



Sustainable Practices and Company Performance in Restaurant Business at PT XYZ: The Moderating Role Of Supply Chain Visibility

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ABSTRACT

The study was conducted to see the effect of sustainable practices and company performance on the restaurant business at PT XYZ: the moderating role of supply chain visibility. The population of this study is managerial level employees who work in PT XYZ restaurants located in Jabodetabek. Furthermore, the sample approach used is non-probability sampling, with the sampling strategy used in this study is purposive sampling. In this study, the minimum sample size used was 102 respondents. Then the method used in this research is the Partial Least Square (PLS) approach in Structural Equation Modeling (SEM). The results showed that sustainable procurement practices have a positive and significant effect on company performance. Then sustainable manufacturing practices have a positive and significant effect on company performance. Furthermore, supply chain visibility cannot moderate sustainable procurement and sustainable manufacturing on company performance in the restaurant business.



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INTRODUCTION

Food is a basic human need. However, current conditions show that one-third of food is lost or wasted and generally contributes to 1.3 billion tons of food waste annually (Food and Agriculture Organization of the United Nations, 2021). FAO categorizes food waste as food still fit for human consumption that is discarded at the retail or consumer level (Food and Agriculture Organization of the United Nations, 2021). This food waste contributes to 40% of the total waste in landfills, causing environmental degradation and becoming the largest contributor to waste in Indonesia (Waste Composition Page, 2021). On the other hand, the packaging industry in Indonesia is expected to reach 159.2 billion units by 2024 with a growth rate of 2.4%, and 44% of them are food products (GlobalData, 2021).

Food waste has not been well managed as an ecologically friendly waste, and consumers have abandoned sustainable consumption, as seen by the waste output. With US\$13.73 billion in export performance in the first quarter of 2020, Indonesia's food and beverage industry (hereinafter referred to as F&B) was the second-largest contributor to the nation's economic growth (Widaningrum et al., 2020). In addition, before the Covid-19 pandemic, the number of fast food outlets, transactions, and value of food services in Indonesia increased from 2012 to 2020 (Widaningrum et al., 2020). Thus, F&B is one of the most frequently used services by Indonesian consumers, especially middle-aged consumers with the highest average gross income (International, 2019) and F&B performance continues to increase. The food and beverage (F&B) industry is currently experiencing a sustainability trend. F&B operations seek to reduce environmental impacts and have a strategic role in fair trade and food security amidst climate change and resource pressures (Davis et al., 2018).

According to Dadhich et al. (2015), green practices have sustainable components in all phases of the product life cycle, including procurement, design, manufacturing and distribution. Thus, by implementing sustainable practices, F&B companies can reduce environmental impacts. However, when the company's performance in reducing environmental impacts is still low, this has the potential to increase environmental pollution and bring destruction to people's lives. Therefore, companies need

to improve and maintain the quality of performance in reducing environmental impacts, especially for the food and beverage industry in Indonesia.

Businesses in the F&B industry usually operate in a dynamic environment that is changing quickly. Therefore, ensuring these companies perform well is essential to assuring their long-term existence in the food and beverage industry. Additionally, the company's performance is crucial since it improves its industry competitiveness and secures its long-term existence (Lawrence-Chuku & Onuoha, 2022). The performance of an organization, or its capacity to successfully carry out efforts to achieve goals, is what mostly determines the success of food and beverage sustainability (Stritto et al., 2013). Due to the high demand for F&B goods in Indonesia, businesses must maintain stability, continue to safeguard consumers, and enhance sustainable standards (Bui et al., 2022).

In addition to being a market trend, the implementation of sustainable practices in the F&B industry also has an impact on the price of companies' products and services. Companies committed to social and environmental improvement may have to charge higher prices for their products due to the additional costs associated with sustainable practices (Sureeyatanapas et al., 2021). In Indonesia, the F&B sector involved in eco-labeling aims to achieve two things. First, they want to inform consumers about the environmental impact of their products and hope to change consumer behavior by enabling them to differentiate between more environmentally friendly products. Second, these efforts also aim to encourage the government, manufacturers and other stakeholders to be more concerned about the environmental impact of the products and services they offer (Sureeyatanapas et al., 2021).

Several studies have also shown that sustainable practices can reduce environmental impacts and at the same time improve firm performance (Pham et al., 2021; Sarfraz et al., 2021). Pham et al., (2021) revealed that the implementation of environmental, water, or waste management schemes can improve cost efficiency and thus increase corporate profits. However, the majority of businesses in this sector make considerable contributions to the development of environmental consequences, such as soil contamination, air pollution, and waste disposal, which have an influence on both the ecological system and total economic performance (Tseng et al., 2022). Other elements, such as subpar social justice, business accountability, and identity, may have detrimental effects, which include societal effects. In addition, protecting the environment and developing sustainable performance should be the primary basis for companies to reduce negative impacts on the environment and society.

One approach that can help companies achieve sustainability goals is to improve supply chain visibility (SCV). By making data accessible to all stakeholders, including customers, supply chain visibility plays a crucial role in bolstering supply chain networks. This can assist manufacturers in addressing issues such as supply shortage notifications from suppliers that can negatively impact business operations (Musa et al., 2014). Kurniawan et al. (2017) stated that SCV has a positive impact on supply chain effectiveness, which is one of the parameters of economic performance. The combination of increased effectiveness and efficiency will increase productivity, resulting in decreased costs and increased profits.

The results of previous research conducted by Galeazzo et al. (2021) menyatakan bahwa terdapat Hubungan positif antara pengadaan hijau dan kinerja keuangan hanya state that there is a positive relationship between green procurement and financial performance only occurs if there is a moderating effect of tourists' green purchasing behavior. Ghosh (2019) also discovered that management support, cooperation among suppliers, customer pressure, competitive pressure, and internal environmental concerns had a favorable impact on green procurement. According to study Gupta & Gupta (2020) the company's four key functional performances are positively and significantly impacted by environmental sustainability. In addition, Dubey et al. (2020) study's findings revealed that, when product complexity acts as a moderator, supply chain visibility significantly affects social and environmental performance.

Based on the phenomena that occur and comparison with previous research, the objectives achieved from this study are to determine 1) the effect of sustainable practices in procurement on company performance in the restaurant business. 2) the influence of sustainable practices in manufacturing on company performance in the restaurant business. 3) the effect of sustainable practices in procurement on company performance in the restaurant business moderated by supply chain visibility. 4) the effect of sustainable practices in manufacturing on company performance in the restaurant business moderated by supply chain visibility. The research is expected to provide extensive benefits for practitioners, academics, companies, and other stakeholders in advancing sustainable

practices in the F&B industry and increasing understanding of the linkages between sustainable practices and firm performance in the context of the restaurant business. With a better understanding of this, it is expected to create a more sustainable, environmentally friendly and high-performing F&B industry.

Based on the description and results of previous research as a whole, there are few studies that examine the correlation between sustainable practices and company performance. In addition, the interaction between supply chain visibility and sustainable practices on the performance of F&B companies has also not been fully investigated. Therefore, this proposed study will examine the effect of sustainable practices, particularly in sustainable procurement and production, on firm performance in the restaurant business with supply chain visibility as a moderating variable.

RESEARCH METHODS

The research approach used is quantitative. The population of this research is employees at the managerial level who work in PT XYZ restaurants located in Jabodetabek. Furthermore, the sample approach used is non-probability sampling, with the sampling strategy used in this study being purposive sampling. In this study, the minimum sample size used was 102 respondents. The data collection method uses questions on a questionnaire distributed to respondents via a google form questionnaire. The sample criteria set is to only select the managerial level as the sampling criteria.

This study consists of two independent variables, namely sustainable practices (procurement and manufacturing), one dependent variable, namely company performance, and one moderating variable, namely supply chain visibility. Measurement of procurement sustainability practices variable refers to Adekunle (2020) which consists of 5 indicators. Then the measurement of manufacturing sustainability practices variables refers to Adekunle (2020) which consists of 6 indicators. Measurement of company performance variables refers to Gadenne et al. (2002); Sezen & Cankaya (2013) which consists of 3 indicators. Meanwhile, the measurement of supply chain visibility variables refers to (Suh & Lee, 2018) which consists of 3 indicators. The method used in this research is the Partial Least Square (PLS) approach in Structural Equation Modeling (SEM).

The Theoretical Framework

The capacity to provide environmentally friendly product components and support the company's emphasis on sustainable goals are only two examples of how effective supplier selection is based on sustainable skills and competences (Hong et al., 2018). Additionally, purchasing strategies that incorporate the 3Rs in purchase orders, paper, and spare parts are the foundation of sustainable sourcing practices (Yildiz et al., 2019). With the help of the supply chain, and in combination with sustainable procurement procedures, environmentally friendly products are intended to be produced (Carter & Rogers, 2008). Thus, this study emphasizes the sustainable position of suppliers by implementing sustainable technologies.

H1: Sustainable procurement has a positive impact on company's performance in the restaurant business.

According to Vanalle et al. (2019), sustainable manufacturing practices include reducing hazardous materials, improving energy efficiency, practicing 3Rs, actively redesigning production processes, and minimizing waste. Specifically, manufacturers should facilitate, reuse, recycle, reduce, and collaborate to recover product components with the least amount of hazardous raw materials consumed during the production process (Chin et al., 2015; Green et al., 2012). In order to increase the long-term profitability of manufacturing enterprises, sustainable manufacturing methods are crucial (Yildiz et al. 2019). On the basis of the debate above, the following theories are put forth:

H2: Sustainable manufacturing has a positive impact on company's performance in the restaurant business.

SCV contributes to a company's supply chain performance improvement. By sharing data, SCV further enables businesses to track their products (Maghsoudi & Pazirandeh, 2016). By ensuring that all stakeholders, including consumers, have access to information and data, SCV seeks to build and improve supply chain networks (Lee & Rim, 2016). This well-maintained information enables companies to communicate and collaborate with supply chain partners effectively, thereby minimizing

uncertainty and risk in the procurement process. As a result, manufacturers view SCV strategies as a common commercial strategy for corporate sustainability problems. On the basis of the debate above, the following theories are put forth:

H3: Supply chain visibility moderates the effect of sustainable procurement on company's performance in the restaurant business.

Supply chain visibility strategies in the manufacturing sector can help address the challenges of an ever-changing and evolving environment (Hong et al., 2018). The three main components of SCV are learning, coordinating, and detecting visibility. Sensing visibility entails disseminating data about customer requirements, market trends, and product development (Suh & Lee, 2018). Therefore, estimating and verifying information is essential for making changes based on the client's demands and desires. In particular, sharing information about shared resources, such as new procedures, technologies, and creative practices, is referred to as learning visibility (Hult et al., 2003). As stated by Brandon-Jones et al. (2014) and Lai et al. (2015) visibility throughout the supply chain is crucial for enhancing environmentally friendly manufacturing practices and processes as well as business long-term performance. Consequently, supply chain transparency improves a business' capacity to fulfill its sustainability-related obligations. Based on the above discussion, the following hypothesis is proposed. H4: Supply chain visibility moderates the effect of sustainable manufacturing on company's performance in the restaurant business.

From the previous theoretical description, the research framework is presented as below:

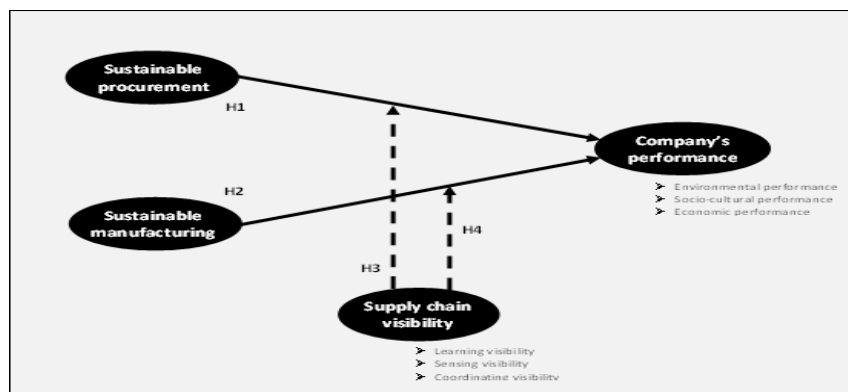


Figure 1 Conceptual Framework

RESULTS AND DISCUSSION

Respondent Characteristics

102 employee surveys at the managerial level are employed by PT XYZ Restaurant, according to the data collected, Table 1 shows more detailed demographic factors regarding gender, age, managerial level, and length of service can be seen in the following table.

Table 1 Respondent Demographics

Gender	Frequency	Percent
Male	99	97.05
Female	3	2.95
Total	102	100.0
Age	Frequency	Percent
20-30 years	22	21.6
30-40 years	62	60.8
> 40 years	18	17.6
Total	102	100.0
Managerial Level	Frequency	Percent
Outlet Manager	75	73.5
Restaurant Manager	27	26.5
Total	102	100.0
Length of Service	Frequency	Percent
< 5 years	5	4.9

Gender	Frequency	Percent
5-10 years	21	20.6
10-15 years	55	53.9
15-20 years	6	5.9
> 20 years	15	14.7
Total	102	100.0

The results of data analysis from the tables above present an overview of the demographics of respondents and the situation of employees in the PT XYZ company. The majority of respondents are male, reaching 97.05%, Furthermore, the majority of respondents are between 30-40 years old, which is 60.8%, In terms of position level, the majority of respondents occupy positions as outlet managers, reaching 73.5%, while restaurant managers account for 23.5%. Furthermore, the majority of respondents have work experience between 10-15 years, at 53.9%.

Then the questionnaire was processed using SmartPLS ver.3.2.1. Can be seen in Figure 2 which shows the SmartPLS version.3.2.1 model.

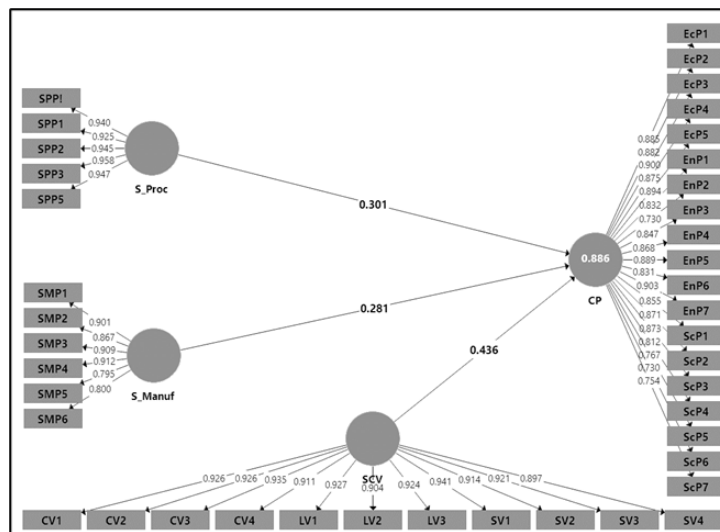


Figure 2 Model Structure

The measurement test results

Measurement model analysis ensures that the indicators used in measuring latent variables are valid and reliable before proceeding to the structural model analysis stage.

Table 2 Convergent Validity Assessment Results

Construct	AVE	Communality	Indicators	Loadings	Conclusion
Sustainable Procurement	0.889 > 0.5	0.889 > 0.5	SPP1	0.940 > 0.7	Valid
			SPP2	0.925 > 0.7	Valid
			SPP3	0.945 > 0.7	Valid
			SPP4	0.958 > 0.7	Valid
			SPP5	0.947 > 0.7	Valid
Sustainable Manufacturing	0.749 > 0.5	0.749 > 0.5	SPM1	0.901 > 0.7	Valid
			SPM2	0.867 > 0.7	Valid
			SPM3	0.909 > 0.7	Valid
			SPM4	0.912 > 0.7	Valid
			SPM5	0.795 > 0.7	Valid
			SPM6	0.800 > 0.7	Valid
Supply Chain Visibility	0.847 > 0.5	0.847 > 0.5	SV1	0.941 > 0.7	Valid
			SV2	0.914 > 0.7	Valid
			SV3	0.921 > 0.7	Valid

Construct	AVE	Communality	Indicators	Loadings	Conclusion
<i>Company Performance</i>	0.712 > 0.5	0.712 > 0.5	SV4	0.897 > 0.7	Valid
			LV1	0.927 > 0.7	Valid
			LV2	0.904 > 0.7	Valid
			LV3	0.924 > 0.7	Valid
			CV1	0.926 > 0.7	Valid
			CV2	0.926 > 0.7	Valid
			CV3	0.935 > 0.7	Valid
			CV4	0.911 > 0.7	Valid
			EnP1	0.832 > 0.7	Valid
			EnP2	0.770 > 0.7	Valid
			EnP3	0.847 > 0.7	Valid
			EnP4	0.868 > 0.7	Valid
			EnP5	0.889 > 0.7	Valid
			EnP6	0.831 > 0.7	Valid
			EnP7	0.903 > 0.7	Valid
			ScP1	0.855 > 0.7	Valid
			ScP2	0.871 > 0.7	Valid
			ScP3	0.873 > 0.7	Valid
			ScP4	0.812 > 0.7	Valid
			ScP5	0.767 > 0.7	Valid
			ScP6	0.780 > 0.7	Valid
			ScP7	0.764 > 0.7	Valid
			EcP1	0.885 > 0.7	Valid
			EcP2	0.882 > 0.7	Valid
			EcP3	0.900 > 0.7	Valid
EcP4	0.875 > 0.7	Valid			
EcP5	0.894 > 0.7	Valid			

Source: Results of Data Processing with SmartPLS 3.2.9 (2023)

It is known that all loading factor values of each indicator used have met the specified criteria, to measure all variables above 0.7. Because it has an outer loadings value > 0.7 and the AVE and communality values on the latent constructs of sustainable procurement, sustainable manufacturing, supply chain visibility, and company performance can exceed 0.5, therefore, it can be concluded that overall valid.

Table 3 Fornell-Larcker Criterion for Discriminant Validity

Construct	Company Performance	Supply Chain Visibility	Sustainable Manufacturing	Sustainable Procurement
Company Performance	0.884			
Supply Chain Visibility	0.866	0.921		
Sustainable Manufacturing	0.888	0.762	0.865	
Sustainable Procurement	0.872	0.720	0.914	0.943

Source: Results of Data Processing with SmartPLS 3.2.9 (2023)

Overall, most latent constructs in this study have an AVE square root value greater than the correlation value. Thus, it can be concluded that the results of the discriminant validity check on the measurement model test through the Fornell-Larcker criterion on the latent constructs in this study have discriminant validity values.

Table 4 The Value of Internal Consistency Reliability

Construct	Composite Reliability	Cronbach's Alpha	Conclusion
Company Performance	0.979 \geq 0.70	0.977 \geq 0.60	Reliable
Supply Chain Visibility	0.984 \geq 0.70	0.982 \geq 0.60	Reliable
Sustainable Manufacturing	0.947 \geq 0.70	0.932 \geq 0.60	Reliable
Sustainable Procurement	0.976 \geq 0.70	0.969 \geq 0.60	Reliable

Source: Results of Data Processing with SmartPLS 3.2.9 (2023)

Each variable in the research model has a composite reliability value over 0.7, according to the research model's composite reliability value, and each variable has a Cronbach's alpha value above 0.6, according to the research model's Cronbach's alpha value. These findings indicate that Cronbach's alpha and composite reliability requirements were satisfied by the study model.

The structural model test results

The structural model seeks to anticipate the link between latent constructs at the assessment stage. The following are the outcomes of the structural model test:

Table 5 Predictive Relevance

Observation	$Q^2_{included}$	$Q^2_{excluded}$	q^2	Predictive Relevance
Sustainable Procurement \rightarrow Company Performance	0.626	0.616	0.010	Small
Sustainable Manufacturing \rightarrow Company Performance	0.626	0.618	0.008	Small
Supply Chain Visibility \rightarrow Company Performance	0.626	0.570	0.056	Small

Source: Results of Data Processing with SmartPLS 3.2.9 (2023)

Based on the analysis, it can be concluded that the exogenous variables, namely sustainable procurement, sustainable manufacturing, and supply chain visibility, have a small influence on the endogenous variable of company performance. Although the effect is relatively small, the results show that these variables still have positive predictive relevance to company performance.

Hypothesis Testing

The t-statistic value is employed in this study's hypothesis testing; hence, for $\alpha = 5\%$, the t-statistic value used is 1.96. As a result, if the t-statistic is greater than 1.96, the hypothesis is accepted and the hypothesis is rejected. The path coefficient output from the bootstrap resampling results is examined to evaluate hypotheses:

Table 6 Path Coefficient, t-Statistics, dan P-Values Result

	Original Sample	T Statistics	P-Values	Conclusion
<i>Sust_Proc</i> -> <i>Company Performance</i>	0.291	2.847	0.002	H1 Accepted
<i>Sust_Manuf</i> -> <i>Company Performance</i>	0.288	2.150	0.016	H2 Accepted
<i>Sust_Proc</i> * <i>Supply Chain Visibility</i> -> <i>Company Performance</i>	-0.021	0.213	0.416	H3 Not Accepted
<i>Sust_Manuf</i> * <i>Supply Chain Visibility</i> -> <i>Company Performance</i>	0.017	0.152	0.440	H4 Not Accepted

Source: Results of Data Processing with SmartPLS 3.2.9 (2023)

The results of hypothesis testing can be summarized as follows:

H1: It is known that the original sample value is 0.291 with a t-statistic of 2.847 (>1.64) and a p-value of 0.002 (<0.05). This shows that H1 is accepted, it is concluded that sustainable procurement has a positive influence on company performance in the restaurant business.

- H2: The original sample value is 0.288 with a t-statistic of 2.150 (>1.64) and a p-value of 0.016 (<0.05). This shows that H2 is accepted, it is concluded that sustainable manufacturing has a positive influence on company performance in the restaurant business.
- H3: The original sample value is -0.021 with a t-statistic of 0.213 (<1.64) and a p-value of 0.416 (>0.05). This shows that H3 is not accepted, it is concluded that supply chain visibility cannot moderate sustainable procurement on company performance in the restaurant business.
- H4: The original sample value is 0.017 with a t-statistic of 0.152 (<1.64) and a p-value of 0.440 (>0.05). This shows that H4 is not accepted, it is concluded that supply chain visibility cannot moderate sustainable manufacturing on company performance in the restaurant business.

Discussion of Research Results

The results of testing the first hypothesis show that sustainable procurement has a positive influence on company performance in the restaurant business. This shows that sustainable procurement practices are a comprehensive approach in the supply side that is effective to select suppliers who have sustainable capabilities and competencies, such as developing environmentally friendly product parts and supporting companies in achieving sustainable goals. This approach is based on buying practices that include 3R principles into purchase orders, paper use, and spare parts. In line with circular economy theory, this practice focuses on transforming waste into valuable resources so that it can be concluded that sustainable procurement practices can improve cost efficiency, achieve environmental goals, and create compatibility in the supply chain network. The results of this study are in line with research conducted by Yildiz et al. (2019) which states that sustainable procurement has a significant positive effect on company performance.

The results of testing the second hypothesis show that sustainable manufacturing has a positive influence on company performance in the restaurant business. This shows that the implementation of sustainable manufacturing practices, such as reducing hazardous chemicals, increasing energy efficiency, and implementing the 3R concept (reduce, reuse, recycle), has a positive and significant impact on company performance in the restaurant industry. According to Chin et al. (2015) this approach encourages manufacturers to activate, reuse, recycle, minimize, and collaborate to recover product components with the least amount of hazardous raw materials consumed during the production process (As a result, sustainable manufacturing practices are an important component in improving the sustainability of manufacturing companies (Yildiz et al. 2019). This finding is consistent with Vanalle et al. (2019) who stated that sustainable manufacturing improves firm performance.

The results of testing the third hypothesis show that supply chain visibility cannot moderate sustainable procurement on company performance in the restaurant business. This shows that the interaction between supply chain visibility and sustainable procurement practices does not have a moderating effect or change the effect of both on company performance in the restaurant business. Many factors can cause these conflicting results, one of which is the limited number of respondents. In addition, based on respondents' answers to qualitative questions related to supply chain visibility, there are limitations in coordinating visibility related to product tracking systems from suppliers. Coordinating visibility helps to explore and mitigate risks and alerts associated with information sharing among supply chain network members (Cao & Zhang, 2011). Therefore, information flow is one of the important factors that can ensure transparency across the supply chain network in line with sustainable practices (Suh & Lee, 2018). However, based on the results of this study, restaurants do not have access to track product delivery from suppliers to restaurants, even though product delivery is an important part of the procurement process to ensure the continuity of the next business process, namely production activities.

The results of testing the fourth hypothesis show that supply chain visibility cannot moderate sustainable manufacturing on company performance in the restaurant business. This shows that there is no significant interaction between supply chain visibility and sustainable manufacturing practices on company performance in the restaurant business. The implementation of supply chain visibility tactics is important in the manufacturing industry to address environmental changes and issues. In this case, Supply Chain Visibility (SCV) integrates visibility sensing, learning, and coordination to optimize the supply chain (Cao & Zhang, 2011). However, in the context of the restaurant business, there are limitations in coordinating supply chain visibility, causing difficulties for restaurants to track product deliveries from suppliers.

CONCLUSION

Referring to the research results that have been explained, it can be seen that sustainable procurement practices have a positive and significant effect on company performance. Then sustainable manufacturing practices have a positive and significant effect on company performance. Furthermore, supply chain visibility cannot moderate sustainable procurement and sustainable manufacturing on company performance in the restaurant business. The limitation in this study is that the sample used is only in one company, PT XYZ, which has 204 restaurants in Jabodetabek and the sample collected is 102 respondents. so that it does not reflect the conditions widely and cannot describe the actual situation. Based on the results and limitations of this study, it is suggested that it can be used as input for companies to carry out what should be done in implementing sustainable practices to improve company performance and mitigate risks related to environmental impacts. Then for future research recommendations, the addition of control variables can improve research results, such as environmental policy restrictions and waste management data in restaurants. In addition, the number of respondents can be increased for future research to better reflect the overall population.

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