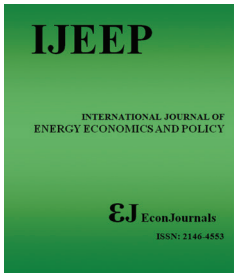

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Does Green Supply Chain Management Improve Sustainable Performance?

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ABSTRACT

The process of Green Supply Chain Management (GSCM) is widely associated with its contribution to the company's sustainability performance. The GSCM process will also be linked to an integrated system of Enterprise Resource Planning (ERP) that affects the achievement of sustainability performance. The importance of environmental consciousness from producers to direct their business processes that are beneficial to the environment in the long term. This study used 507 samples of manufacturing companies in Indonesia. Data was obtained by giving questionnaires to middle-up managers in departments related to the GSCM process. GSCM and ERP affect the Company's Sustainability Performance. Moderation of environmental consciousness strengthens the influence of GSCM on sustainability performance. GSCM, ERP, and environmental consciousness simultaneously affects sustainability performance by 90.3%. This research provides a new measurement in the form of 5 indicators in the GSCM and 5 indicators for sustainability performance. In this research doesn't discuss about explain bottleneck and risk in GSCM implementation such as regulation about logistic and distribution. This paper can be a guide for practitioners in the supply chain field to use GSCM measurement indicators to be applied in companies, which aim to achieve sustainable performance.

Keywords: Green Supply Chain Management, Enterprise Resource Planning, Environmental Consciousness, Sustainability Performance
JEL Classifications: M21, Q01, Q52, Q56

1. INTRODUCTION

The sustainable performance of a company is the harmonization and combination of the three goals the company wants to achieve. These goals are financial, environmental goals and social goals. These three objectives are then implemented into the core activities of the company's business to maximize the value of the company (Sustainable Business Partnership, 2021).

Achievement of sustainability performance in recent times, a company has been associated with the issue of eco company operational processes in business activities. Eco or environmentally operational performance includes integrated supply chain processes from upstream to downstream. An eco supply chain or Green Supply Chain Management (GSCM) is increasingly becoming an agenda or important thing for company business operations in the world so that the company's operational processes comply with government regulations and regulations, are safe and suitable for consumer needs, increase profits, and provide long term advantage (Enyinda, 2018).

The implementation of GSCM in business processes not only gives hope to the company's sustainability performance, but the implementation of GSCM helps reduce and prevent the climate change crisis this situation become the phenomena gap in this research. The appeal of a sustainable supply chain goes beyond being eco. Investing in sustainability sets a company's business apart from competitors. It also makes the company's operations more likely to thrive in the long term despite environmental crises and social unrest (Sharma et al., 2020).

The GSCM process is required in manufacturing companies. The focus of the production process in manufacturing companies is on product material inventory. The implementation of GSCM will

contribute in the form of reducing storage costs, and ordering, and outgoing distribution of finished goods inventory in manufacturing companies (Grunert et al., 2017). In Indonesia, the manufacturing industry sector contributed 20% to Indonesia's gross domestic product in 2019 (Indonesian Central Bureau of Statistics, 2021)

A lot of research on the implementation of GSCM has been done to see its effect on the sustainability performance of a company. However, previous research has not comprehensively discussed all the variables that are the topic of discussion and support for GSCM implementation. Research related to GSCM that has been carried out includes Acquah et al. (2021), Inman and Green (2018), Carvalho et al. (2020), Namagembe et al. (2019), Cankaya and Sezen (2019), Choudhary and Sangwan (2019), Zhu et al. (2008), Gao et al. (2009), Singh and Pandey (2012), Sarkis (2012), Kung et al. (2012), Kirchoff et al. (2016), Green et al. (2012), Chan et al. (2012), they examined the GSCM dimension variables and the dimensions of sustainability performance partially. The results of previous studies show that GSCM have positive affects to sustainability performance of a company.

Dwianika and Murwaningsari, (2020) stated that water efficiency management will cut costs and promote the environment and increase public awareness of the importance of water in governance. The research was conducted related to water conflicts and the phenomenon of increasing water scarcity which will result in business stagnation, especially for sustainability performance. This shows that environmental consciousness in companies can support sustainability performance.

The novelty of this research is the development of the measurement of the variables of GSCM and Sustainability Performance. GSCM measurement in this study was developed from Acquah et al. (2021) and Herrmann et al. (2021). The measurement in previous study has weaknesses due to the lack of targets for implementing GSCM to achieve sustainability performance in accordance with the latest regulations and in accordance with the manufacturing context in Indonesia.

In this research the GSCM measurement was modified by adding 5 indicators to the dimensionby adding two indicators to the green manufacturing dimension, namely (i) Use machine production with friendly technology environment, (ii) Use raw ingredients in country with content level of at least 40%. In the green marketing dimension, two indicators are added (i) Products for sale labeled friendly environment, (ii) Doing green promotion through social media. Added one indicator to the green packaging dimension (i) Using packaging products in the form of friendly plastic, aluminum cans, paper, or glass environment (Packaging friendly environment) (Rizki and Augustine, 2022). The development of measurement in GSCM is adapted to the context of GSCM in Indonesia and updated in accordance with the development of science in management accounting. All the development was discussed especially.

The measurement of sustainability performance in this research has been developed from (Acquah et al., 2021; Inman and Green, 2018). The addition of 5 indicators to sustainability performance variable in environmental performance dimension, because the previous measurements have not shown the overall impact of the implementation result from GSCM, ERP, and the existence of environmental consciousness. Development is done by adding 5 indicators on the environmental performance dimension. The indicators are (i) Reduce odor pollution, (ii) Reduce Impression visuals, (iii) Reduce light pollution, (iv) Reduce vibration vibration, (v) Reduce radiation. The development of these measurements is adapted to developments in environmental performance science.

The purpose of this study is to determine the effect of the GSCM variable on sustainability performance and the influence of the Enterprise Resource Planning variable on sustainability performance. This study also aims to determine the moderation of environmental awareness in GSCM and ERP on sustainability performance.

2. REVIEW OF LITERATURE

2.1. Stakeholder Theory

Stakeholder theory is used in this study to explain the effect of GSCM, enterprise resource planning, and moderation of environmental consciousness on sustainability performance. Implementation of GSCM, ERP, and EC will affect internal and external stakeholders. Internal stakeholders of employees and managers can be confident that GSCM shows that the company they work for is contributing to a green economy. Implementation of GSCM and ERP will also affect the ability of employees and managers. The company will provide training and understanding on how to implement environmentally friendly production.

Internal stakeholders, then shareholders, need to know that the company has implemented an environmentally friendly production process. Shareholders can control it so that the company does not harm the environment. The controls carried out will also have a long-term impact on the company's performance.

GSCM has contributions from suppliers as part of the supply chain. As an external party, suppliers must supply environmentally friendly goods and services. Green purchasing which is the dimension of GSCM is closely related to the selection of environmentally friendly suppliers. For the community, an environmentally friendly supply chain can have an impact on the environment and social life. Production waste that is low in carbon and safe for the environment is something that is expected by the community.

2.2. Sustainability Performance

Research on sustainability performance has increased in recent years. The deepening of sustainability performance is measured from the achievement of environmental performance, financial performance, social performance, and operational performance. Afum et al. (2020) stated that the company will increase focus on the four goals of sustainability performance. The goal is to provide value for shareholders. One of the efforts to achieve this goal is to improve the supply chain process in the company.

One of the most controversial issues related to eco friendly bisnis process such us GSCM, is whether eco activities have

a cost impact on businesses (Hart and Ahuja, 1996). There are different opinions on this. The first opinion states that GSCM will carry some costs. For example, Bowen et al. (2001) state that environmental practices do not affect short-term profitability and sales performance, while Min and Galle (2001) suggest that green purchasing increases business costs, which in turn will negatively affect business financial performance.

Sustainability performance will enable the company to have a more positive image in the eyes of stakeholders, society, customers, personnel, and government by reducing environmental damage. This positive image is very important for customer and personnel satisfaction and loyalty. GSCM can result in improved brand image, better relationships with stakeholders, and increased motivation of personnel. In short, successful social performance can strengthen the company's relationship with all stakeholders.

2.3. Green Supply Chain Management

Acquah et al. (2020) is updated from Kirchoff et al. (2016) revealed that GSCM has become an effective tool for management to be proactive and also in leading organizations, especially organizations in the form of manufacturing companies. GSCM scope practical application ranges from integrated Green Purchasing (GP) with the supply chain starting from suppliers or suppliers, to entering the customer's production process, and ending up in reverse logistics.

Geng et al. (2017) found that industrial modernization harms the environment. The technique or implementation of green supply chain management is important for manufacturing companies. This is also supported by the contribution of the manufacturing industry movement in the ASEAN Emerging Economics (AEE) which contributes to GDP and exports. Integration from the supply chain dimension can reduce the negative impact of the manufacturing industry supply chain on the environment. Gong et al. (2019) found that research developments related to GSCM were increasing at the end of 2013. This is supported because the implementation of green supply chain management is an important to give companies value. Beside that, successfully of implementation GSCM will impact to stakeholders wealthy.

Weeratunge and Herath (2017) state that GSCM includes Green Design, Green Purchasing, Green Production, Green Distribution, Logistics, Marketing, and Reverse Logistics. Based on (Namagembe et al., 2019), the GSCM concept covers all phases of the product lifecycle, including changes in raw materials through design, production, and distribution, to consumer use of the product and its disposal at the end of the product's life. These two statements make it clear that the practice of GSCM is very extensive. Although it is almost the same as the concept of supply chain management, the disclosures, and limitations of GSCM research depend on the objectives to be achieved by the researcher (Carvalho et al., 2020).

H1: There is a positive effect of green supply chain management on sustainability performance.

2.4. Enterprise Resources Planning

Comuzzi and Parhizkar (2017) explain that enterprise systems are large-scale application software packages that support business processes and decision-making in organizations. Examples of this type of system are ERP to support operational business processes, CRM (Customer Relationship Management) to support customer-facing activities, and supply chain management, to support product design and configuration management.

ERP related to its implementation are very important by including system integration from ERP implementation which covers all parts of the company those are marketing, operations, finance, accounting, and purchasing. ERP implementation in this study can show that the technology side will give supports in integrating activities of the implementation of GSCM.

Hermawan (2019) found that there was a positive and significant effect of ERP implementation on company performance in Indonesia, so it is very important to include system integration from ERP implementation which covers all parts of the company including marketing, operations, finance, accounting, and purchasing. ERP implementation in this study can show that the technology side that participates supports integrated activities or implementation of GSCM.

H2: There is a positive effect of ERP implementation on Sustainability Performance**.**

2.5. Environmental Conciousness

Mishal et al. (2017) stated that the stakeholders involved in promoting eco activities include the government, organizations that offer goods and services, and consumers of these goods and services. The government has a role to create awareness throughout the nation about the bad effects of goods that are harmful to the environment, producers have a responsibility to preserve and improve the environment by producing more eco products and consumers have a responsibility to protect the environment by saying no to goods that are eco. Harmful to the environment. Together with the top-down approach where the government encourages sustainability efforts, equally important is the bottom-up responsiveness of customers and producers to these eco-friendly initiatives.

The research of (Kautish and Sharma, 2018) found that environmental consciousness has an positive effect on sustainability performance. Research conducted by (Acquah et al., 2021) found that GSCM has an positive effect on sustainability performance. So this study hypothesizes that environmental consciousness strengthens the influence of GSCM on sustainability performance.

H3: Environmental Consciousnes strengthen the effect of green supply chain management on sustainability performance.

The implementation of enterprise resource planning whose research was conducted by Hermawan, (2019) shows that there is a positive influence of ERP on sustainability performance. The research of (Kautish and Sharma, 2018) with 9 indicators of environmental consciousness has a positive effect on the company's sustainability performance. Based on these conditions, this study hypothesizes that environmental awareness strengthens the influence of ERP on sustainability performance.

H4: Environmental Consciousnes strengthens the influence of Enterprise Resources Planning on Sustainability Performance.

3. RESEARCH METHODOLOGY

Sustainability performance in this study is the dependent variable. The dependent variable is dimension of sustainability performance in the research by Shahzad et al. (2020), Inman and Green (2018), and Acquah et al. (2021). The following dimension are Economic performance (ECP) has 5 indicators, Operational Performance (OPP) has 6 indicators, Social Performance (SOCP) has 5 measurement indicators, Environmental performance (ENP) has 11 indicators.

The independent variable GSCM in this study has ten dimensions that act as independent variables consisting of Green Purchasing (GP), Green Manufacturing (GMF), Green Marketing (MKT), Green Distribution (GD), Eco Design (ECO), Internal Environment Management (IEM), Environmental Education (EDU), Investment Recovery (IR), Cooperation with Customers (CUST), Green Information Systems (GIS). This study will also examine the effect of additional independent variables, namely Enterprise Resources Planning (ERP), and Environmental Consciousness (EC) as moderating variables.

The second independent variable is Enterprise resource planning has 1 dimension with 6 indicators adopted from Hermawan (2019). The following ERP indicators are Quality system easy used, studied, safe and responsive, Information generated accurate, relevant, reliable, completeness, Quality service system responsive, reliable, and competent, User dependence on use system, frequency and attachment back, Satisfaction user, recommendation and expectations, System support taking decision, Effectiveness, and efficiency.

Moderation variable Environmental Consciousness has adopted measurement from (Kautish and Sharma, 2018) Enviromental Consciousness measured with 9 indicators namely Evaluation condition environment globally, Concern about environment and no about price or situation profession, endorsement various action for increase quality water management, what extent are respondents consider self they as information about issues related environment, Index knowledge environment certain, Effort action best for environment live, Willingness pay more for water, To do cycle recycled (glass, paper, plastic), Participation in demonstration, do profession volunteer, collaborate in organization, give donation.

This study focuses on respondents who are following the object of research. One of the required qualifications is a manufacturing company, both listed on IDX and not listed on IDX. Data acquisition by distributing questionnaires in the form of google form to respondents who meet the qualifications. Distribution process through electronic media such as email, direct message Linked, Whats App, and social media. Respondents who are allowed to fill out the questionnaire are respondents who understand the concept of sustainability performance, GSCM, and ERP at the company where they work. The minimum number of samples in this study refers to (Hair et al., 2018) with the minimum sample obtained from 90 indicators multiplied by 5 equals 450.

The sample in this study was 64 companies listed on IDX and 443 non-listed companies on IDX. The total sample is 507 manufacturing companies in Indonesia. The data obtained were then processed using SMART PLS for regression analysis and SPSS AMOS for validity and reliability test. The following Table 1 will show the distribution of research data:

From Table 1, it is known that the minimum value of the green supply chain management variable is 3 and the maximum is 6. The range of these numbers has a mean of 5.32 and it can be related that respondents agree on the questionnaire indicator items related to GSCM. The standard deviation for green supply chain management is 0.75. Enterprise resource planning has the minimum and maximum data values at numbers 3 and 6. The mean ERP value is the highest value among all variables, namely 5.55 with the lowest standard deviation among all variables of 0.69.

Moderation of the Environmental Consciousness variable has mean value 5.35 with a standard deviation of 0.75. And the dependent variable of sustainability performance has a minimum data value and a maximum data value at numbers 3 and 6. The sustainability performance variable has a standard deviation value of 0.75, with the average data value at 5.38.

The mean value of GSCM is the smallest value compared to other variables, namely 5.31. This condition also illustrates that GSCM in Indonesia is also declining given the geopolitical problems that affect shipping and logistics. In addition, there is a delivery blockade during the pandemic. This condition is just starting to recover, but not completely.

4. RESULTS AND DISCUSSION

The main model testing was conducted to answer the hypothesis of this research. The results of the model regression test are shown in Table 2.

$$SP=\beta 1GSCM+\beta 2ERP+\beta 3GSCM*EC+ \beta 4ERP*EC+e$$

Table 1: Data descriptive statistics

Variable	N	Minimum	Maximum	Mean	Std. Deviation
GSCM	507	3.00	6.00	5.32	0.75
ERP	507	3.00	6.00	5.55	0.69
EC	507	3.00	6.00	5.35	0.75
SP	507	3.00	6.00	5.38	0.75

GSCM: Green supply chain management, ERP: Enterprise resource planning, EC: Environmental consciousness, SP: Sustainability performance

Table 2: Regression analysis

Hypothesis	Path	Coefficient	P-values
H1	GSCM ->SP	0.62	0.00*
H2	ERP ->SP	0.12	0.00*
H3	GSCM*EC ->SP	0.08	0.03*
H4	ERP*EC ->SP	–0.11	0.00*
SRMR			0.04
R-square			0.90
R-square adjusted			0.90

*Significant<0.05, SP: Sustainability performance, GSCM: Supply chain management, ERP: Enterprise resource planning, GSCM*EC: Environmental consciousness moderates green supply chain management, ERP*EC: Environmental consciousness moderates enterprise resource planning

The P-values of the GSCM independent variables are 0.00 < 0.05. Then it is stated that green supply chain management has a positive and significant effect on sustainability performance, then H1 is accepted. The results of this study are the same as those conducted by Acquah et al. (2021), Cousins et al. (2019), Cankaya dan Sezen (2019). The magnitude of the influence of green supply chain management on sustainability performance is under the coefficient of 0.62 or 62%. This percentage shows that an increase of 1 value in green supply chain management can increase the value of sustainability performance by 62%.

The second independent variable of enterprise resource planning has a value of P = 0.001 <0.05, it is stated that the ERP variable has a positive and significant effect on sustainability performance. The results of this study are the same as those conducted by Hermawan (2019). Where the results are by the statement in the second hypothesis H2 so that the hypothesis is accepted. Since the coefficient 0.116, its mean only 11.6% influence and effect the sustainability performance.

Moderation of Environmental Consciousneson on the two independent variables has a different impact. Moderation of environmental concerns in green supply chain management strengthens its influence on sustainability performance. The P significance value of GSCM*EC moderation is 0.030 or < 0.5, so H3 is accepted. The third hypothesis statement, moderation of sustainability performance strengthens the influence of green supply chain management positively and significantly on sustainability performance. This moderation has a coefficient value of 0.08 or equivalent to 8%. It means that the moderating is small since the Environmental Consciousness only 8% for relationship of GSCM to sustainability performance.

Enterprise resource planning moderated by environmental concerns can significantly and negatively strengthen the ERP relationship on sustainability performance. In Table 2 the magnitude of the P-value of ERP*EC moderation is 0.002 or <0.05. H4 states that EC strengthens the influence of ERP in a positive and significant way, so H4 is rejected. The conditions are the same but have a different direction or negative. The magnitude of the effect of EC moderation on ERP on SP is –0, 105, or equivalent to-10.5%.

In Table 3, the regression test is carried out without using the new measurement indicators on SP and GSCM, namely in model 2. The results of the processing show that the moderation of Environmental Consciousneson green supply chain management has no effect in model 2. The P-value of EC*GSCM →SP is 0.12 > 0.05, which means it has no effect. While the results of other statistical tests are the same as the main regression test where GSCM and ERP affect SP. Moderation of Environmental Consciousness (EC) only strengthens the influence of ERP on sustainability performance (SP).

Table 3: Longevity measurement sensitivity test Acquah et al. (2019) compared to new measurements (novelty)

	Model 1-Novelty		Model 2–Acquah et al. (2019)	
	Coefficient	P-values	Coefficient	P-values
GSCM ≥SP	0.57	0.00*	0.56	0.00*
ERP ≥SP	0.12	0.00*	0.12	0.00*
EC*GSCM ≥SP	0.13	0.02*	0.09	0.12
EC*ERP ≥SP	–0.11	0.00*	–0.10	0.01*

*Significant<0.05, SP: Sustainability performance, GSCM: Supply chain management, ERP: Enterprise resource planning, ERM: Risk management, GSCM*EC: Environmental consciousness moderates green supply chain management, ERP) *EC: Environmental consciousness moderates enterprise resource planning, ERM*EC: Environmental consciousness moderates risk management

Table 3 part model 1 with novelty shows the results of statistical tests with new indicators. Where 9 dimensions of GSCM according to the measurements used in the study by Acquah et al. (2019) were retested after being provided with additional indicators as an update. The results show that after updating, the moderation of Environmental Consciousness (EC) in green supply chain management (GSCM) strengthens the influence of GSCM on sustainability performance (SP). This test shows that the addition of new indicators in this study has improved the level of measurement of sustainability performance which is influenced by GSCM and moderation of Environmental Consciousness (EC).

The results of the expansion test show in Table 4 that the GSCM dimension, namely Green Manufacturing, is the strongest dimension. This dimension has a strong influence on the 4 dimensions of sustainability performance. The P value of GMF on the dimensions of sustainability performance <0.05.

4.1. Effect of GSCM on Sustainability Performance

The results of this study are in accordance with research conducted by (Acquah et al., 2021) which show that GSCM affects the company's sustainability performance. Seeing the development of GSCM ASIA research and in Indonesia in particular, supports the results of this research in a theoretical. Meanwhile, the direction of the green economy from the Indonesian government, the issue of climate change, and increasing environmental awareness from the community have become practical supports for the results of this research. If all directions have been towards sustainability performance which is of course closely related to environmental issues, many company managements have changed the direction of their business to become more eco. Stakeholders will be more concerned about the sustainability of their business in Indonesia. This condition is following stakeholder theory in which stakeholders will direct their business to be sustainable.

The results of this study are also interconnected with the current performance of manufacturing companies in Indonesia. From the data obtained Indonesian statistical center agency, Manufacturing Industry gross domestic growth rate in 2019 = 3.80; 2020 = –2.93; 2021 = 3.39 (Indonesian National Income, BPS).

From the rate of gross domestic growth, it can be seen that during the Covid-19 pandemic, the supply chain was disrupted due to the lockdown. The supply of raw materials from outside is constrained to be distributed into the country. It can be seen that in 2020 the GDP of manufacturing in Indonesia is –2.93. Disrupted supply affects the performance of manufacturing companies. After the hope of a vaccine and a return to normal supply, there is a positive growth of 3.39 in 2021.

Table 4: GSCM dimensional regression → sustainability performance dimension

	ENP		SOCP		OPP		ECP	
	Coef	P-value	Coef	P-value	Coef	P-value	Coef	P-value
CUST	–0.040	0.460	0.005	0.935	0.124	0.032*	–0.116	0.072
ECO	0.028	0.619	0.151	0.005*	0.023	0.700	–0.093	0.179
EDU	0.029	0.581	0.101	0.113	–0.006	0.908	0.083	0.290
GD	0.110	0.034*	0.095	0.080	0.219	0.000*	0.048	0.403
GIS	0.113	0.047*	0.043	0.432	0.168	0.000*	0.076	0.155
GMF	0.338	0.000*	0.194	0.003*	0.385	0.000*	0.308	0.000*
GP	0.145	0.018*	0.054	0.330	–0.062	0.266	0.258	0.000*
IEM	0.007	0.897	0.171	0.010*	0.030	0.587	0.005	0.947
IR	0.052	0.262	–0.035	0.487	–0.059	0.217	0.215	0.008*
MKT	0.206	0.003*	0.196	0.013*	0.119	0.155	0.145	0.053

*< 0.05, Sumber: SmartPls 3. CUST: Cooperation with customer, ECO: Eco design, EDU: Environmental education, GD: Green distribution, GIS: Green Information systems, GMF: Green manufacturing, GP: Green purchasing, IEM: Internal environment management, IR: Investment recovery, MKT: Green marketing, ENP: Environmental performance, SOCP: Social performance, OPP: Operational performance, ECP: Economic performance

Manufacturing growth in the second quarter of 2021 contributed 7.07% to Indonesia's economic growth. During a pandemic, domestic supply plays an important role in supporting the survival of the manufacturing industry. Data obtained from the Ministry of Industry shows that the manufacturing sector contributed greatly to the national Gross Domestic Product (GDP) in the second quarter of 2021, which was 17.34%.

The manufacturing sector which has the top 2 positions is the food and beverage industry (6.66%) and the chemical, pharmaceutical and traditional medicine industries (1.96%). At the end of 2021, the Association of Indonesian Food and Beverage Entrepreneurs (GAPMMI) stated that the food and beverage industry grew by 7% by the end of 2021. The consumption survey conducted by Mondelez Indonesia on 6.000 respondents showed that 60% of Indonesians chose to consume snacks. The description above shows that the supply chain process in manufacturing companies in Indonesia depends on supply from producers and demand from customers.

The integration of the 10 dimensions of GSCM is very visible to affect sustainability performance. The description of the condition of the supply chain and manufacturing production in Indonesia greatly affects the company's performance in terms of financial, environmental, social, and production.

Among the 10 dimensions of GSCM, green manufacturing process is the strongest dimension that has an effect to 4 dimension of sustainability performance (Table 4). The actual conditions of the production process in manufacturing companies in Indonesia have been mostly eco. Many processes use eco-technology machines to minimize and eliminate pollution. In addition to reducing pollution and waste, the use of eco machines has reduced the consumption of electrical energy and fossil fuels. In some companies that use hazardous materials but for direct use for humans the content has been adjusted. An example of this condition is the use of alcohol in the production of cleansers such as household needs, which have been standardized with food-grade alcohol.

The adjustment of raw materials, production machines, and eco-production processes also affect the company's financial performance. Respondents acknowledged that raw materials that are safer for customers and the environment are more expensive raw materials. Eco-replacement of machinery and production equipment is also an investment for the company. On the other hand, the finance department realizes that this investment will also have a positive long-term impact. Examples given are engine replacements that have been made to help reduce electricity costs and fuel consumption. The reduction and elimination of air, noise, light, odor, and waste pollution due to engine replacement also reduce the level of complaints from the public. Decreased complaints can improve social performance and environmental performance.

Stakeholder theory plays an important role in this study in showing the magnitude of the influence of GSCM on sustainability performance. The company's internal and external parties as described in each GSCM dimension provide the support that makes the process run flawlessly. A well-run GSCM will certainly have a good impact on financial performance, operational performance, social performance, and environmental performance.

From the results of data analysis obtained from the questions on the questionnaire, the concept of the green theory is following this study. Green theory directs changes in environmental consciousness from the smallest scope, which will then have an impact on a larger scope. The GSCM process is supported by a 10-dimensional construct, where each dimension is closely related to the concept of being eco. All of them are integrated so that they have an impact on the company's sustainability performance on the economic, social, operational, and environmental sides.

4.2. ERP Effect on Sustainability Performance

From the results of questionnaires and interviews conducted in data collection, it is known that ERP is an integrated system that is being used by the company that is the research sample. Closely related to the concept of co-production, a system is arranged and adapted to the needs of the company's vision and mission. Research conducted by Hermawan, (2019) found that ERP implementation can improve a company's sustainability performance. The same thing was found in this study with indicators recognized by respondents according to their company's system needs. The difference in this study is interconnected with the green theory.

A quality system can be easy to use, learn, secure, and responsive. A good system is also recognized by respondents as being able

to provide information that is accurate, relevant, reliable, and complete. Just like the GIS dimensions of GSCM, the need for ERP as a system can also help the implementation of the company's GSCM. The system that is feasible to be felt by respondents has a responsive, reliable, and competent service quality system.

When using ERP, you can easily collaborate with suppliers who also use ERP. So that the user dependence on the use of the system becomes high. The use of ERP can have a positive impact on eco, effective and efficient decision-making. Where the success of this can improve the company's overall sustainability performance.

A well-integrated system can describe the bottlenecks that occur in every process of the business cycle. The obstacles described in the theory of constraints can have a significant impact on the company's sustainability performance. Increasing the company's sustainability performance will be a positive value given by stakeholders both internal and external to the company. In ERP integrated system also need to consider a lot of risk which come from GSCM implementation. A risk which can mitigate with adding ERP system will be supporting sustainability performance.

4.3. Environmental Consciousness Moderates GSCM on Sustainability Performance

Research on environmental concerns from the producer side has been carried out by (Kautish and Sharma, 2018) who found that environmental awareness has a positive and significant effect on sustainability performance. However, the placement of Environmental Consciousness in this study is a moderating variable. In EC moderation on GSCM statistically, it has been shown that EC strengthens the effect of GSCM on SP.

When viewed as a whole concept, environmental concerns from producers will certainly support the company's environmentally friendly issues, including the implementation of GSCM. Furthermore, the company takes eco actions according to the name indicators contained of the EC. Analysis based on respondent data has shown indicators that support all processes.

It means that the hire of EC will give more consideration to the GSCM. The implementation of GSCM in the corporation for considering eco friendly raw material in green purchasing, transportation for raw materials, green packaging, green design and green product processing. So, all of the dimension needs to be integrated for better GSCM. Therefore achieved 65% for influenced sustainability performance considering eco friendly material will reduce harmful waste. While considering eco friendly transportation reduce carbon dioxide. So that reduce the impact to the society and climate change. But, in this research need consider dynamic capability for supporting product and process innovation. There for the future research need to add dynamic capability for increasing sustainability performance.

Companies from respondents' statements have assessed global environmental conditions where there is climate change. The company began to realize and implement eco-production steps. The company's concern in implementing GSCM is not only about financial performance but also environmental performance. Waste management standards in the green manufacturing process are aimed at improving water quality in the company's environment.

From the results of respondents' statements on environmental education and green information systems, the company cares that environmental issues are a shared responsibility. The company's concern for the environment is also carried out by increasing the capacity of managers and employees in participating in green concept development and training which is expected to strengthen eco-production processes. The similarity of the dimensions in the questions from the EC and GSCM results in a strengthening moderation and the actual impact of this moderation will improve the company's sustainability performance.

5. CONCLUSION

The results of this study indicate that the majority of manufacturing companies in Indonesia have adopted the GSCM process. The implementation of GSCM is proven to affect the company's performance from 4 sides, namely financial, social, production, and environmental. Business processes supported by an integrated and eco ERP system support the achievement of sustainability performance.

The implementation of GSCM in manufacturing companies in Indonesia must continue to be driven by the environmental consciousness of producers. If environmental consciousness does not grow from producers, then the contribution of preventing climate change from the manufacturing industry will not exist. This research strongly supports the implementation of an eco-business process and can contribute to suppressing climate change.

5.1. Implication

This research can be implemented in manufacturing companies to achieve sustainability performance. The implementation of GSCM in collaboration with the implementation of a system integration in ERP can support sustainable business processes. The implications for company management in this study also emphasize the importance of environmental consciousness for producers who can strengthen the implementation of GSCM and ERP. This research also has implications for regulations in regulating environmentally friendly production policies for manufacturing companies.

5.2. Limitations and Future Research

In this research doesn't discuss about explain bottleneck, challenges and regulation changes in GSCM implementation such as Indonesian regulation about logistic and distribution doesn't have guidance yet. It means all items will be limitation for this research. Beside that, the data collection process became the limitation too. This is about the existence of respondents' subjectivity in the questionnaire, at the time of filling out the questionnaire, became an imperfect process. About 15% to 17% of the total respondents were guided to fill in by the researcher. 83-85% of respondents are not guided by the researcher, so it has the possibility of the subjectivity of respondents who do not understand the intent of the questions asked in the questionnaire.

For further research, the dimensions of the GSCM can be developed that are adapted to the context of the country or nationality. Green supply chain processes and ERP will integration to reduce the risks that arise within the company. Further research can include risk management (ERM) as an independent variable associated with sustainability performance. Future research can also compare GSCM in other industries such as hotels, hospitals and multinational companies (MNCs). For the further, Coorporate governance scheme in GSCM need to develop.

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