superior disclosures, media attention, managerial practices, and greater credibility are several channels through which CSR involvement could influence external performance (Gallego-Álvarez & Quina-Custodio, 2016). They also reflect how specific business interactions with stakeholders and the market could generate profitability (Yoon & Chung, 2018). Firm value and EPS were used to measure external performance for this study.

2.4 Theoretical Background for CSR and Firm Performance Interplay

CSR activities are involved in the investment to enhance social welfare with or without a direct impact on sustainable financial performance (Qiu et al., 2021). The 'reputation-building hypothesis' (Jo et al., 2015; Jo & Harjoto, 2011) establishes a positive effect of CSR (El Ghouli et al., 2017; Maqbool & Bakr, 2019). Accordingly, CSR engagements can be used to maintain a better connection between the firm and external stakeholders to strengthen the relationship with broader stakeholder groups (Jo et al., 2015). As a result, CSR initiatives can reduce the conflict between managers and non-investing stakeholders while increasing the firm value (Buchanan et al., 2018). Similarly, stakeholder theory proposes a favorable impact of CSR on the performance of business organizations (Cantele & Zardini, 2018; Cao et al., 2023; Carvalhal & Tavares, 2013). Theoretically, stakeholder and organizational theories explain that CSR helps to build strong long-term relationships between stakeholders and the firm (Chabachib et al., 2019; Chang et al., 2012). As a result of that, mutual and interactive relationships can be identified between CSR and performance (Chang & Chang, 2015). Also, from the resource-based perspective, scholars argued that incorporating a CSR strategy into a company's operations can serve as a valuable complement to a differentiation strategy (Barney et al., 2010). This is because CSR initiatives can bolster a firm's reputation and brand value, enhancing the other assets' value (Cheng et al., 2014; Helmig et al., 2013; Lins et al., 2019). This line of research suggests that CSR could play a pivotal role in enhancing a company's reputation and strengthening its external links to improve external performance (Chung et al., 2018).

In contrast, slack resource theory has been proposed with the assumption that a firm can perform its activities with its resources, which enables the company to adopt internal adjustments and external pressure for change (Buchholtz et al., 1999). It suggests that CSR is an area of high managerial discretion and depends on the company's surplus resources (Surroca et al., 2010). When a company performs financially well, it has more unused resources to meet external stakeholder pressure to engage in more socially responsible activities (Maqbool & Hurrah, 2021; Waddock & Grave, 1997). It encourages company managers to find better ways to enhance competitive advantages for better sustainable financial performance. Long-term CSR

contributions can create intangible assets that gain competitive advantages (Maqbool & Hurrah, 2021). Hence, when a company becomes financially more powerful, people's expectations of its corporate behavior increase (Chung et al., 2018). Hence, stakeholders expect excess allocations of company resources to society through different activities, particularly enhancing their CSR initiatives, thereby creating improved CSR performance (Khan & Fatma, 2019). According to this opposite view, when a firm engages in more CSR initiatives, it enables an entity to survive in the long term through stakeholder interaction and increased performance (Kao et al., 2018). Hence, corporate social performance can be achieved through strong CSR (Waddock & Graves, 1997).

Based on the above contrasting theoretical standpoints, CSR and firm performance can have a bi-directional relationship (Gu, 2023; Maqbool & Hurrah, 2021). The following section provides empirical results obtained in testing these contrasting theories.

2.5 Empirical Findings and Hypothesis Development

The literature revealed conflicting findings on the connection between CSR and performance as well as performance and CSR. Some scholars have found mutual and interactive influence between these two variables (Kao et al., 2018; Waddock & Graves, 1997). In other studies, many scholars found a positive connection between CSR and corporate outcomes (Cho et al., 2019; Cochran & Wood, 1984; Waddock & Graves, 1997) with limited negative or neutral linkages (Ahsan et al., 2022; Jyoti Khanna, 2021; Margolis & Walsh, 2003). In general, both external and internal CSR activities increase the company's market value and intangible assets of companies (Hawn & Ioannou, 2016). Jiao (2010) found a positive association between company market value measured using Tobin's Q and CSR. Mehralian et al. (2016) found that CSR has positively impacted the performance measured by Tobin's Q. On the other hand, the value of a firm could be increased by streamlining the business to meet stakeholders' expectations through effective CSR programmes (Jitmaneroj, 2018). Jادیyappa et al. (2021) witnessed the positive effect of CSR on firm value within Indian companies. In this study, the proxy for firm value is Tobin's Q, the ratio of the market value of assets to the book value of total assets (Jادیyappa et al., 2021).

Considering the Sri Lankan context, many studies have been conducted on CSR and firm performance interplay (Fernando, 2007; Habaragoda, 2018; Jeewantha et al., 2019; Jeewanthi et al., 2021; Niresh & Silva, 2018). Habaragoda (2018) found that Sri Lankan companies' internal and external CSR activities affect the firm's performance positively. Fernando (2007) mentioned that the Tsunami disaster created many avenues for the private sector companies in Sri Lanka to launch more CSR programmes. Further, they found that organizations' CSR initiatives in Sri Lanka were shaped by management strategies to enhance their validity in the post-tsunami period. Farwis et al. (2020) investigated the CSR involvement of Sri Lankan listed companies during the COVID-19 pandemic and identified the actions and derived benefits.

Further, they highlighted the value of the companies' behavior as good corporate citizens during a crisis to maintain a healthy relationship with external and internal stakeholders. Fernando and Pandey (2012) studied the CSR reporting practices in Sri Lankan listed companies and found that the level of CSR disclosure is relatively shallow. Jeewanthi et al. (2021) have examined the unidirectional relationship between CSR and internal and external performance measures concerning a sample of listed commercial banks in Sri Lanka and found that CSR significantly predicts market-based performance. All prior studies are unidirectional, and so far, none of the studies have examined the bi-directional relationship between CSR and firm performance in the Sri Lankan context, which is critical in understanding corporate responsible behavior and investor behavior in the same setting.

Hypothesis 01: CSR has a significant positive impact on the market-based performance of Sri Lankan listed companies.

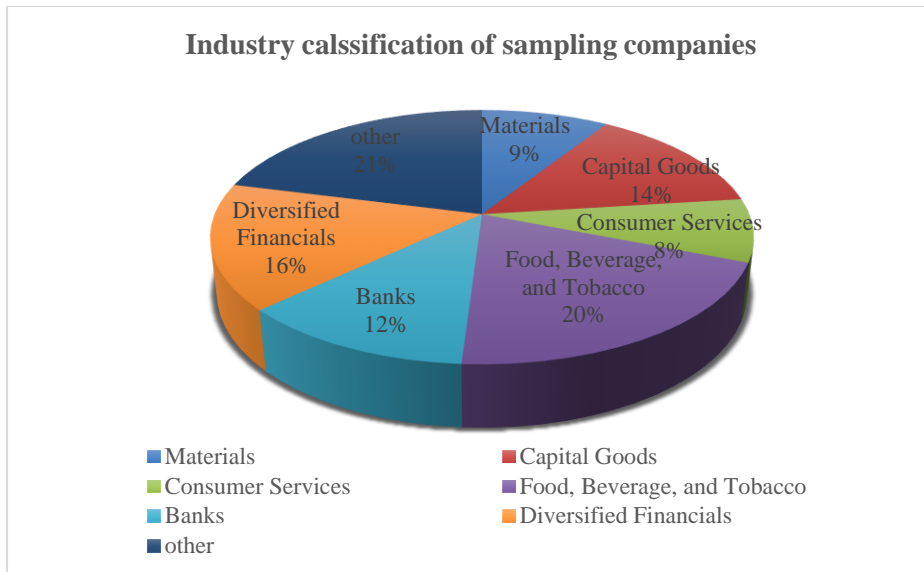
According to slack resource theory, CSR can have a positive relationship with performance (Hichri & Ltifi, 2021), as it suggests that CSR is an area of high managerial discretion and depends on the surplus resources of the company (Surroca et al., 2010). If a firm performs better, it tends to behave more socially responsible (Chih et al., 2010). Further, Cheng et al. (2016) suggested that a firm's CSR intention depends on financial resources capability. However, Stan et al. (2013) revealed a negative impact of performance on CSR initiatives since less-performing companies try to enhance their reputation by investing more in CSR activities. Thus, the following hypothesis is proposed based on the slack resource theory and related empirical findings. This bidirectional relationship was supported by Hichri and Ltifi (2021) and Maqbool and Hurrah (2021), who provided evidence from Sweden and India, respectively.

Hypothesis 02: Market-based performance has a significant positive impact on CSR in Sri Lankan listed companies.

3. RESEARCH METHODOLOGY

3.1 *Sample and Data*

This quantitative study explored the bidirectional relationship between CSR and firm performance in an emerging economy. The top hundred companies listed on the Colombo Stock Exchange (CSE), identified based on market capitalization as of 31st March in Sri Lanka from 2011 to 2020, were selected using the judgmental sampling technique. As per the literature, judgmental sampling is useful to select a flexible sample with similar characteristics to enhance the validity and reliability of data. For instance, companies with higher market capitalization have more visibility and availability of data on CSR and sustainability practices due to higher interaction with wider stakeholders (Nekhili et al., 2017). Figure 1 shows the industry distribution of the sample. The food, beverage, and tobacco industry was the key contributor, followed by diversified holdings and capital goods to represent the sample distribution.



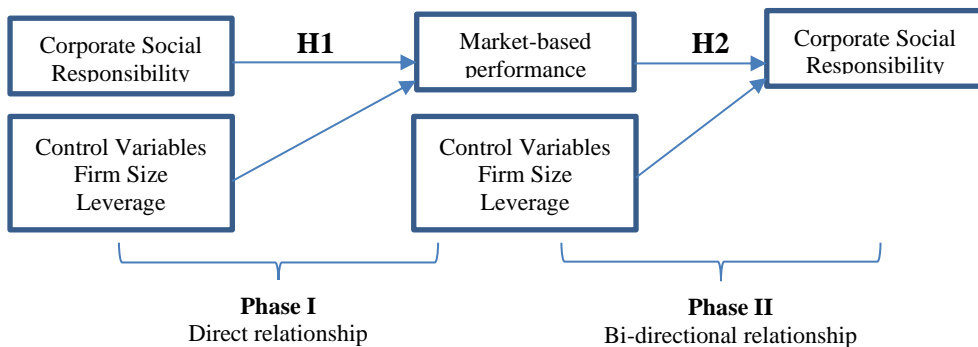
Source: Author’s construction based on literature review (2020)

Figure 1: Industry classification of sample companies

Any company that did not have data for the whole study period were excluded from the sample. Data was collected manually from the annual reports including sustainability reports. In CSR data collection, priority was given to sustainability reports. In cases where sustainability reports are unavailable, the sustainability/CSR sections of the annual reports were observed for data collection. In addition, the management discussion and analysis section of annual reports also referred to collect data related to CSR indicators. All market-related performance information was extracted as Excel files from the CSE data library.

3.2 Conceptual Framework

The conceptual framework for the study is given in Figure 2. It depicts the relationship among variables and the developed hypotheses for testing the direct and bi-direct relationship between CSR and market-based performance in two phases.



Source: Author’s construction based on literature review (2020)

Figure 2: Conceptual framework

3.3 Measurement of Variables

Corporate Social Responsibility

CSR was measured using a comprehensive disclosure index that was constructed based on literature. The developed CSR disclosure index consisted of six key dimensions to capture a broader spectrum of corporate socially responsible reporting practices (Para-González & Mascaraque-Ramírez, 2019) such as fair operating practices, community involvement, environment, organizational governance, labour practices and human rights and shareholder involvement (ISO 26000, Wu et al., 2015, Para-González & Mascaraque-Ramírez, 2019). Each dimension has five constructed items referring to widely used frameworks and measurements in current CSR literature with a special focus on measuring the reporting quality (Wu et al., 2015). The developed index was weighted based on the extent of disclosure. A weighting (0-3) of 3 was assigned for qualitative and quantitative disclosures, 2 for quantitative information, 1 for descriptions, and 0 for non-disclosure (Boesso & Kumar, 2007). As the disclosure index consists of 30 items, companies can score a maximum of 90 marks for a particular year. However, the overall CSR disclosure score was taken as a percentage of the total disclosure scores for the convenience of the analysis.

In assessing CSR scores within secondary sources, content analysis was performed as a more popular and widely used approach to quantify the contents of secondary data (Abbott & Monsen, 1979; Sanchez-Hernandez & Gallardo-Vázquez, 2013; Turker, 2009). This study employs content analysis for quantifying data, facilitating researchers to comprehend large amounts of data into less content more meaningfully and reliably using different weighting approaches (Liao et al., 2017; Milne & Adler, 1999; Tang & Li, 2009).

Firm Performance

Firm performance is measured using market-based performance indicators, which are more sensitive to market-specific and external organizational performance characteristics. They indicate the entity's ability to earn future intangible profits (Kao et al., 2018; Yoon & Chung, 2018). For this study, firm value and EPS (Jeevanthi et al., 2019; Al-Dhamari et al., 2022; Ansong, 2017) were used to measure external performance as they are widely used measures to better represent market-based performance (Auer & Schuhmacher, 2016; Fahad & Busru, 2021). EPS is the average net income for an outstanding share of a company (Lopez et al., 2007; Maqbool & Hurrah, 2020), which signals an entity's investor performance and relationship with investors and all stakeholders. Firm value is measured using Tobin's Q. It is the ratio between the market value of the firm's assets and the replacement value of those assets (Lindenberg & Ross, 1981), which indicates the success and accounting value of a firm in the present business world (Lang et al., 1989; Jeevantha et al., 2019). Lang et al. (1989) emphasized that a firm with Tobin's Q value greater than 1 indicates that management has performed well with the assets under its command.

Due to the unavailability of the replacement value of the firm's assets data, a modified version of Tobin's Q developed by Chung and Pruitt (1994) was used. It has been simplified with balance sheet figures. This modified version closely approximates Tobin's original statistic and produces a 96.6% approximation of the original formulation used by Lindenberg and Ross (1981).

$$Q = (MVS + BPS + D)/TA$$

MVS = Market value of all outstanding shares (firm's stock price *
 outstanding shares)
 BPS = Book value of preference shares
 D = total debt (long term debt + short term debt)
 TA = Firm's total assets

The average price of the six-month period after publishing the annual report was considered to calculate the market value of outstanding shares. The average price was multiplied by year-end outstanding shares to calculate the market value shares.

Control Variables

The connection between CSR and financial performance is affected by many variables, including firm age, firm size, risk level, corporate governance characteristics and leverage (Elsayed & Wahba, 2013; Harjoto & Jo, 2011; Kao et al., 2018). Many researchers have investigated the influence of these control variables when studying CSR-performance interplay to provide a more reliable and comprehensive examination (Busch and Friede, 2018; D'Amato & Falivena, 2020). For example, Harjoto and Jo (2011) found a positive connection between CSR and corporate dimensions, including profitability, corporate governance and firm size. However, leverage shows a negative relationship. Since larger firms could outspend smaller firms (Jادیyappa et al., 2021), researchers control firm size, which is measured by using a natural log of total assets. Moreover, D'Amato and Falivena (2020) suggested that due to a lack of firm's resources, experiences and reputation, CSR may be ineffective for smaller and younger firms than larger firms. Further, CSR spending could be limited in firms with higher debt ratios, measured as the long-term debt ratio divided by total assets (Jennifer et al., 2007; Gallego-Álvarez & Quina-Custodio, 2016). Hence, leverage was also selected as a control variable, which could reveal a negative relationship to provide a more meaningful analysis. Hence, firm size and leverage were used as control variables as they can potentially relate to performance and CSR.

Table 1: Measurement of variables

Acronym	Variable Name	Variable Measurement
CSR	CSR	CSR Score (out of total score-90)
EPS	Earnings Per Share	Net Return Per Share
FMV	Firm Value	Tobin's Q
LEV	Leverage	Debt ratio (total debt as a % total assets)
SIZ	Firm Size	Logarithm of Total Assets

Source: Literature Survey (2020)

3.4 Data Analysis and Research Models

Panel regression was employed to analyze the data due to the inclusion of time series and cross-sectional data. The use of panel regression offers advantages such as improved estimation efficiency, more degrees of freedom, and reduced multicollinearity (Hsiao, 2007). Hypotheses were tested at both the 1% (P-value < 0.01) and 5% (P-value < 0.05) significance levels, considering the relatively smaller number of observations in these models. Regression assumptions were thoroughly tested to ensure the validity of the study findings, and the analysis was conducted using STATA 17.0. Four regression models were utilized to test the hypotheses and derive the study findings.

Model 01 (for Hypothesis 1)
 $EPS = \alpha + \beta_1 CSR + \beta_2 SIZ + \beta_3 LEV + \epsilon_{it}$ → (1)

Model 02 (for Hypothesis 1)
 $FMV = \alpha + \beta_1 CSR \text{ Score} + \beta_2 SIZ + \beta_3 LEV + \epsilon_i$ → (2)

Model 03 (for Hypothesis 2)
 $CSR = \alpha + \beta_1 EPS + \beta_2 SIZ + \beta_3 LEV + \epsilon_{it}$ → (3)

Model 04 (for Hypothesis 2)
 $CSR = \alpha + \beta_1 FMV + \beta_2 SIZ + \beta_3 LEV + \epsilon_{it}$ → (4)

Where,

CSR – CSR disclosure score for firm i in year t

EPS – Return on Assets

FMV – firm value for firm i in year t

SIZ – firm size for firm i in year t

LEV – leverage for firm i in year t

α = constant

β_i, i = 1,.....3= parameters

ϵ_i = error term

4. DATA ANALYSIS AND DISCUSSION

4.1 Descriptive Analysis and Correlation Analysis

Descriptive statistics explains the key characteristics of the variables selected for the study (Table 2).

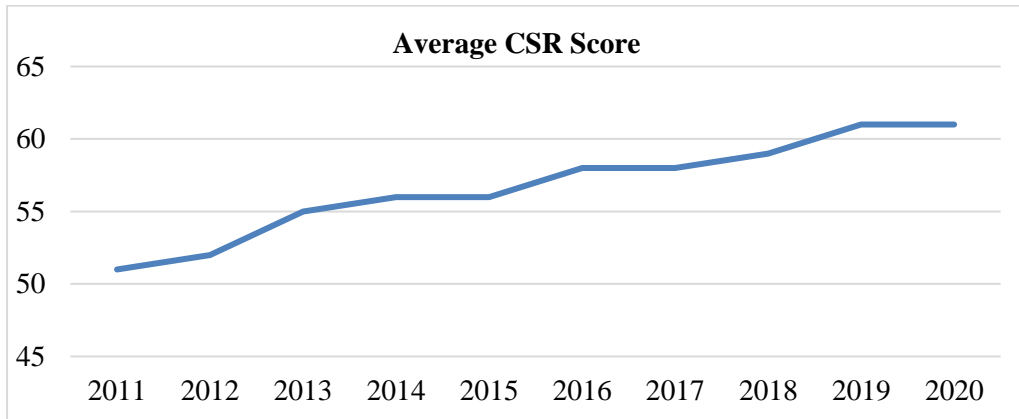
Table 2: Descriptive Statistics

Variable	Mean	Median	S.D.	Min	Max
CSR score	54.68	56.77	19.1	32.47	78.32
Firm value	1.90	1.25	2.06	0.560	13.0
EPS	12.5	11.8	18.2	-49.8	94.6
Leverage	48.1	46.4	20.5	5.19	76.35
Firm Size (Rs million)	17.70	6.52	27.20	8.15	133938

Source: Computed by Authors (2020)

The average CSR score among the sample companies during the study period was 54.68, with a mean difference of 19.1 (19%). This indicates a significant disparity in CSR disclosures among the companies. While some companies disclose CSR activities in their annual reports, many others still report CSR scores well below the

average. The mean values for EPS and firm value were 12.5 and 1.90, respectively, with standard deviations of 18.2 and 2.06. Firm value exhibited the least variance among the sample companies, while EPS showed a larger range of variability, ranging from -49.8 to 94.6. Regarding the control variables, the average leverage value was 48.1, with a higher standard deviation of 20.5. On the other hand, the average firm size was Rs. 17.7 million, with a larger standard deviation of 27.2 million. This indicates that leverage has a substantial mean difference compared to firm size within the sample companies. Figure 3 shows an upward trend of CSR reporting within the sample companies in Sri Lanka from 2011 to 2020.



Source: Survey Data (2020)

Figure 3: Trend of average CSR disclosure within companies

Correlation analysis helps assess the presence of multicollinearity and identifies strong relationships among independent variables that could violate model estimation assumptions (Hsiao, 2007). The variance inflation factor (VIF) is used to measure the extent of multicollinearity within the dataset (Hsiao, 2007). To ensure variables are free from multicollinearity issues, the VIF for each explanatory variable should be less than 10 (Liao & Valliant, 2012). Table 3 demonstrates that all explanatory variables have VIF values well below the recommended threshold, indicating no concerns regarding multicollinearity that could hinder the empirical investigation.

Table 3 presents correlation coefficients between variable pairs. Following the criterion suggested by Elith et al. (2006), which considers a correlation coefficient below 0.85 as acceptable for including a variable in model estimation, we observe that all correlation coefficients in the table meet this criterion. This confirms the absence of multicollinearity issues.

Table 3: Correlation statistics and VIF

CSR Index	Firm Size	Leverage	Firm value	EPS	VIF
1.0000	0.7016	-0.0618	-0.1226	0.1508	CSR score 1.09
	1.0000	0.1212	-0.3469	0.1244	Firm Size 1.32
		1.0000	0.0395	0.0286	Leverage 1.85
			1.0000	0.3087	Firm value 1.14
				1.0000	EPS 1.06

Source: Computed by Authors (2020)

4.2 Multivariate Analysis

Before conducting the regression analysis, several basic OLS (Ordinary Least Squares) regression assumptions were tested to ensure the reliability of the models (Hsiao, 2007). These assumptions included normality, linearity, heteroscedasticity, and autocorrelation. Skewness and kurtosis analyses were performed to assess the normal distribution of the selected variables (Hsiao, 2005). The models' heteroskedasticity was tested using the Breusch-Pagan test, which supported the null hypothesis of equal error variations (Hsiao, 2007). The Durbin-Watson test was used to detect the presence of autocorrelation (Turner, 2020). To analyze the data and determine the appropriate model specification, the Hausman test of fixed effect panel regression was conducted as a specification test. This test compares the fixed effect and random effect estimators to identify the more suitable model based on the given data (Baltagi, 2014). In this study, the Hausman test validated the use of the fixed effects model, as evidenced by a significant p-value ($p < 0.05$). This suggests that the fixed effects model statistically outperforms the other models considered (Hsiao, 2005). With the validation of the fixed effects model, the direct relationship (Hypothesis 1) and bidirectional relationship (Hypothesis 2) between CSR and market-based performance were tested in two phases.

Phase I: Direct linkage between CSR and market-based performance

Table 4 presents the regression results for models 1 and 2, which test the first hypothesis (H1). Model 1 examines the relationship between EPS (dependent variable) and CSR score (independent variable) while controlling for firm size and leverage. Model 1 demonstrates satisfactory explanatory power, as indicated by the significant Fisher's statistic at the 1% level ($R^2 = 0.364$, $F=4.1555$). This implies that 36.4% of the variation in EPS can be explained by CSR initiatives, along with firm size and leverage, with a significant level of 1%. The regression results for model 1 show a positive and significant association between CSR and EPS ($b = 0.066$, significant at 5% level). It suggests that CSR significantly predicts EPS in the Sri Lankan context. The findings indicate that a 1% increase in CSR initiatives leads to a significant 6.6% increase in the EPS of listed companies in Sri Lanka. Additionally, the control variables, firm size ($b = -0.137$, $p < 0.01$) and leverage ($b = -0.020$, $p < 0.05$), exhibit a significant negative relationship with EPS.

Model 2, using FMV (firm value) as the dependent variable, shows satisfactory explanatory power with a significant Fisher's statistic at the 1% level ($R^2 = 0.727$, $F=19.385$). The regression results indicate that 72.7% of the change in firm value can be explained by CSR initiatives, firm size, and leverage ($F = 19.385$, significant at 1% level). CSR positively and significantly influences firm value for listed Sri Lankan companies ($b = 0.065$, significant at 5% level). A 1% increase in CSR initiatives leads to a 6.5% increase in firm value. Firm size ($b = 1.448$) and leverage ($b = 0.610$) also show a significant positive relationship with performance indicators for listed Sri Lankan companies.

Table 4: Regression results summary: CSR and external performance

Variables	Model 1 (H1)	
	EPS	Firm value (FMV)
Independent variable		
CSR	0.066**	0.065**
Control variables		
Size	-0.137***	1.448**
Leverage	-0.020**	0.610
Constant	2.021	1.814
Adjusted R ²	0.364	0.727
F-statistics	4.155***	19.385***
P value	0.000	0.000
Durbin-Watson	1.546	2.158

Source: Panel regression results – Annual reports of listed companies (2011-2020)

Note: associations are statistically significant at **5% and ***1% levels (two-tailed). Dependent variables are EPS (model 1) and Firm Value (model 2)

Table 4 confirms the significant relationship between CSR and both EPS and firm value, indicating the importance of CSR in influencing market-based performance in Sri Lanka. This acceptance of hypothesis 1 (H1) aligns with the reputation-building and stakeholder theories (Cordeiro & Tewari, 2014). These findings are consistent with previous studies demonstrating how CSR activities impact a company's market-based performance (Abilasha & Tyagi, 2019; Lee et al., 2009; Moser & Martin, 2012). Higher CSR initiatives enhance listed companies' performance and attract more investors (Maqbool & Hurrah, 2021; Dakhli, 2022; Kaimal & Uzma, 2023). It highlights consumers' and investors' increased awareness and sensitivity towards CSR activities, particularly in developing countries (Jeewantha et al., 2019; Jeewanthi et al., 2021).

Phase II: Bi-directional linkage between market-based performance and CSR

Table 5: Regression results summary: External performance and CSR

Variables	Model 3		Model 4	
	CSR		CSR	
Independent variable				
EPS	0.000			
Firm value (Tobins' Q)			0.0139	
Control variables				
Size	0.212***		0.225***	
Leverage	-4.321		2.893	
Constant	-1.635		-1.785	
Adjusted R ²	0.847		0.849	
F-statistics	6.235***		1.655***	
P value	0.000		0.000	
Durbin-Watson	1.432		1.444	

Source: Panel regression results – Annual reports of listed companies (2011-2020)

Note: associations are statistically significant at *5% and ***1% levels (two-tailed) Dependent variable is CSR (for model 3 and model 4).

Models 3 and 4 assessed the bi-directional relationship between external performance and CSR in Sri Lankan listed companies. Hypothesis 2 (H2) was tested to determine if high-performing companies engaged in higher CSR initiatives due to surplus

resource availability (Chih et al., 2010). Table 5 presents the regression results for this analysis.

In models 3 and 4, the CSR score was the dependent variable. EPS and Tobin's Q were used as independent variables in models 3 and 4, respectively, with firm size and leverage as control variables. The overall models were significant ($p < 0.05$), indicating interpretable results. Model 3 explained 84.4% of the variation in CSR, with an insignificant positive relationship between EPS and CSR initiatives ($b = 0.000$, $p = 0.8208$). It found that market-based performance does not significantly predict CSR in Sri Lanka. Model 4 had an R^2 value of 0.849 (84.9%), with firm value (Tobin's Q) showing an insignificant positive relationship with CSR ($b = 0.0139$, $p = 0.0929$). Firm size had a significant positive influence on CSR in both models. Thus, hypothesis 2 (H2) was rejected, indicating that high market-based performance does not necessarily lead to greater CSR involvement in Sri Lankan listed companies.

The bi-directional analysis did not find any link between market-based performance and CSR in the context of an emerging country. It rejects hypothesis 2 and challenges the applicability of slack resource theory in explaining this relationship. However, the control variables yielded exciting findings. Firm size was found to impact CSR initiatives positively and significantly, indicating that companies with larger asset values are more likely to engage in CSR activities. On the other hand, leverage did not show any significant connection with CSR. These findings align with previous literature that reported an insignificant relationship between firm performance and CSR initiatives. Additionally, the results support the observation that larger firms tend to undertake more CSR initiatives in the Sri Lankan context.

5. CONCLUSION AND IMPLICATIONS OF THE STUDY

Nowadays, many companies are highly concerned about disclosing more CSR practices to gain competitive advantages through higher stakeholder interactions. While some scholars have revealed that CSR can improve firm performance (Ahsan et al., 2022; Al-Dhamari et al., 2022; Cao et al., 2023), other scholars found that firm performance can affect higher CSR performance based on contrasting theories (El Ghoul et al., 2017; Galant & Cadez, 2017; Gu, 2023). Although there is a bidirectional relationship between CSR and performance, it has not been examined in the Sri Lankan context, where CSR is a voluntary requirement. Consequently, this study investigated the interactive relationship between a firm's CSR disclosures and market-based performance as a two-way study (Kao et al., 2018; Maqbool & Hurrah, 2021).

Surprisingly, the study results did not support the bi-directional relationship between CSR and market-based performance in Sri Lanka. According to the findings, CSR significantly impacts the market-based performance of sample companies. It confirmed the relevance of stakeholder and reputation-building theories to the Sri Lankan context. The higher the CSR, the greater the possibility of gaining increasing market-based performance within sampled companies. However, the argument drawn from slack resource theory for bi-directional relationships has not been accepted in Sri Lanka. It indicates that companies with higher market-based performance did not

always show higher involvement with CSR initiatives. Thus, higher market-based performance does not guarantee higher CSR reporting in the Sri Lankan context. The possible reason for these results may be that the firm's external performances are highly fluctuating, and they show especially the future profitability of the companies.

According to the findings, this study confirms the prior empirical and theoretical insights that CSR can be managed as a strategic competitive tool and value-creating instrument so that investors can be attracted to and retained. Corporations can use CSR to have healthy relationships with stakeholders. However, study results reject the idea proposed by slack resource theory. Hence, Sri Lankan firms usually do not use excess resources towards CSR to have stronger stakeholder relationships, except only when they are involved in CSR as strategic investment decision-making. Hence, the findings of this study provide insights into the use of CSR in strategic decision-making of Sri Lankan companies and the way they allocate resources to CSR to gain competitive advantages through healthy stakeholder relationships.

Even though the results are significant, this study has some limitations. The study considers only ten years of data from a sample of listed companies in the Sri Lankan context. While market-based performance was measured using only EPS and Tobin's Q ratio, CSR score was measured referring to 30 sub-dimensions related to six key dimensions (Para-González and Mascaraque-Ramírez, 2019), among many other approaches. As there are a handful of studies on the bi-directional relationship between CSR and firm performance, future researchers can perform further studies to examine this two-way relationship in different contexts using further variables to measure firm performance. Alternatively, further studies can examine bi-directional relationships between CSR and other key variables such as corporate tax management, tax avoidance, corporate governance, and earnings management in addition to performance.

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