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ANALYSIS FACTORS OF APPLICATON GREEN SUPPLY CHAIN MANAGEMENT IN SME`s IN THE CITY OF SEMARANG

Hadiahti Utami[1], Nanang Adie Setyawan[2], Bayu Setyo Nugroho[3], Mellasanti Ayuwardani[4], and Suharmanto[5]

[1,2,3,4,5] Department of Business Administration, Semarang State Polytechnic, Indonesia

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ABSTRACT

The goal of this study was to look at the factors that pushed SMEs in Semarang City to implement Green Supply Chain Management during the COVID-19 and New Normal pandemics. In this study, the purposive sampling technique was used. There are 100 respondents in the research sample. This research technique uses Structural Equation Modeling (SEM) in the AMOS 24.0 program. The results of this study explain that the Strategic Orientation variable has a positive and significant effect on the Green Supply Chain Management variable with an estimated value of 0.945, and the Government Regulation variable has a positive and significant influence on the variable Green Supply Chain Management with an estimated value of 0.070, the Green Supply Chain Management variable has a positive and significant effect on the Environmental Performance variable with an estimated value of 0.504, the Strategic Orientation variable has a positive and significant effect on the Envir Mental Performance variable with an estimated value of 0.442, the Government Regulation variable has a positive and significant influence directly on the Environmental Performance variable with an estimated value of 0.041. Government regulations and support for facilities regarding efforts to implement the idea of environmental concern have a significant positive impact on SMEs in Semarang City. High environmental performance is brought on by the best implementation of Green Supply Chain Management, which is based on a synergy between supply chains' participants and the government itself.

KEYWORDS: Green Supply Chain Management, Environmental Performance, Strategic orientation, Government regulation

I. INTRODUCTION

The development of the commercial industry is now becoming more and more rigorous due to globalization and the rapid development of information technologies. Business actors are expected to be able to strengthen their competitive advantage in light of the increasingly fierce competition among business players, especially by improving information sharing and integration between companies and supply chain management-enabled efficient business operations [1]. Various partners, such as suppliers, factories, distribution networks, and distribution services, are involved in

technologies that control the flow of goods, information, and money from upstream to downstream [2]. Economic players must assess and implement green supply chain management due to the increasing demands and challenges in economic and environmental competition. It aims to enhance the economic returns of economic operators while maintaining environmental sustainability [3]. Since more people are becoming aware of ecologically friendly products, environmental issues have also entered the dialogue of corporate actors. Business actors should not undervalue the present notion of green supply chain management since public awareness is urging them to integrate environmentally friendly principles in their enterprises [4].

Industrialization and globalization increase business prospects and pollute the environment. All stages of a product's life cycle, including resource extraction, manufacturing, reuse, recycling and disposal, have an impact on the environment [5]. Green Supply Chain Management practices which include green purchasing, green manufacturing, materials management, green distribution/marketing, and reverse logistics refer to the involvement [6].

Environmental considerations are incorporated into supply chain management throughout the process, from raw material extraction to product design, manufacturing processes, final product delivery to consumers, and end-of-life management [7]. As a result, GSCM has evolved into an effective approach to reduce the risk of environmental damage and exposure to manufacturing and disposal while increasing profits and competitive advantage [4].

In addition to boosting company earnings and the nation's economy, the rise in commercial activity also has an influence on a number of losses, including an increase in waste and other environmental degradation. Accordingly, the following are the environmental challenges that Central Java Province should prioritize:

a) Deterioration of Water Quality b) Management of Garbage and Hazardous Waste c) Climate Change d) Land Use Change and Land Degradation e) Management of Coastal Zone. The traditional market, which is a hub for SMEs' enterprises and has a substantial contribution to environmental pollution that results in bad environmental performance, is one of the business sectors that needs to be handled with regard to environmental implications [8]. This study aims to test and investigate the environmental impacts of SMEs in the city of Semarang. Previous years of research and service in cities/districts on fashion SMEs and ornamental plant SMEs. Semarang that knowledge sharing can contribute to improved employee and organizational performance, which will undoubtedly have an impact on increasing productivity and sales or organizational profits [9].

Low environmental performance necessitates the application of a broader concept of sustainability, while the concept of sustainability itself necessitates the expansion of green policies and standards that encompass the entire supply chain. The application of GSCM in the business sector necessitates the presence of driver factors or pressure factors from both internal and external parties of the

company because the pressure factor will trigger good and sustainable implementation. According to research, the most effective pressure from implementing GSCM was strategic orientation and government regulation [1].

The study was carried out in the MSE'S sector in the city of Semarang; however, there is a problem with several piles of garbage around MSE's in the Semarang area; therefore, it would be preferable if MSE's implemented the GSCM system to reduce MSE's waste. When looking at experiences in developed countries, developing countries are beginning to shift their perspective on the role and contribution of small and medium-sized enterprises (SMEs) to the country's economic growth. The Semarang city government is one of the regions in Central Java province that is concerned about the plight of SMEs. As a result, SMEs in Semarang should focus on the GSCM sector to improve their effectiveness [5].

Based on the elaboration of the background of the previous problem, the problem of this research is " How to Change the Motivating Factors for SMEs in Semarang City to Adopt Green Supply Chain Management"

II. MATERIALS AND METHODS

From the beginning to the end, the research is expected to take 6 (six) months. The site or location of the research survey is in Semarang City, where 16 sub-districts make up the study region. where primary data were used in this investigation. The responses (perceptions) of respondents regarding strategic orientation, governmental regulation, green supply chain management, and environmental performance constitute the study's main source of data. A questionnaire was used as the survey method for gathering data. To get interval data, the statements in this questionnaire are made using a scale of 1–5 Semantic Differential, and they are assigned a score or value. SME businesses in Semarang make up the study's sample and population. Purposive sampling was the method of sampling that was employed in this investigation. First, SMEs in Semarang City, both offline and online; and second, respondents who may be located and are eager to complete a questionnaire. The number of samples used in this study corresponds to the 100-sample minimum required by the SEM analysis tool [10]. Regression Equation Test is used to test models and hypotheses. It is divided into Confirmatory factor analysis in Structural Equation Modeling (SEM), which uses the AMOS 24.0 computerized package in this case to confirm the most dominant factors in a group of variables, and Regression Weight in Structural Equation Modeling (SEM), which is used to examine how strong the relationship between variables is [11].

III. RESULTS AND DISCUSSION

3.1 Characteristics Respondents

Table 1 shows the characteristics of the respondents as subjects in the study.

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Table 1: Characteristics of Respondents

Criteria	Characteristics	Percentage
Gender	Woman	70 %
	Man	30 %
Education	Elementary School	3 %
	Junior High School	2 %
	Senior High School	51 %
	Diploma	14 %
	Bachelor	29 %
	Master	1 %
SME business age	< 3 years	54 %
	3-5 years	16 %
	6-8 years	7 %
	> 8 years	23 %
Business Category	Culinary/Restaurant/Cafe	56 %
	Agribusiness	1 %
	Creative Products	5 %
	Trade Services	22 %
	Industry/Manufacturing	3 %
	Other	13 %

Source: Primary data processed, 2022.

3.2 Data Normality Evaluation

Based on the results of the normality test, showed that the data were normally distributed univariately and multivariate with no univariate value exceeding the critical limit (cr) of a variable of ±2.58 and in a multivariate presentation of -0.606. Processed data can be said to be normal if it has a critical value (cr) which is at ± 2.58 and the results of the univariate and multivariate data normality tests show that the value is still in the vulnerable value of ±2.58 [12].

3.3 Univariate & Multivariate Outlier Evaluation

The Mahalanobis distance is used to gauge the presence or absence of outlier (harmful) data by looking at observations that differ significantly from the 100-case centroid value. Based on the Mahalanobis distance, the minimum distance listed for Mahalanobis is 9.752 and the maximum distance is 32,498. The outlier data is perceived from the Mahalanobis value which exceeds the chi-square value. In this study, the chi-square of 19 degrees of freedom (number of variable indicators) at a significance level of 0.01, namely 32,852, indicates that there are no outliers [12].

3.4 Multicollinearity Evaluation

Symptoms of multicollinearity can be seen in matrix sample correlations. If the resulting value for each index is less than (<) 0.90, you can conclude that there is no evidence of multicollinearity. In this study, data processing results showed no evidence of multicollinearity in the matrix-sample correlations of the 19 indicators across the six variables tested [12].

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3.5 Measurement Model Test

In this study, it can be seen that the chi-square value (X^2) and the degree of freedom (df) value. Based on the results of the writing model test, it can be seen that chi-square (X^2) has a value of 158.919 and the degree of freedom (df) has a value of 109.

Table 2: Evaluation Results Cut Value Criteria

***Goodness-of-fit* index**	***Cut of Value***	**Analysis Results**	**Model Evaluation**
Chi-Square	(Small) ≤ 160. 750	158,919	Good
probability	≥ 0.05	0.061	Good
GFI	≥ 0.90	0.870	Marginal
TLI	≥ 0.90	0.969	Good
CFI	≥ 0.90	0.981	Good
DF /CMIN	≤ 2.00	1,458	Good
RMSEA	≤ 0.08	0.068	Good

The model test results shown in Figure 1 demonstrate the fit criteria for the AMOS 24 program. CMIN = 1.458, GFI = 0.870, CFI = 0.981, TLI = 0.981, RSMEA = 0.068 are acceptable. Based on this fitted model, we can conclude that the model meets the goodness-of-fit criteria. Therefore, the structural equation model of this study is appropriate and practical to interpret for further discussion [12]. Below is a picture of the results of the analysis in this study which includes the following variables: Strategic orientation variable with five (4) indicators, Government Regulation with (2) two indicators, Green Supply Chain Management with (6) six indicators, Environmental Performance with (7) seven indicators, shown in Figure 1 as follows:

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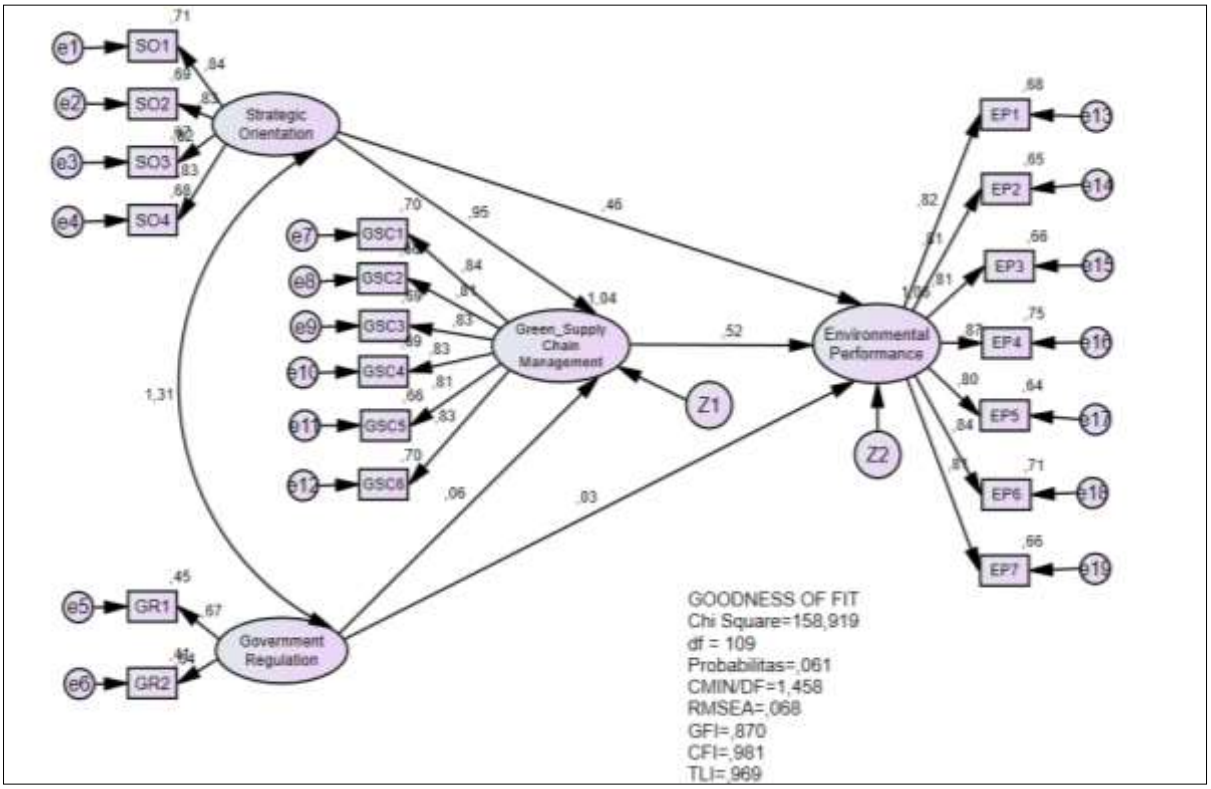

Source: Primary data processed, 2022.

Figure 1. Results of analysis of the research structural model

3.6 Test hypothesis

In the testing phase of the hypothesis of significant causality, the critical T value for the value of the critical ratio (cr) is greater than or equal to 1.966. To aid decision making, the authors can check the probability number (P) from (P) ≤ 0.05. If P-value ≤ 0.05, H 0 is accepted, and vice versa, if P-value ≥ 0.05, H 0 is rejected. The results of hypothesis testing are presented in Table 3.

Table 3: Hypothesis Test Results (Regression Weights)

Endogenous Variables		Exogenous Variables	Estimates	SE	CR	P
Green Supply Chain Management	<---	Strategic Orientation	,945	.084	11.202	***
Green Supply Chain Management	<---	Government Regulations	,070	.031	2,254	.024
Environmental Performance	<---	Green Supply Chain Management	,504	,188	2,685	,007

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Endogenous Variables		Exogenous Variables	Estimates	SE	CR	P
Environmental Performance	<---	Strategic Orientation	,442	, 181	2,443	,015
Environmental Performance	<---	Government Regulation	.041	,013	3.101	,002
GSC2	<---	Green Supply Chain Management	,856	.096	8,874	***
EP1	<---	Environmental Performance	1,000			
EP2	<---	Environmental Performance	,947	, 113	8,400	***
EP3	<---	Environmental Performance	,960	,093	10,320	***
GSC1	<---	Green Supply Chain Management	1,000			
GSC3	<---	Green Supply Chain Management	,934	.088	10,660	***
GR1	<---	Government Regulations	1,000			
GSC4	<---	Green Supply Chain Management	1.016	.095	10,681	***
GSC5	<---	Green Supply Chain Management	,919	.089	10.273	***
GSC6	<---	Green_Supply _Chain_Mana gement	1,047	,098	10,730	***
EP4	<---	Environmental Performance	1,140	,100	11,369	***

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Endogenous Variables		Exogenous Variables	Estimates	SE	CR	P
EP5	<---	Environmental Performance	,883	.088	10,086	***
EP6	<---	Environmental Performance	1,087	.086	12,704	***
EP7	<---	Environmental Performance	,897	.087	10.278	***
GR2	<---	Government Regulation	,882	, 113	7,805	***
SO4	<---	Strategic Orientation	,955	.088	10,900	***
SO3	<---	Strategic Orientation	,884	.084	10,551	***
SO2	<---	Strategic Orientation	,978	,109	9.005	***
SO1	<---	Strategic Orientation	1,000			

Source: Primary data processed, 2022.

The regression weight output result is the same as the t-value of the regression where each index or manifest variable reflecting the latent variable is greater than (>) 1.96 (>) 1.96 and P (Probability Significant) P < 0.05 Six hypotheses are accepted It can be concluded that Details of the regression weights output are as follows: The Strategic Orientation variable has a positive and significant influence on the Green Supply Chain Management variable with an estimated value of 0.945, the Government Regulation variable has a positive and significant influence on the Green Supply Chain Management variable with an estimated value of 0.070, the Green Supply Chain Management variable has a positive and significant influence on the Environmental Performance variable with an estimated value of 0.504, the Strategic Orientation variable has a positive and significant to the Environmental Performance variable with an estimated value of 0.442, the Government Regulation variable has a direct positive and significant influence on the Environmental Performance variable with an estimated value of 0.041. In this case, it can be explained as follows. There is a significant positive relationship between the strategy orientation variable on Green Supply Chain Management with a correlation coefficient of 0.945 or 94%, which means that when the strategy orientation variable is increased by one time, the Green Supply Chain Management variable will increase also by 94% , there is a

significant positive relationship between the Government Regulation variable or government regulations on Green Supply Chain Management with a correlation coefficient of 0.07 or 7%, which means that when the government regulation variable is increased by one time, the Green Supply Chain variable Management will also increase by 7%, There is a significant positive relationship between Green Supply Chain Management variables on Environmental Performance or company environmental performance with a correlation coefficient of 0.504 or 50.4%, which means that when the Green Supply Chain Management variable is increased by one time, the environmental performance variable will also increase of 50.4% , there is a significant positive relationship between strategic orientation variables on environmental performance through Green Supply Chain Management with a correlation coefficient of 0.442 or 44.2% where the development of a strategic orientation to Green Supply Chain Management has an impact on environment-based performance. The SMEs in Semarang City are responsible for this large beneficial impact. Their strategic orientation, willingness, and understanding of environmental concerns have led to high environmental performance as a result of the ongoing adoption of green supply chain management optimal. With a correlation coefficient of 0.041 or 4.1%, there is a substantial positive association between government regulation variables and environmental performance through green supply chain management, where in this study green supply chain management serves as the ideal mediating variable. Studies that look at the direct relationship between governmental regulation and environmental performance have found that there is a considerable positive association. The government's regulations and support for facilities in Semarang City's efforts to implement the idea of environmental awareness have had a significant positive impact. High environmental performance is the result of the implementation of an ideal green supply chain management strategy, which is carried out based on the collaboration of supply chain participants and the government itself.

4. CONCLUSION

Factors of strategic direction, government regulation, green supply chain management, and environmental performance are reflected in this study. Using the AMOS 24 program to test the model, the results show that the structural equation modeling analysis in this study is acceptable according to the fitting model with Chi-square value = 158,919, probability = 0.061 DF/CMIN = 1.458, GFI = 1.458. I'm here. 0.870, CFI = 0.981, TLI = 0.981, RSMEA = 0.068. Based on this fitted model, we can conclude that the model meets the goodness-of-fit criteria. Five hypotheses presented in this study were tested and the results indicated that all five were accepted. In particular, the strategic orientation of the variables had a significant positive impact on the green supply chain management variables with an estimated value of 0.945, and the government regulation variables had a significant positive impact on the green supply chain management variables with an estimated value of 0.070. increase. The variable environmental performance, with an estimated value of 0.504, is greatly and positively impacted by green supply chain management. Strategic orientation has a significant positive impact on variable environmental performance with an estimate of 0.442, and variable government regulation has a positive and significant direct impact on variable environmental performance with an estimate of 0.041. Future studies should take into account the subject of study, other SMEs in different

Indonesian cities. Collaboration is also required on additional factors relating to the traits of the Indonesian population, such as Spiritual Intelligence. It can also be created to affect small and medium-sized businesses' business performance. Supply chain management has the potential to have an even greater impact on SMEs throughout Semarang, especially for manufactured goods that involve upstream and downstream operations. Cross-validating research results requires such studies.

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