Serbian Journal of Management 20 (2) (2025) 477 - 494

www.sjm06.com

Serbian Journal of Management

CORPORATE SOCIAL PERFORMANCE AND CORPORATE FINANCIAL PERFORMANCE: THE ROLE OF PRODUCTIVITY AND INNOVATION IN THE MODERATED-MEDIATION MODEL

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(Received 18 August 2024; accepted 18 March 2025)

Abstract

This study aims to investigate the fundamental processes and particular circumstances that allow Corporate Social Performance (CSP) to impact Corporate Financial Performance (CFP). Based on the Instrumental Stakeholder Theory perspective, our research explains the mechanism of the relationship between CSP in improving CFP through the mediating role of Total Factor Productivity (TFP) with the main contingency factor, namely innovation. This study uses a panel data set of 133 firm-year observations of manufacturing firms listed on the Indonesia Stock Exchange (IDX) over the 2018–2021 period. This study proposes a new model that incorporates additional contextual variables in the form of innovation and uses a moderated mediation model for this study. Our results show that the relationship between Corporate Social Performance (CSP) and Corporate Financial Performance (CFP) is mediated by Total Factor Productivity (TFP), especially in small firms. In addition, this study also finds that the moderating effect of Research and Development (R&D) on the CSP-CFP relationship becomes apparent when applied to large firms. Small-sized companies in sectors, consumer cyclical and industrial, can enhance their CSR performance by integrating it into their corporate strategy, as strategic CSR can yield a competitive edge, boost productivity, and elicit a positive market response that improves financial performance.

The implications of this study suggest that the company can enhance its CSR performance by integrating it into its corporate strategy. Strategic CSR has the potential to provide a competitive edge, boosting productivity and positively influencing financial performance through favorable market reactions.

Keywords: corporate social performance, corporate financial performance, productivity, innovation, manufacturing

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DOI: 10.5937/sjm20-52837

1. INTRODUCTION

As a developing country with a large economy, Indonesia's economic growth is supported by various existing industries. The manufacturing industry is one of the sectors with a significant contribution to Indonesia's economic growth. This condition causes the manufacturing industry to face pressure to achieve a level of productivity that can guarantee the sustainability of its companies and indirectly help maintain the country's sustainability (Martos-Pedrero et al., 2019). Sustainability is an effort to meet present needs without reducing opportunities for future generations to meet their needs (Moneva et al., 2006; Abbas et al., 2021; Moneva et al., 2019). Sustainability can be realized through Corporate Social Responsibility (CSR) activities. Several studies have examined the relationship between Corporate Social Performance (CSP), which measures Corporate Social Responsibility (CSR) performance, and Corporate Financial Performance (CFP). However, various studies related to CSP-CFP are still being debated and provide mixed results. Several studies obtained a positive relationship (Waddock & Graves, 1997; Fauzi & Idris, 2009; Oeyono et al., 2011; Wang et al., 2016), while other studies obtained negative results (McWilliams & Siegel, 2000; Tuppura et al., 2016) concluded a neutral relationship between CSP and CFP.

A substantial body of research has been performed to show that CSP can increase CFP. However, these results raise new questions about how Corporate Social Performance (CSP) can be channeled into Corporate Financial Performance (CFP)? This insight indicates that there are many variables, or many referred to as the "black box" located between CSP and CFP, where this "black box" connects the correlation between CSP and CFP (Ye et al., 2021). Productivity in the manufacturing industry is a material benchmark to maintain business continuity. According to Busch & Friede (2018), operational performance is significantly correlated with CSP, where operational performance, such as productivity, can also help create value and improve firm performance. CSR can increase the operational effectiveness of companies indirectly connected to CFP through the mediating effect of company operations in the form of productivity (Zhao et al., 2019; Ye et al., 2021).

Hasan et al. (2018) explored the relationship between CSP and CFP mediated by productivity measured by Total Factor Productivity (TFP), using contextual variables such as discretionary cash and organizational risk in the United States. However, this study identified gaps in previous research: First, the mediation relationship (CSP-TFP-CFP) is partially mediated, with the direct CSP-CFP relationship still significant, which suggests the potential for other variables to strengthen the indirect effect of CSP-CFP through TFP. Second, the tested moderating (contextual) variables do not fully influence the mediating relationship of CSP-TFP-CFP.

To address the gaps in several previous research, our study adopts contingency theory which refers to contingency factors or situational conditions that can influence organizational outcomes (Wang et al., 2022). Leading this research is to introduce a new model using innovation as a contextual variable to enhance the indirect effect of CSP-CFP through TFP. Innovation plays a contingent role in improving productivity in the manufacturing industry, and this section

aims to provide insights into improving effectiveness and efficiency in this sector (Canh et al., 2019; Hammar & Belarbi, 2021; Palange & Dhatrak, 2021; Wang et al., 2022). Companies focusing more on innovation can improve economic performance and maintain their reputation.

Studies have shown that, compared to developed countries, innovation is strongly linked to CSR performance. Wang et al. (2022) found that both external and internal CSR significantly boost disruptive innovation. Homayoun et al. (2023) highlighted that environmentally conscious businesses are more inclined to adopt technological innovation, enhance R&D investments, and build stakeholder trust, thereby improving innovation performance. Wu et al. (2024) emphasized that focusing on CSR in technological innovation helps firms achieve a sustainable competitive advantage by addressing stakeholder's innovation-driven demands. Al-Shammari et al. (2021) demonstrate that CSR positively impacts overall firm performance. Their findings suggest that companies with robust CSR practices tend to perform better, with the effect being even more pronounced in firms possessing high R&D capabilities. This result indicates that investment in research and development and strong CSR commitments can lead to superior business outcomes.

Meanwhile, as a developing country, Indonesia remains challenging in innovation, as evidenced by the 2021 Global Innovation Index (GII), where Indonesia ranked 87th out of 132 countries, down from 85th in 2019 and 2020. In Southeast Asia, East Asia, and Oceania, Indonesia ranks 14th out of 15 countries. Specifically for high-tech manufacturing, Indonesia is in the 41st place. This data shows that Indonesia, particularly in the manufacturing sector, requires to improve its innovation capabilities to ensure business continuity and sustainability in the long run.

Based on the previous discussion, this study explores the underlying mechanisms and specific conditions through which Corporate Social Performance (CSP) influences Corporate Financial Performance (CFP). By focusing on these areas, the study aims to provide a comprehensive understanding of how and under what conditions CSP can lead to improved CFP, offering valuable insights for companies aiming to integrate social performance into their strategic objectives. Our research differs from previous studies and provides several contributions; firstly, as a developing country, Indonesia has different industrial characteristics from developed countries that have been carried out in the CSR activities to achieve long-term performance, especially in productivity and innovation. Secondly, Although the consumer cyclical and industrial sectors fall into the small company category, our research shows that these companies can improve their CSR performance by integrating it into their corporate strategy. Lastly, although conditions in some developing countries differ and vary depending on market conditions, regulations, and other macroeconomic factors, our study may be adapted to other developing countries implementation of management policies in carrying out CSR activities and innovation decisions to improve corporate financial performance.

2. LITERATURE REVIEW

2.1. Resource-based Theory

Resource-based Theory (RBT) explains that a company's ability to manage its resources can create a competitive advantage (Barney, 1991; Barney et al., 2001; Barney & Clark, 2007; Barney et al., 2011). As for resources that have the potential to create sustainable competitive advantages, four attributes are needed namely Valuable, Rare, Imperfectly Imitable, and Organization (VRIO) (Barney, 1991). Resource management that optimally satisfies these four attributes allows companies to understand opportunities and implement strategies that increase efficiency and effectiveness.

Barney et al. (2011) suggest that the RBT can improve sustainability by considering Corporate Social Responsibility (CSR) as a strategic asset that contributes to competitive advantage. When CSR is aligned with RBT, firms can generate both private and social value, resulting in a sustainable competitive edge. Furthermore, CSR can help protect the firm from potential negative consequences of irresponsible actions, either by the firm itself or its partners, stressing the importance of managing these relationships to maintain the firm's overall value.

2.2. Instrumental Stakeholder Theory

Instrumental stakeholder theory (IST) has a primary focus, namely that companies that are able to practice stakeholder management will relatively achieve increased performance in the form of profitability, stability, and growth (Donaldson & Preston, 1995). Jones (1995) states that Instrumental stakeholder theory focuses on contractual relationships or the company's relationship with stakeholder groups, where companies will gain a competitive advantage if they can build close relationships with their stakeholders based on trust and cooperation.

Instrumental Stakeholder Theory can also provide a sustainable competitive advantage by promoting ethical, trust-based relationships with stakeholders. Jones et al. (2018) argue that these relationships can lead to the development of unique capabilities that are valuable, rare, and difficult to imitate, aligning with the Resource-Based Theory (RBT). However, the benefits must be weighed against potential costs, and the effectiveness of IST-based strategies depends on contextual factors like the business environment and the firm's existing stakeholder culture.

2.3. The Mediation Role of Total Factor Productivity in the Relationship between CSP and CFP

Instrumental stakeholder theory explains the company's relationship with stakeholder groups, where the company will gain a competitive advantage if it can build close relationships with its stakeholders based on trust and cooperation (Jones, 1995; Jones et al., 2018). Ye et al. (2021) state that a "black box" plays a role in connecting CSP to CFP. In other words, the CSP-CFP relationship does not just happen; instead, a mechanism processes CSP into CFP. The mechanism of this CSP-CFP relationship can be explained by productivity, which is a crucial factor in manufacturing companies (Hasan et al., 2018; Kapelko et al., 2021).

CSR has multifaceted benefits for companies. Firstly, it can enhance relational capital, aligning with Instrumental stakeholder theory, which asserts that CSR

activities can foster competitive advantages by promoting innovation and strengthening relations with stakeholders (Hasan et al., 2018; Jones et al., 2018). Secondly, CSR demonstrates a company's commitment to its stakeholders, facilitating access to necessary resources and enabling more efficient resource utilization. Close ties with stakeholders, including customers and suppliers, can drive improvements in production processes, ultimately boosting productivity (Hasan et al., 2018; Ye et al., 2021). Thirdly, CSR initiatives focus on enhancing human resources, leading to improved skills, knowledge, and employee loyalty (Hasan et al., 2018; Bhatia & Makkar, 2019; Canh et al., 2019). A loyal and skilled workforce significantly increases company productivity (Berman et al., 1999; Hasan et al., 2018). In summary, CSR helps build valuable intangibles like technological innovation, human capital, relational capital, and resource efficiency, leading to competitive advantages and improved Corporate Financial Performance (CFP).

H1: Corporate Social Performance (CSP) has a positive effect on Total Factor Productivity (TFP).

H2: The relationship between Corporate Social Performance (CSP) and Corporate Financial Performance (CFP) is mediated by Total Factor Productivity (TFP).

2.4. The Role of Total Factor Productivity and Innovation in Moderated-Mediation Relationships

Resource-based theory (RBT) posits that a competitive advantage arises from effectively managing valuable, rare, inimitable, and organizationally supported resources (VRIO) (Barney & Clark, 2007; Barney et al., 2011). When applied to Corporate Social Responsibility (CSR), these activities can be valuable because they contribute positively to society, fulfill the rare attribute as each industry specializes in its CSR focus, and, while imitable in principle, can create a sustainable competitive advantage when they build a unique and hard-to-imitate reputation. This reputation is based on a series of CSR activities rooted in the company's internalized values, representing the fourth attribute.

Innovation, particularly in the form of Research and Development (R&D), is another avenue for companies to seek competitive advantages. R&D efforts enhance technology and production processes, boosting efficiency, productivity, and sustainability by reducing costs and environmental impact (Busch & Schnippering, 2022; Padgett & Galan, 2009). Moreover, R&D positively influences CSR in the manufacturing industry, indicating the need for higher R&D intensity to bolster CSR activities.

H3: Innovation can moderate the relationship between Corporate Social Performance (CSP) and Corporate Financial Performance (CFP).

3. DATA AND METHODOLOGY

3.1. Data and sample

Our study focuses on a dataset of all manufacturing companies listed on the Indonesia Stock Exchange (IDX) for the period 2018-2021. The data sources in our research were obtained from the company's annual reports accessed through www.idx.co.id. We excluded manufacturing companies that did not disclose their R&D

Table 1. Number of Samples

Classification	IDX-IC	Years				All	
		2018	2019	2020	2021	n	%
Energy	A112	1	1	0	0	2	1.5%
Basic Material	B111	1	1	0	0	2	1.5%
	B112	2	2	2	2	8	6%
	B121	3	3	2	2	10	7.5%
	B131	2	2	3	3	10	7.5%
	B146	1	1	1	1	4	3%
Industrial	C131	1	1	0	0	2	1.5%
	C143	1	1	1	1	4	3%
	C211	0	0	1	1	2	1.5%
	C311	1	1	1	1	4	3%
Consumer non-Cyclical	D221	0	0	2	2	4	3%
	D222	5	5	6	6	22	16.6%
	D232	4	4	4	4	16	12%
	D311	3	2	3	3	11	8.3%
	D421	3	3	3	3	12	9%
Consumer Cyclical	E111	0	0	1	1	2	1.5%
	E114	0	0	1	0	1	0.8%
	E115	0	0	0	1	1	0.8%
	E211	1	1	1	1	4	3%
	E213	1	1	1	1	4	3%
	E411	1	1	1	1	4	3%
	E413	1	1	1	1	4	3%
Observation		**32**	**31**	**35**	**35**	**133**	**100%**

expenditures in their annual financial reports. We use the raw data provided by the IDX and the relevant corporate annual report data provided by the official websites. In addition, we utilized the company's financial database center, which can be accessed internally by researchers at the University of Jember for data collection and mining needs.

3.2. Variable Measurement

Our primary explanatory variable is the GRI index. We use a binary measurement approach, namely, each company's CSR disclosure item will be given a value of 1 and each CSR item that is not disclosed by the company will be given a value of 0. We use tobin's Q as a proxy for corporate financial performance that is expected to capture the company's growth potential and profit sustainability, which is also often used to test CSR-CFP (Kim et al., 2018; Xie et al., 2018). Furthermore, our model measures the influence of TFP-mediated variables in the relationship between CSR and CSP will be stronger in companies that have a high level of commitment to innovation proxied by R&D expenditures (Børing, 2019; Hammar & Belarbi, 2021; Li et al., 2021a). Table 2 summarizes the variables used in our study, including the dependent variable, mediating variable, moderator variable, and control variables.

Table 2. Measurement of Variables

No	Type of Variables	References
1.	**Independent Variable:** **Corporate Social Performance (CFP)** $CSP = \frac{\sum x}{n}$ $\sum X$ = number of items disclosed by the company n = total items for the company	(Busch & Schnippering, 2022; Canh et al., 2019; Hasan et al., 2018; Li et al., 2021b)
2.	**Mediating Variable:** **Total Factor Productivity (TFP)** $\log Sales_{ijt} = \alpha + \beta_1 \log Capital_{ijt} + \beta_2 \log Labor_{ijt} + \beta_3 \log Material_{ijt} + \alpha_{ijt} + \varepsilon_{ijt}$ i = company index j = industry index t = year index Capital = value of property, plant, and equipment Labor = number of employees Material = total expenses minus labor expenses Aijt = residual difference between predicted and actual outputs	(Hasan et al., 2018; Li et al., 2021a)
3.	**Moderating Variable:** **Innovation** Research and development (R&D) expenditures	(Coluccia et al., 2020; Lan et al., 2021)
4.	**Dependent Variable** **Corporate Financial Performance (CFP)** $\text{Tobin's Q} = \frac{BVTA + MVE - BVE}{BVTA}$ BVTA = Book Value of Total Assets MVE = Market Value of Equity BVE = Book Value of Equity	(Atan et al., 2018; Hasan et al., 2018; Vuong, 2022)
5.	**Control Variables:** a. Firm Size Firm size = Log BVTA BVTA = Book Value of Total Assets b. Leverage Leverage = BVD/BVTA BVD = Book Value of Debt BVTA = Book Value of Total Assets c. Sales Growth $\text{Sales Growth} = \frac{(Sales_t - Sales_{(t-1)})}{Sales_{(t-1)}}$ Sales t = Sales in t year Sales(t-1) = Sales in the previous t year	(Li et al., 2021a; Manrique & Martí-Ballester, 2017)

In conducting data analysis, this study refers to the regression model formulated by Baron and Kenny (1986) and Muller et al. (2005) with the following equation.

$$Y_{ijt} = \beta_{10} + \beta_{11} X_{ijt} + Controls + \varepsilon_1 \quad (1)$$

$$Me = \beta_{20} + \beta_{21} X_{ijt} + Controls + \varepsilon_2 \quad (2)$$

$$Y_{ijt} = \beta_{30} + \beta_{31} X_{ijt} + \beta_{32} Me + Controls + \varepsilon_3 \quad (3)$$

$$Y_{ijt} = \beta_{40} + \beta_{41} X_{ijt} + \beta_{42} Mo + \beta_{43} X_{ijt} Mo + Controls + \varepsilon_4 \quad (4)$$

$$Me = \beta_{50} + \beta_{51} X_{ijt} + \beta_{52} Mo + \beta_{53} X_{ijt} Mo + Controls + \varepsilon_5 \quad (5)$$

$$Y_{ijt} = \beta_{60} + \beta_{61} X_{ijt} + \beta_{62} Mo + \beta_{63} X_{ijt} Mo + \beta_{64} Me + \beta_{65} MeMo + Controls + \varepsilon_6 \quad (6)$$

4. RESULT AND DISCUSSION

4.1. Statistical Results and Parametric Estimation

Table 3 shows the results of descriptive statistics explaining the characteristics and performance of different corporate sectors in the manufacturing industry. In the energy sector, the average Tobin's Q value indicates that companies in this sector have a high market value. However, their commitment to corporate social performance is relatively low. Positive sales growth indicates growth opportunities. Meanwhile, the average Tobin's Q shows a lower market value in the basic material sector. CSP shows a moderate commitment level of 0.3413. Sales growth in this sector is relatively low. However, it is a larger company than other sectors.

Tobin's Q shows an average of 2.5968 compared to the industrial sector. There is a lower CSP level in the basic material sector and positive sales growth. Industrial companies have smaller company sizes than the basic material sector. For the non-cyclical consumer sector has an average Tobin's Q value, which indicates a lower market value and relatively low sales growth. However, these companies have larger company sizes and invest quite heavily in research and development expenditure.

Tobin's Q indicates a lower market value in the consumer cyclical sector. CSP shows a moderate commitment level of 0.2438. Sales growth is positive, but company size and R&D investment are relatively smaller.

Table 3. Descriptive Statistics

	TOBINS Q	CSP	TFP	R&D	FIRM SIZE	LEVERAGE	SALES GROWTH
Mean	1.719826	0.306328	-0.001323	1.27E+10	12.54271	0.457682	0.078620
Median	1.216678	0.269663	-0.009416	2.23E+09	12.62453	0.415999	0.048414
Maximum	9.501314	0.617978	0.694018	3.21E+11	14.14271	2.899874	1.199662
Minimum	0.435195	0.101124	-0.571825	886700.0	8.108779	0.075826	-0.476116
Std. Dev.	1.402518	0.130094	0.149143	3.24E+10	0.755092	0.315541	0.259042
Skewness	2.589988	0.598393	0.802734	7.004047	-1.411506	4.242936	1.272315
Kurtosis	12.21866	2.169126	8.123351	63.84260	10.68782	31.04580	6.670543
Observations	133	133	133	133	133	133	133

4.2. Analysis of Mediation Model

Column 1 (Table 4) shows the result of testing equation 1, namely testing the relationship between CSP and CFP along with several control variables. Table 4 in column 1 shows a probability value of 0.0149 ($p<0.05$), where CSP has a significant negative effect on CFP. That is, an increase in CSR performance will reduce the company's financial performance. This study then tested the relationship between CSP and TFP (equation 2), which is shown in column 2 and obtained a probability value of 0.4155 ($p>0.05$). That is, CSP does not affect TFP. In this case, hypothesis 1 is not proven. Furthermore, this study conducted the Sobel Test to test whether there is a mediation role. The Sobel Test results obtained 0.4481 ($p> 0.1$), meaning no mediation role exists. Thus, hypothesis 2 is rejected.

4.3. Additional Analysis: The Role of Mediation

This study also performs additional analysis by conducting a split sample based on firm size. This analysis was conducted to test whether firm size affects the mediating relationship between CSP and CFP. Based on Table 5 in columns 1-3 shows the test results for large company sizes. In the context of this study, companies in the large category are the sector companies with an average value above or close to the median value of the manufacturing industry of 12.62545. The company's size is measured by the total assets owned by the company. In large companies, it was found that TFP could not mediate the relationship between CSP and CFP. This condition is also shown in the Sobel Test results of 0.41636 ($p>0.1$), which means there is no mediation role.

Companies that belong to the small category are the sector companies that have an average value below the overall manufacturing industry median value of

Table 4. Mediation Model Analysis

Independent Variables	Dependent Variables		
	Tobin's Q (1)	TFP (2)	Tobin's Q (3)
CSP	-2.362200**	-0.072513	-2.306611**
	(0.0149)	(0.4155)	(0.0161)
TFP			1.865994**
			(0.0432)
Firm Size	0.055254	0.015319	0.028823
	(0.8381)	(0.5922)	(0.9109)
Leverage	-1.42E-07	7.09E-07	-1.47E-06
	(0.9732)	(0.1027)	(0.7199)
Sales Growth	0.564590	0.180440***	0.256298
	(0.1258)	(0.0000)	(0.5256)
Observations	133	133	133
Adj R Squared	0.027780	0.217426	0.052323
F Statistic	1.942935	10.16854	2.457600
Sobel Test			0.4481

Notes: ***, **, and * denote, respectively, significance at the 1, 5, and 10 percent levels, based on two-tailed tests.

Table 5. Additional Analysis with Split Sample

Independent Variables	Dependent Variables					
	Firm Size > Median (12.62545)			Firm Size < Median (12.62545)		
	Tobin's Q (1)	TFP (2)	Tobin's Q (3)	Tobin's Q (4)	TFP (5)	Tobin's Q (6)
CSP	-.864257	0.039004	-1.856646	2.959155**	-0.121074	-2.365052*
	(0.2054)	(0.8023)	(0.2062)	(0.0391)	(0.1420)	(0.0914)
TFP			0.467540			4.991938***
			(0.6985)			(0.0051)
Firm Size	0.408767	0.034959	0.392003	-0.281734	0.056013	-0.408536
	(0.5312)	(0.6174)	(0.5414)	(0.6107)	(0.2349)	(0.4504)
Leverage	-1.798861	-0.212523	-1.674667	-4.74E-06	9.16E-07*	-7.88E-06
	(0.1837)	(0.1430)	(0.2176)	(0.4260)	(0.0715)	(0.1832)
Sales Growth	0.745144	0.225982***	0.655185	0.382139	0.133121***	-0.416856
	(0.1875)	(0.0003)	(0.2965)	(0.4591)	(0.0000)	(0.4662)
Observations	66	66	66	67	67	67
Adj R Squared	0.025196	0.182801	0.011732	0.035110	0.257541	0.141385
F Statistic	1.420012	4.634999	1.154327	1.600393	6.723458	3.173595
Sobel Test			0.41636			0.18557

Notes: ***, **, and * denote, respectively, significance at the 1, 5, and 10 percent levels, based on two-tailed tests.

12.62545. For small company sizes (columns 4-6), the TFP probability value is 0.0051 ($p<0.01$), and the Sobel Test result is 0.18557 ($p>0.1$).

4.4. Analysis of the Moderated Mediation Model

Column 1 (Table 6) is the result of testing equation 4, namely examining the role of R&D in moderating the relationship between CSP and CFP. Table 6 in column 1 shows the probability value of CSP interaction with R&D of 0.0849 ($p<0.1$). This result means that R&D can moderate the relationship between CSP and CFP. This study then tested the moderated-mediation model (equation 5) shown in column 2 and obtained a probability value of CSP interaction with R&D of 0.3943 ($p>0.05$), which was not significant on TFP. Then, column 3, which tests equation 6, also finds similar results, where the probability value of the interaction of TFP with R&D is 0.8017 ($p>0.1$), which is not significant for CFP. Meanwhile, the interaction between CSP and R&D remains notably significant, with a value of 0.0789 ($p<0.1$). Furthermore, this study conducted the Sobel Test to test whether there is a mediation role. The Sobel Test results obtained 0.39259 ($p> 0.1$), meaning no mediation role exists. Thus, R&D successfully moderated the CSP-CFP relationship, although the mediation model was not validated.

4.5. Additional Analysis: Moderated-Mediation Model

This study also performs additional analysis by conducting a split sample based on firm size. This analysis was conducted to test whether firm size affects the moderated mediation role of CSP and CFP. Based on Table 7, columns 1-3 show the test results for large company sizes.

Table 6. Analysis of the Moderated Mediation Model

Independent Variables	Dependent Variables		
	Tobin's Q (1)	TFP (2)	Tobin's Q (3)
CSP	-1.478065	-0.100212	-1.293535
	(0.1730)	(0.3130)	(0.2338)
R&D	2.96E-11*	-1.08E-12	2.93E-11
	(0.0950)	(0.5085)	(0.1418)
CSP*R&D	-9.51E-11*	4.33E-12	-9.95E-11*
	(0.0849)	(0.3943)	(0.0789)
TFP			2.268078
			(0.1135)
TFP*R&D			-1.22E-11
			(0.8017)
Firm Size	0.096585	0.008961	0.087155
	(0.7306)	(0.7434)	(0.7496)
Leverage	4.97E-07	6.17E-07	-6.95E-07
	(0.9085)	(0.1405)	(0.8702)
Sales Growth	0.572742	0.179814***	0.196820
	(0.1158)	(0.0000)	(0.6546)
Observations	133	133	133
Adj R Squared	0.033220	0.211305	0.051753
F Statistic	1.755952	6.894195	1.900522
Sobel Test			0.39259

Notes: ***, **, and * denote, respectively, significance at the 1, 5, and 10 percent levels, based on two-tailed tests.

Table 7. Additional Analysis with Split Sample

Independent Variables	Dependent Variables					
	Firm Size > Median (12.62545)			Firm Size < Median (12.62545)		
	Tobin's Q (1)	TFP (2)	Tobin's Q (3)	Tobin's Q (4)	TFP (5)	Tobin's Q (6)
CSP	0.691453	0.039144	0.972672	-3.535848**	-0.187974**	-2.827961*
	(0.6905)	(0.8409)	(0.5514)	(0.0274)	(0.0410)	(0.0893)
R&D	5.72E-11**	3.07E-13	7.30E-11***	-1.50E-10	-8.82E-12	-2.42E-10
	(0.0112)	(0.9012)	(0.0031)	(0.1951)	(0.2603)	(0.1508)
CSP*R&D	-1.83E-10**	-1.59E-13	-1.94E-10***	3.28E-10	2.65E-11	6.51E-10
	(0.0100)	(0.9836)	(0.0049)	(0.2116)	(0.1387)	(0.1965)
TFP			-2.188846			6.326774***
			(0.3246)			(0.0025)
TFP*R&D			1.10E-10			-4.42E-10
			(0.1270)			(0.2884)
Firm Size	0.692994	0.032764	0.404469	-0.016160	0.037298	-0.117059
	(0.3024)	(0.6556)	(0.4712)	(0.9790)	(0.4198)	(0.8438)
leverage	-1.929759	-0.212707	-1.525001	-2.29E-06	6.68E-07	-4.66E-06
	(0.1543)	(0.1550)	(0.1932)	(0.7261)	(0.1773)	(0.4646)
Sales Growth	0.975723*	0.226513***	1.444794**	0.305235	0.142447	-0.657890
	(0.0771)	(0.0005)	(0.0359)	(0.5699)	(0.0000)	(0.2848)
Observations	66	66	66	67	67	67
Adj R Squared	0.100630	0.162367	0.099788	0.031801	0.284365	0.156720
F Statistic	2.212137	3.099932	1.900649	1.361295	5.370972	2.533231
Sobel Test			0.42167			0.08162

Notes: ***, **, and * denote, respectively, significance at the 1, 5, and 10 percent levels, based on two-tailed tests.

In large companies, it was found that the moderated mediation role was not significant, but R&D was able to moderate the relationship between CSP and CFP. This phenomenon is shown in the interaction probability value of CSP with R&D of 0.01 ($p<0.05$, see column 1). Meanwhile, for small company sizes (columns 4-6), the probability value of CSP interaction with R&D is 0.1965 ($p>0.05$), which means R&D has not been shown to moderate the CSP-CFP relationship. However, the mediating relationship between CSP and CFP through TFP proved to be significant, as shown by the Sobel Test results of 0.05243 ($p<0.1$). The results are still insignificant when the mediating relationship interacts with the moderating variable (columns 5 & 6). This result means that TFP can mediate the relationship between CSP and CFP in small companies. The mediation relationship is partial mediation because the CSP-CFP direct effect remains significant, but there is a decrease in the coefficient value shown in column 6.

4.6. Discussion

The study initially hypothesized a positive correlation between Corporate Social Performance and Total Factor Productivity (Hasan et al., 2018; Li et al., 2021a). However, the overall findings indicate no such relationship. An additional analysis focusing on small companies revealed a negative association, suggesting that when small firms invest in CSR activities, it incurs costs that can be burdensome. Particularly given their limited resources, which might be better allocated to boosting productivity. This aligns with Børing (2019), who noted that small companies face limitations due to scarce resources and finances. As a result, small firms are less effective at boosting productivity because their available resources and funds are also needed to support CSR activities. Similarly, Kapelko et al. (2021) found that CSR efforts can constrain a company's productivity.

This study examines the short-term effects, indicating that the CSR activities conducted by the company may not have shown positive results yet, as these outcomes are more likely to appear in the long run. Based on the research of Li et al. (2021a), who concluded that the relationship between CSR and TFP has characteristics, namely, the benefits derived from CSR implementation are not obtained immediately in the same year but in the following years.

This study also found that CSP had no effect on TFP for the large company category. CSP is not a determinant that can explain the increase in TFP because large companies have many other resources to keep their operations running properly. Although CSR spending may be considered a burden by large companies, this does not limit their ability to maintain or even increase their productivity.

The research findings suggest that manufacturing companies in the basic materials and non-cyclical consumer sectors are typically classified as large companies due to their above-median average values. These sectors have ample resources to meet operational needs, allowing them to engage in CSR spending without significant constraints on productivity or financial performance. This trend aligns with the concept of economies of scale, where larger companies can achieve cost efficiencies and higher production levels by spreading costs across a greater number of goods, ultimately enhancing their competitiveness (Stigler,

1958; Baumann-Pauly et al., 2013).

Our second hypothesis examined whether TFP mediates the relationship between CSP and CFP. The overall results show that CSP negatively impacts CFP, with no mediation by TFP in this relationship for all companies. However, further analysis revealed that TFP does mediate the CSP-CFP relationship for small companies. Aligning with the trade-off hypothesis by (Preston & O'Bannon, 1997), our result suggests that CSR efforts can be a burden for smaller firms with limited resources, constraining their ability to improve productivity and subsequently leading to decreased financial performance.

Our study also finds that Indonesian companies, especially in manufacturing, view CSR as a legal obligation rather than a genuine commitment. Due to the associated costs, this leads to suboptimal CSR practices, negative market responses, and reduced corporate financial performance (CFP). A negative market response will eventually follow this. The results of this research analysis show that small companies are dominated by manufacturing companies in the industrial and consumer cyclical sectors, where the average value of these sectors is below the median value of the manufacturing industry as a whole.

The third hypothesis built in this research is that innovation moderates the relationship between CSP and CFP mediation. The test results conclude that innovation (with R&D) cannot moderate the CSP-CFP mediated relationship through TFP. However, this study found that in large companies, R&D can moderate the direct effect of CSP with CFP. Meanwhile, R&D cannot moderate the relationship between CSP and CFP for small companies.

R&D plays a pivotal role in large companies due to their ample resources, as supported by the research of Setiawan et al. (2021), which underscores the concentration of R&D activities within Indonesia's manufacturing industry, primarily within a few dominant large firms. The dynamic and complex nature of the manufacturing industry, as noted by Winarno and Tjahjadi (2017), necessitates continuous R&D efforts to maintain a sustainable competitive advantage, aligning with the Resource-Based View. Larger companies allocate substantial funds to R&D to foster innovation and secure their competitive edge, especially in a competitive landscape (Coluccia et al., 2020; Setiawan et al., 2021). This analysis reveals that large companies in sectors such as basic materials and non-cyclical consumer goods, which provide essential products, tend to excel, given their ability to withstand economic fluctuations and serve as key suppliers to other industries. Moreover, price fluctuations in basic material sector products can significantly impact production costs across various sectors.

For small companies, R&D does not appear to moderate the relationship between Corporate Social Performance (CSP) and Corporate Financial Performance (CFP), likely due to their limited motivation and resources for innovation, as observed by Li et al. (2021a). Consistent with Børing (2019) findings, our results reveal that small firms often lack the financial means and incentives for R&D efforts. This result also aligns with the slow adoption of technology in Indonesian companies, especially the small ones, as Aswicahyono and Rafitrandi (2020) noted, as technology investment is costly and may not be prioritized (Winarno & Slamin, 2022). These challenges and limited access to capital, technology, skilled labor, and marketing resources, as highlighted by Tambunan (2022), contribute to the absence

of R&D's moderating effect.

The study also highlights that small companies in the industrial and consumer cyclical sectors tend to allocate fewer resources to R&D, even though these sectors often require significant innovation. The COVID-19 pandemic exacerbated this trend, with 50% of companies in the consumer cyclical sector reducing their R&D spending. For instance, furniture and textile producers such as WOOD, RICY, and TFCO saw declines in R&D due to reduced demand. However, MICE, which produces essential baby and healthcare products, has increased R&D expenditure in response to pandemic-related demand. Similarly, in the industrial sector, companies such as BNBR (construction products) reduced R&D spending significantly due to decreased demand. At the same time, MARK (rubber gloves) experienced a minor decline, reflecting the sensitivity of these sectors to economic conditions during the pandemic.

5. CONCLUSIONS, LIMITATIONS, AND SUGGESTIONS

This study reveals an inverse relationship between Corporate Social Performance (CSP) and Corporate Financial Performance (CFP) in Indonesian manufacturing companies, indicating that these firms often view CSR as a financial burden, resulting in negative market responses. For small companies, CSP negatively affects CFP, mediated by Total Factor Productivity (TFP), underscoring how CSR strains limited resources, hindering productivity and leading to poorer financial outcomes. In contrast, Research and Development (R&D) can moderate the CSP-CFP relationship for large companies, suggesting that simultaneous CSR and R&D efforts strain company resources, leading to reduced CFP. While these findings challenge initial hypotheses, we emphasize the size-dependent nuances in the CSP-CFP relationship, with TFP mediating in small companies and R&D moderating in larger ones.

The management, especially the company sector classified as small in this study, namely the consumer cyclical and industrial sectors, can strengthen their CSR performance by making it a corporate strategy. In this condition, strategic CSR can create a competitive advantage for companies to help them increase productivity and improve financial performance through positive market responses.

This study has several limitations, including the limited financial data presented by companies in the form of Research and Development, where many companies do not present Research and Development information in financial reports. In addition, there is an element of subjectivity from researchers in interpreting Corporate Social Performance items disclosed by companies.

Acknowledgements

We thank the Editor-in-Chief, the Associate Editor, and the reviewers for their insight and helpful suggestions. We are also grateful to Almas Zatalini and Tiara for their helpful research assistance.

References

Abbas, A., Rayyani, W.O., & Syahadat, E.F. (2021). The Tenet of Corporate Social

КОРПОРАТИВНЕ ДРУШТВЕНЕ ПЕРФОРМАНСЕ И КОРПОРАТИВНЕ ФИНАНСИЈСКЕ ПЕРФОРМАНСЕ: УЛОГА ПРОДУКТИВНОСТИ И ИНОВАЦИЈА У МОДЕЛУ МОДЕРИСАНЕ МЕДИЈАЦИЈЕ

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Извод

Циљ овог истраживања је да испита основне процесе и специфичне околности које омогућавају да корпоративне друштвене перформансе (CSP) утичу на корпоративне финансијске перформансе (CFP). Полазећи од перспективе инструменталне теорије стејкхолдера, истраживање објашњава механизам односа између CSP и побољшања CFP путем медијаторске улоге укупне факторске продуктивности (TFP), при чему је кључни контингентни фактор иновација. Ово истраживање користи панел податке који обухватају 133 годишње опсервације производних предузећа котираних на Индонежанској берзи (IDX) у периоду 2018–2021. Рад предлаже нови модел који укључује додатне контекстуалне варијабле у виду иновација и примењује модел модериране медијације. Добијени резултати показују да је однос између корпоративних друштвених перформанси (CSP) и корпоративних финансијских перформанси (CFP) посредован укупном факторском продуктивношћу (TFP), нарочито у малим предузећима. Поред тога, утврђено је да се модерирајући ефекат истраживања и развоја (R&D) на однос CSP–CFP испољава у већим предузећима. Мала предузећа у секторима потрошачке цикличне робе и индустрије могу унапредити своје перформансе друштвене одговорности интегрисањем друштвено одговорних активности у корпоративну стратегију, јер стратешка друштвена одговорност може обезбедити конкурентску предност, повећати продуктивност и подстаћи позитивну реакцију тржишта која побољшава финансијске резултате.

Импликације овог истраживања указују да компаније могу унапредити своје перформансе друштвене одговорности интегрисањем тих активности у корпоративну стратегију. Стратешка друштвена одговорност има потенцијал да обезбеди конкурентску предност, повећа продуктивност и позитивно утиче на финансијске резултате кроз повољне реакције тржишта.

Кључне речи: корпоративне друштвене перформансе; корпоративне финансијске перформансе; продуктивност; иновације; производња

Responsibility for Environment and its Practice in Indonesia. Asian People Journal (APJ), 4 (1), 1-10.

Al-Shammari, M.A., Banerjee, S.N., & Rasheed, A.A. (2021). Corporate social responsibility and firm performance: a theory of dual responsibility. Management Decision, 60 (6), 1513-1540.

Aswicahyono, H., & Rafitrandi, D. (2020). Emerging technology in Indonesia's manufacturing sector. CSIS Working Paper. Jakarta: CSIS Indonesia.

Atan, R., Alam, M.M., Said, J., & Zamri, M. (2018). The impacts of environmental, social, and governance factors on firm performance. Management of Environmental

Quality: An International Journal, 29 (2), 182-194.

Barney, J. (1991). Firm resources and sustained competitive advantage. Journal of management, 17 (1), 99-120.

Barney, J., Wright, M., & Ketchen, D.J. (2001). The resource-based view of the firm: Ten years after 1991. Journal of management, 27 (6), 625-641.

Barney, J.B., & Clark, D.N. (2007). Resource-based theory: Creating and sustaining competitive advantage. Oxford, UK: Oxford University Press.

Barney, J.B., Ketchen Jr, D.J., & Wright, M. (2011). The future of resource-based theory: revitalization or decline? Journal of management, 37 (5), 1299-1315.

Baron, R.M., & Kenny, D.A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. Journal of personality and social psychology, 51 (6), 1173-1182.

Baumann-Pauly, D., Wickert, C., Spence, L.J., & Scherer, A.G. (2013). Organizing Corporate Social Responsibility in Small and Large Firms: Size Matters. Journal of Business Ethics, 115 (4), 693-705.

Berman, S.L., Wicks, A.C., Kotha, S., & Jones, T.M. (1999). Does Stakeholder Orientation Matter? The Relationship Between Stakeholder Management Models and Firm Financial Performance. Academy of Management Journal, 42 (5), 488-506.

Bhatia, A., & Makkar, B. (2019). CSR disclosure in developing and developed countries: a comparative study. Journal of Global Responsibility, 11 (1), 1-26.

Børing, P. (2019). The relationship between firm productivity, firm size and CSR objectives for innovations. Eurasian Business Review, 9 (3), 269-297.

Busch, T., & Friede, G. (2018). The Robustness of the Corporate Social and Financial Performance Relation: A Second-Order Meta-Analysis. Corporate Social Responsibility and Environmental Management, 25(4), 583-608.

Busch, T., & Schnippering, M. (2022). Corporate social and financial performance: Revisiting the role of innovation. Corporate Social Responsibility and Environmental Management, 29 (3), 635-645.

Canh, N.T., Liem, N.T., Thu, P.A., & Khuong, N.V. (2019). The Impact of Innovation on the Firm Performance and Corporate Social Responsibility of Vietnamese Manufacturing Firms. Sustainability, 11 (13), 3666.

Coluccia, D., Dabić, M., Del Giudice, M., Fontana, S., & Solimene, S. (2020). R&D innovation indicator and its effects on the market. An empirical assessment from a financial perspective. Journal of Business Research, 119, 259-271.

Donaldson, T., & Preston, L.E. (1995). The Stakeholder Theory of the Corporation: Concepts, Evidence, and Implications. Academy of Management Review, 20 (1), 65-91.

Fauzi, H., & Idris, K. M. (2009). The Relationship of CSR and Financial Performance: New Evidence from Indonesian Companies. Issues in Social & Environmental Accounting, 3(1), 66-87.

Hammar, N., & Belarbi, Y. (2021). R&D, innovation and productivity relationships: Evidence from threshold panel model. International Journal of Innovation Studies, 5 (3), 113-126.

Hasan, I., Kobeissi, N., Liu, L., & Wang, H. (2018). Corporate social responsibility and firm financial performance: The mediating role of productivity. Journal of Business Ethics, 149 (3), 671-688.

Homayoun, S., Mashayekhi, B., Jahangard, A., Samavat, M., & Rezaee, Z. (2023). The Controversial Link between CSR and Financial Performance: The Mediating Role of Green Innovation. Sustainability, 15 (13), 10650.

Jones, T.M. (1995). Instrumental Stakeholder Theory: A Synthesis of Ethics and Economics. Academy of Management Review, 20 (2), 404-437.

Jones, T.M., Harrison, J.S., & Felps, W. (2018). How Applying Instrumental Stakeholder Theory Can Provide Sustainable Competitive Advantage. Academy of Management Review, 43 (3), 371-391.

Kapelko, M., Oude Lansink, A., & Guillamon-Saorin, E. (2021). Corporate social responsibility and dynamic productivity change in the US food and beverage manufacturing industry. Agribusiness, 37 (2), 286-305.

Kim, W.S., Park, K., & Lee, S.H. (2018). Corporate Social Responsibility, Ownership Structure, and Firm Value: Evidence from Korea. 10 (7), 2497.

Lan, T., Chen, Y., Li, H., Guo, L., & Huang, J. (2021). From driver to enabler: the moderating effect of corporate social responsibility on firm performance. Economic Research-Ekonomska Istraživanja, 34 (1), 2240-2262.

Li, T.-T., Wang, K., Sueyoshi, T., & Wang, D.D. (2021b). ESG: Research Progress and Future Prospects. Sustainability, 13 (21), 11663.

Li, Z., Zou, F., & Mo, B. (2021a). Does mandatory CSR disclosure affect enterprise total factor productivity? Economic Research-Ekonomska Istraživanja, 35 (1), 4902-4921.

Manrique, S., & Martí-Ballester, C.-P. (2017). Analyzing the Effect of Corporate Environmental Performance on Corporate Financial Performance in Developed and Developing Countries. Sustainability, 9 (11), 1957.

Martos-Pedrero, A., Cortés-García, F.J., & Jiménez-Castillo, D. (2019). The Relationship between Social Responsibility and Business Performance: An Analysis of the Agri-Food Sector of Southeast Spain. Sustainability, 11 (22), 6390.

McWilliams, A., & Siegel, D. (2000). Corporate social responsibility and financial performance: correlation or misspecification?. Strategic management journal, 21 (5), 603-609.

Moneva, J.M., Archel, P., & Correa, C. (2006). GRI and the camouflaging of corporate unsustainability. Accounting Forum, 30 (2), 121-137.

Moneva, J.M., Bonilla-Priego, M.J., & Ortas, E. (2019). Corporate social responsibility and organisational performance in the tourism sector. Journal of Sustainable Tourism, 28 (6), 853-872.

Muller, D., Judd, C. M., Yzerbyt, V. (2005). When moderation is mediated and mediation is moderated. Journal of personality and social psychology, 89 (6), 852–863.

Oeyono, J., Samy, M., & Bampton, R. (2011). An examination of corporate social responsibility and financial performance. Journal of Global Responsibility, 2 (1), 100-112.

Padgett, R.C., & Galan, J.I. (2009). The Effect of R&D Intensity on Corporate Social Responsibility. Journal of Business Ethics, 93 (3), 407-418.

Palange, A., & Dhatrak, P. (2021). Lean manufacturing a vital tool to enhance productivity in manufacturing. Materials Today: Proceedings, 46, 729-736.

Preston, L.E., & O'Bannon, D.P. (1997). The Corporate Social-Financial Performance Relationship:A Typology and Analysis.

Business & Society, 36 (4), 419-429.

Setiawan, M., Indiastuti, R., Hidayat, A.K., & Rostiana, E. (2021). R&D and Industrial Concentration in the Indonesian Manufacturing Industry. Journal of Open Innovation: Technology, Market, and Complexity, 7 (2), 112.

Stigler, G.J. (1958). The Economies of Scale. The Journal of Law and Economics, 1, 54-71.

Tambunan, T.T H. (2022). Recent Development of Micro, Small and Medium Enterprises in Indonesia. International Journal of Social Sciences and Management Review, 6 (1), 193-214.

Tuppura, A., Arminen, H., Pätäri, S., & Jantunen, A. (2016). Corporate social and financial performance in different industry contexts: the chicken or the egg? Social Responsibility Journal, 12 (4), 672-686.

Vuong, N.B. (2022). Investor sentiment, corporate social responsibility, and financial performance: Evidence from Japanese companies. Borsa Istanbul Review, 22 (5), 911-924.

Waddock, S.A., & Graves, S.B. (1997). The corporate social performance-financial performance link. Strategic management journal, 18(4), 303-319.

Wang, C., Qureshi, I., Guo, F., & Zhang, Q. (2022). Corporate social responsibility and disruptive innovation: The moderating effects of environmental turbulence. Journal of Business Research, 139, 1435-1450.

Wang, H., Lu, W., Ye, M., Chau, K.W., & Zhang, X. (2016). The curvilinear relationship between corporate social performance and corporate financial performance: Evidence from the international construction industry. Journal of Cleaner Production, 137, 1313-1322.

Winarno, W.A., & Slamin, S. (2022). IT Investment and Financial Performance Volatility: The Moderating Role of Industry Environment and IT Strategy Emphasis. Asia Pacific Journal of Information Systems, 32 (4), 707-727.

Winarno, W.A., & Tjahjadi, B. (2017). The moderating effect of industry environments on the relationship between IT asset portfolios, efficiency and innovation in the ERP context [Article]. European Research Studies Journal, 20 (2), 3-15.

Wu, W., Shi, J., & Liu, Y. (2024). The impact of corporate social responsibility in technological innovation on sustainable competitive performance. Humanities and Social Sciences Communications, 11(1), 707.

Xie, J., Nozawa, W., Yagi, M., Fujii, H., & Managi, S. (2018). Do environmental, social, and governance activities improve corporate financial performance? Business Strategy and the Environment, 28 (2), 286-300.

Ye, M., Wang, H., & Lu, W. (2021). Opening the “black box” between corporate social responsibility and financial performance: From a critical review on moderators and mediators to an integrated framework. Journal of Cleaner Production, 313, 127919.

Zhao, Z., Meng, F., He, Y., & Gu, Z. (2019). The Influence of Corporate Social Responsibility on Competitive Advantage with Multiple Mediations from Social Capital and Dynamic Capabilities. Sustainability, 11 (1), 218.