

Strategy orientation and government regulation on environmental performance: The role of green supply chain management

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ABSTRACT

Purpose-Both internal and external factors may affect a business's environmental performance. Using green supply chain management as a mediating variable, this study examined the relationship between strategy orientation and government legislation on environmental performance.

Design/Methodology/Approach-The study population focused on micro, small, and medium sized enterprises in Asia. This research data was collected through questionnaires given to respondents and obtained results as many as 50 respondents. Then, a model analysis was applied using the Smart PLS application.

Findings-The findings demonstrate that government policies and initiatives have a direct and favorable impact on green supply chain management. Green supply chain management has a favorable impact on environmental performance however, government plans and regulations do not directly improve environmental performance. The results indicate that the impact of government strategy and regulatory orientation on environmental performance is mediated by green supply chain management.

Research limitations/implications-For business actors, especially micro, small, and medium enterprises, it is necessary to focus on to the orientation of government strategies and regulations in their operational activities to encourage improved environmental performance. To support this, business actors must also pay attention to other factors, such as green supply chain management, to maximize efforts to achieve environmental performance.

Originality/value-There is currently a dearth of research on the environmental performance of businesses, particularly micro, small, and medium-sized businesses. Prior studies on environmental performance have examined both internal and external corporate aspects, such as strategy orientation and green supply chain management, as well as government requirements.

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1. The Introduction

Increasingly fierce business challenges and competition require companies to work hard in order to increase their competitiveness (Alawneh et al., 2009). Efforts can be made through product adjustments, quality improvements, cost reduction, and time efficiency. In a competitive

global market, companies develop innovative ideas and existing methods to increase their competitiveness. Some companies increase their level of environmental protection in response to environmental regulations to reduce the environmental impact of their operations and address customers' concerns (Jia & Wang, 2019).

In recent decades, increased concern for the environment has been evidenced by stricter government regulations and public awareness of environmental protection, thus encouraging companies to take serious environmental action (Taseer et al., 2018). Stricter environmental regulations and the potential for competitive advantage by adopting environmental practices have encouraged companies to adopt environmental management practices (Zhu et al., 2013). Companies must strike a balance between efficiency, responsiveness, quality, customer focus, environment-friendly practices, and environmental sustainability (Green et al., 2012). Therefore, each company is expected to study production activities in a more mature and planned manner, which can have positive economic, environmental, and social effects (Delmar & Shane, 2003).

One of the efforts that companies can make to carry out their operations while considering environmental sustainability is to implement an environmentally friendly supply chain or green supply chain management. Green Supply Chain Management (GSCM) is an important strategy for companies to achieve desired profits and market share by minimizing environmental impacts and increasing ecological efficiency (Zhu et al., 2005). GSCM involves many parties within the system, such as providing design specifications to suppliers regarding environmental requirements, auditing suppliers' environmental management systems, working with customers for eco-friendly designs, and handling product returns from customers (Sarkis et al., 2011). GSCM integrates environmental sustainability into supply chain management, which includes product design, supplier and material selection, production processes, delivery of end products to consumers, and end-of-life management of products after their useful lives (Srivastava, 2007). The benefits of implementing GSCM include saving materials, reducing energy consumption, and creating a better public image and environmental responsibility (Chin et al., 2015).

In the implementation of GSCM, driving factors from both internal and external companies are required. According to Hebaz and Oulfarsi (2021), external factors include government regulations, strategy orientation, community demands, and consumer behavior, while internal factors, according to Jermisittiparsert et al. (2019), include green knowledge management capabilities, internal environment management, top management support, and organizational strategy. Regarding the driving factors needed to implement GSCM, only large and reputable organizations with knowledge management capabilities, management support, and organizational strategies can implement GSCM. Micro, Small and Medium Enterprises (MSMEs) with limited resources have difficulty implementing GSCM in their operations. Consequently, most MSMEs do not show a significant relationship between GSCM and environmental performance (Seman et al., 2019).

Strategic orientation is an important prerequisite for GSCM that ultimately leads to improved performance (Kirchoff et al., 2016). Strategic orientation serves as a decision-making method that includes a company's relationship with the environment (Desarbo et al., 2007). Strategic orientation is important, both directly and indirectly, for corporate strategy success. Furthermore, the government has strong control over an environmentally friendly supply chain as it can direct the company through its internal and external resources (Nezakati et al., 2016). Government regulations are considered a driving factor in GSCM implementation (Mojumder & Singh, 2021). Governments are considered important factors in sustainable and environmentally friendly activities (Ilyas et al., 2020).

GSCM must be applied not only to large companies but also to MSMEs, because MSMEs are business units that continue to grow. The adoption rate of GSCM in small companies is lower than that in large and medium-sized enterprises (Vijayvargy et al., 2017). This study was conducted using the MSMEs in Asia. Asia is one of the continents of various countries that have well-known leading MSMEs in various fields, such as crafts, food, and beverages. Therefore, GSCM must be applied to bind MSMEs in Asia to maintain environmental sustainability during their operations.

2. Literature Review and Hypothesis Development

Strategic orientation within GSCM is critical for improving organizational performance. Strategic orientation also helps in management decision making, including the company's relationship with the environment. Strategic orientation allows companies to minimize the waste and pollution generated by companies. Simultaneously, GSCM helps create a sustainable life environment. According to Meng et al. (2021), GSCM considers the environmental impact of a company's business operations. GSCM covers several activities, including green purchasing, which includes purchasing goods in accordance with legal regulations and environmental aspects (Green et al., 2012). The second is green distribution consisting of green logistics and green packaging (Ninlawan et al., 2010). Green distribution includes optimizing the timeliness and quantity of goods purchased by customers as well as the optimal efficiency of using transportation fuel in product distribution (Kazancoglu et al., 2018). The third is reuse, which is the reduction of waste in the supply chain (Li et al., 2015). Previous research has shown that strategic orientation significantly influences GSCM (Liu et al., 2020; Butt et al., 2021).

H₁: The Positive Effect of Strategy Orientation on Green Supply Chain Management

The government has strong control over the supply chain, which is environmentally friendly, because it can direct the company through its internal and external resources (Nezakati et al., 2016). In addition, the government can sanction stakeholders who do not comply with SCM regulations. According to Zhu et al. (2017), government regulations on environmental issues are rules or regulations that bind all parties involved in a company's supply chain. Previous research conducted by Laosirihongthong et al. (2013) and Zhu et al. (2017) explains that government regulation plays an important role in GSCM for established companies. However, for smaller and newer organizations, government regulations on environmental issues have no significant effect on the implementation of GSCM (Namagembe et al., 2016). Government regulation is a barrier to small businesses adopting GSCM (Govindan et al., 2014).

H₂: Positive Effects of Government Regulation on Green Supply Chain Management

Strategy orientation is one of the factors that determine the level of environmental performance of a business. Every effort is required to reduce pollution, which negatively affects the environment (Bendjenna et al., 2012). The strategic orientation forces each to develop mechanisms for the use of environmentally friendly resources and comply with environmental regulations. A business that does not have a good strategic orientation will certainly face various legitimacy problems, so it is led to respond to existing demands to improve its performance. According to Yu and Huo (2019), strategy orientation forces organizations to advance their environmental performance because of demands. Respond to strategic orientation towards environmental performance, every business is required to be able to reduce the use of environmentally unfriendly materials in its business activities (Gabler et al., 2015) and ultimately can trigger these efforts to behave in a pro-environment manner.

H₃: Positive Effects of Strategy Orientation on Environmental Performance

The increasing need for natural resources among limited supplies makes the government aware of dangers that threaten the environment. In response, the government has attempted to implement regulations to force companies to become more environmentally conscious. Some researchers believe that stricter rules can positively affect a company's environmental performance (Chan et al., 2016; Simpson et al., 2007; Zhu & Sarkis, 2007). Environmental laws can also influence a company's sustainable growth. Therefore, stricter environmental regulations can be the main reason a company is concerned about their operational impact on the natural environment (Brammer et al., 2012). Government regulation is a key driver for companies in environmental management, because non-compliance can increase threat penalties and fines (Agan et al., 2013). In addition, regulations not only encourage companies to comply with them but also stimulate them to be active in improving environmental performance (Berman et al.,

1999; Masurel, 2007). Darnall (2009) argues that companies are increasingly improving their environmental performance as environmental regulations become increasingly stringent.

H₄: Positive Effects of Government Regulations on Environmental Performance

Environmental performance is the ecological result of a company's commitment to preserving and improving its environment (Laguir et al., 2018). According to Zhu et al. (2017), companies can reduce waste, consume hazardous materials, and mitigate environmental problems. The environmental performance dimension developed by Vanalle et al. (2017) and Darwish et al. (2021) discusses reducing the consumption of hazardous materials and decreasing the frequency of environmental problems. Previous research has found that GSCM has a positive effect on environmental performance (Green et al., 2012; Cousins et al., 2019).

H₅: The Positive Effect of Green Supply Chain Management on Environmental Performance

Environmental performance is a demand faced by all types of business (Husted & Sousa-Filho, 2017). The reason for these demands is that stakeholders have different interests (Tang & Tang, 2012). Every business organization, including MSMEs, continuously attempts to respond to these demands by developing appropriate strategies. According to Majid et al. (2020), developing GSCM is a form of strategy orientation that responds to these demands to pursue environmental performance. From this perspective, GSCM acts as a mediator between a business's strategic orientation and environmental performance. The mediating role of GSCM in strategy orientation and environmental performance can be explained and justified through two types of logic. First, strategy orientation stimulates organizations to implement GSCM in an effort to improve their environment. Second, in line with stakeholder theory, stakeholders provide an impetus to formulate and implement business strategies that guarantee environmental improvement and protection, and ultimately improve the environmental performance of a business.

H₆: The Relationship between Strategy Orientation and Environmental Performance is Mediated by Green Supply Chain Management

Environmental performance is a factor that must be considered by every business organization today, where the impact of its business on the environment is crucial for future development. Regulations from the government related to the environment are expected to further encourage business units to pay attention to the environment in their business activities to create environmentally friendly conditions. Additionally, the existence of green supply chain management in every business activity is expected to bridge government regulations and achieve effective environmental performance.

H₇: The Relationship between Strategy Orientation and Government Regulation is Mediated by Green Supply Chain Management

Figure 1 describes the concept of research to reveal environmental performance in a company that is influenced by the orientation of government strategies and regulations and mediated by GSCM. The implementation of GSCM is expected to encourage the orientation of government strategies and regulations to influence environmental performance.

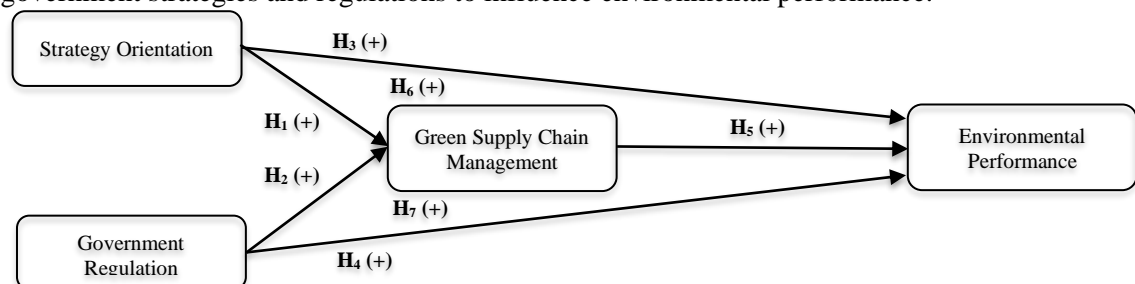


Figure 1. Research Framework

3. Research Methodology

This research was conducted by taking respondents from the MSME actors in Asia. Fifty respondents were obtained from the distributed questionnaire, 50 respondents were obtained. In addition, this research questionnaire was used to assess the validity and reliability of respondents' data (Groves et al., 2011). The statistical test tool used in this study was the Smart PLS 4.0. Strategy Orientation (SO) variable indicators use six indicators from Banerjee (2002), Hult et al. (2008), Chu et al. (2017), and Bu et al. (2020). Government Regulation (GR) variable indicators use the five indicators from Zhu and Sarkis (2007) and Laosirihongthong et al. (2013). Green Supply Chain Management (GSCM) variable indicators use the six indicators from Ninlawan et al. (2010), Kaufmann et al. (2012), and Chun et al. (2015). The environmental performance (EP) variable indicators used were five indicators from Vanalle et al. (2017) and Darwish et al. (2021). The validity testing had convergent validity. The outer model was measured from the loading factor value for each indicator. Hair et al. (2014) explain that an indicator is considered good if it has a loading factor value above 0.6. The reliability values between the construct indicators were tested using composite reliability. The variable is good if the composite reliability value is above 0.7, and the Cronbach's alpha value is above 0.6 (Hair et al., 2014). Bootstrap resampling has become a guideline for testing mediation hypotheses. The results of hypothesis testing are seen from the p value. If the p value is less than 0.05, the hypothesis is declared accepted (Chin, 2013).

4. Result and Discussion

Validity Test

Table 1 and Figure 2 show the results of the validity testing. Based on these results, it can be concluded that each indicator of strategy orientation, government regulation, GSCM, and environmental performance is valid, as evidenced by a loading factor value greater than 0.6.

Table 1. Validity Test Result

Indicator	Strategy Orientation	Government Regulation	Green Supply Chain Management	Environmental Performance
SO1	0.802			
SO2	0.779			
SO3	0.825			
SO4	0.783			
SO5	0.721			
SO6	0.846			
GR1		0.786		
GR2		0.691		
GR3		0.805		
GR4		0.691		
GR5		0.811		
GSCM1			0.812	
GSCM2			0.808	
GSCM3			0.754	
GSCM4			0.855	
GSCM5			0.792	
GSCM6			0.716	
EP1				0.826
EP2				0.652
EP3				0.952
EP4				0.954
EP5				0.872

Source: Primary Data Processed (2023)

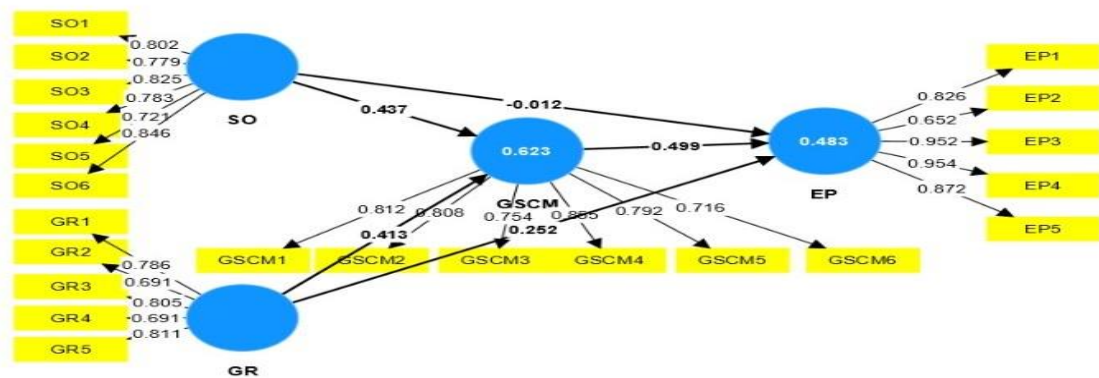


Figure 2. Measurement Model

Reliability Test

Table 2 shows the results of reliability testing. Based on these results, it can be concluded that each variable of strategy orientation, government regulation, GSCM, and environmental performance is reliable, as evidenced by a composite reliability value of more than 0.7 and a Cronbach 's alpha value of more than 0.6.

Table 2. Reliability Test Result

Variable	Composite Reliability	Cronbach's Alpha
Strategy Orientation	0.932	0.906
Government Regulation	0.871	0.816
Green Supply Chain Management	0.909	0.881
Environmental Performance	0.911	0.882

Source: Primary Data Processed (2023)

Hypothesis Test

Table 3. Hypothesis Test Result

Hypothesis	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistic (O/STDEV)	P Value
Strategy Orientation → Green Supply Chain Management	0.437	0.453	0.117	3.746	0.000
Government Regulation → Green Supply Chain Management	0.413	0.410	0.121	3.424	0.001
Strategy Orientation → Environmental Performance	-0.012	-0.003	0.184	0.064	0.949
Government Regulation → Environmental Performance	0.252	0.260	0.162	1.555	0.120
Green Supply Chain Management → Environmental Performance	0.499	0.487	0.176	2.832	0.005
Strategy Orientation → Green Supply Chain Management → Environmental Performance	0.218	0.222	0.103	2.117	0.034
Government Regulation → Green Supply Chain Management → Environmental Performance	0.206	0.198	0.091	2.262	0.024

Source: Primary Data Processed (2023)

Table 3 shows the results of the hypothesis testing. Based on the results of hypothesis testing, it can be concluded that strategy orientation has a positive effect on GSCM (hypothesis accepted), government regulation has a positive effect on GSCM (hypothesis accepted), strategy orientation has no effect on environmental performance (hypothesis rejected), government regulation has no effect on environmental performance (hypothesis rejected), GSCM has a positive effect on environmental performance (hypothesis accepted), GSCM mediates the influence of strategy orientation on environmental performance (hypothesis accepted), and GSCM mediates the influence of government regulation on environmental performance (hypothesis accepted).

Discussion

The Implementation of Strategy Orientation Promotes Green Supply Chain Management

The calculation of the statistical values between strategy orientations and GSCM yielded an original sample value of 0.437 and p value of 0.000. The results show that strategic orientation has a positive effect on GSCM. This can be achieved because most MSME players determine their business strategies to create environmentally friendly supply chains. Additionally, many suppliers and MSMEs reduce the use of materials that are harmful to the environment during the supply chain process. Powerful knowledge is why actors in a supply chain can reduce the use of environmentally unfriendly materials. This finding is in line with previous studies that show that knowledge management orientation positively affects GSCM.

The Implementation of Government Regulation Promotes Green Supply Chain Management

The coefficient of correlation between GSCM and government regulations had an initial sample value of 0.413 and p value of 0.001 according to statistical analyses. The study's findings show that GSCM benefits from government regulation. According to these findings, government regulations ensure sustainability by providing rules to business participants. Most discussions on the impact of government regulations on MSMEs' GSCM strategies are relevant to these findings. MSMEs perceive government regulations as crucial for adopting green supply chain management (Namagembe et al., 2016). Government regulations have the power to force businesses to comply with environmental regulations (Huang & Tan, 2012). Government rules may also take the form of financial assistance or other types of support, either tangible or intangible, to enable all businesses to engage in environment-based supply chain management. Another study by Liu et al. (2022) and Gonzalez et al. (2022) found that institutional pressures and governmental regulations on environment-based supply chain management, as well as other external variables, are significant factors in GSCM implementation of GSCM.

The Environmental Performance is not Affected by Strategy Orientation

The data analysis revealed an original sample value of -0.012 and p value of 0.949 for strategy orientation on environmental performance. Every business has its own orientation when operating, including the strategies used. Every business has a strategy to achieve maximum performance because with a strategy, everything to achieve these goals has been determined and considered. Performance achievement certainly requires a mature strategy, and can be achieved by all parties involved in the business to achieve the desired results. The results showed that strategy orientation had no effect on environmental performance. This shows that to achieve environmental performance in a business, not only does one pay attention to strategy orientation, but there are other factors that are thought to be influential in achieving environmental performance, such as supply chain management practices and leadership. Each of these factors must work together to achieve a desired performance.

The Environmental Performance is not Affected by Government Regulation

Data analysis revealed that the original sample value was 0.252 and p value of 0.120 for government regulation on environmental performance. Government support reflects the extent to which local governments provide general and broad support to all enterprises in a region (Li &

Atuahene-Gima, 2001). When a business runs or complies with the regulations set by the government related to environmental sustainability, the environmental performance set by the business is achieved. However, this study proves that government regulations have no effect on environmental performance. Therefore, it can be interpreted that regulations are not necessarily able to guarantee that business operations can maintain environmental sustainability. For environmental performance to be achieved, it is necessary to have supervision from the government and awareness from each business actor to run an environmentally friendly business to maintain environmental sustainability and achieve environmental performance.

Green Supply Chain Management has A Positive Effect on Environmental Performance

The data analysis indicated that the GSCM on environmental performance had an initial sample value of 0.499 and p value of 0.005. The study's conclusions demonstrate that GSCM has a favorable effect on environmental performance. These results provide insights into how green products can be applied to GSCM in the business sector. An earlier talk about how GSCM enhances the environmental performance of MSMEs and large businesses. Diab et al. (2015), a well-known industry perspective, asserted that GSCM is essential for improving both financial and environmental performance. Al-Ghwayeen and Abdallah (2018) discovered that GSCM acts as a mediator between corporate environment enhancements and export performance. Additional research has shown that GSCM techniques such as blockchain technology and traceability systems can significantly improve environmental performance (Seman et al., 2019; Okorie et al., 2022).

Green Supply Chain Management Mediates the Influence of Strategy Orientation on Environmental Performance

The results of the statistical tests for the relationship between strategic orientation and environmental performance through GSCM yielded an original sample value of 0.218 and p value of 0.034. These results show that the relationship between strategic orientation and environmental performance can be mediated by GSCM factors. This suggests that strategy direction affects the extent to which GSCM improves environmental performance. These results are consistent with past research suggesting that strategic direction has a direct impact on GSCM. Consequently, GSCM indirectly affects environmental performance. The conclusions of this study are in line with previous investigations that demonstrated how GSCM mediates environmental performance. Businesses that recognize the benefits of strategic orientation can enhance GSCM implementation and environmental performance.

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5. Conclusion

This study investigates the factors that affect environmental performance. The findings show that strategic orientation is not the only factor driving SMEs to focus on environmental performance in their operational activities. Meanwhile, external factors such as government regulations also play an important role in SMEs implementing GSCM because GSCM will affect the environmental performance of the MSMEs themselves. This study also yielded pertinent data

regarding the mediating function of GSCM in the interaction between strategic orientation and government regulation on environmental performance. This demonstrates the impact of various elements on environmental performance. However, the orientation of government policies and regulations to enhance environmental performance can be mediated by the application of GSCM. The main goal of this study is to analyze how green supply chain management influences MSMEs' environmental performance of MSMEs. Owing to their limited funding and resources, most MSMEs have not been able to successfully adopt GSCM. Further research can consider other performance dimensions, such as operational and financial performance, to understand the complex relationship between the application of GSCM and performance in the MSME sector.

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