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Analysis of the Influence of Green Input, Green Process, and Green Product on Economic Performance at PT Herba Emas Wahidatama

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ABSTRACT

***Objectives**: The impact of production on the traditional medicine industry and efforts to preserve environmental and economic performance. Therefore, this study aims to analyze the effects of green inputs, green processes, and green products on the financial performance of PT Herba Emas Wahidatama.*

***Methodology**: This study uses a quantitative method. Sampling was carried out using saturated sampling, collecting data from 60 personnel from various departments who are actively involved at PT Herba Emas Wahidatama. The analysis and hypothesis testing techniques used SEM-PLS with the SmartPLS 4.0 program.*

***Finding**: The results of this study indicate that the green input carried out by PT Herba Emas Wahidatama has a significant influence on economic performance, as indicated by one of its key indicators, namely raw material control, using the FIFO and FEFO methods. Meanwhile, the processed data on the green process variable applied to PT Herba Emas Wahidatama also has a significant impact on economic performance, as indicated by the efficient energy use indicator in the production process, which utilizes solar panels. The green product variable applied to PT Herba Emas Wahidatama has a significant effect on economic performance, which is indicated by one of the indicators, namely product certification, including product certification from BPOM in the form of CPOTB (Good Traditional Medicine Manufacturing Practices) and CPPOB (Good Processed Food Production Practices), Halal MUI, and several ISO standard certifications starting from its commitment to SMM ISO 9001:2015, SMK3 45001, and SML 14001.*

***Conclusion**: The better the implementation of green input, processes, and products, the more sustainable and competitive the economic performance of PT Herba Emas Wahidatama will be in its market.*

***Keywords**: Economic Performance; Green Input; Green Process; Green Product.*

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INTRODUCTION

Uncontrolled industrial growth and lack of attention to environmental preservation have caused significant damage to the Earth's ecosystem. Various human activities, from the agricultural sector to business and economics, have negative impacts on the environment, both directly and indirectly. The consequences include climate change, environmental degradation, and the depletion of natural resources, all of which threaten human well-being and the sustainability of life in the future (Legionosuko et al., 2019). Nayyar and Kumar (2020) stated that industrial areas, as one of the main pillars of the economy in many countries, have a significant contribution to the environmental problems currently faced. Indonesia is one of the countries presently developing green innovations. Indonesia has great potential to implement the concept of green innovation, supported by abundant natural resource wealth and the urgent need to switch to renewable energy. However, green innovation in Indonesia is still hindered by a lack of infrastructure, low investment, weak law enforcement, and inadequate public awareness. (Dewi and Rahmianingsih, 2020). Therefore, structured strategic steps are necessary to address various challenges and maximize the potential for sustainable economic growth through the implementation of green innovation (Styawati et al., 2023). Green innovation is a series of production processes carried out by companies through environmentally friendly innovations (Chen et al., 2006). Green innovation in practice encompasses three primary aspects: green input, green process, and green product. The level of implementation of green innovation in Indonesia can be evaluated through various surveys, the results of which serve as the basis for companies to obtain green industry certification from international non-governmental organizations, such as the International Organisation for Standardisation (ISO). PT Herba Emas Wahidatama, a traditional medicine company, has adopted international standards such as ISO 14001, which not only demonstrates compliance with environmental regulations but also strengthens the company's position in global market competition.

Green innovation can make a significant contribution to improving economic performance by optimizing company productivity, increasing operational efficiency, and creating market opportunities through the development of innovative products (Sugiharto and Alhazami, 2023). According to Hayfa and Berlian (2024), green innovation in the manufacturing sector focuses on utilising efficient and sustainable resources in its production process, aligning with the concept of making Indonesia 4.0. The growth of the pharmaceutical and traditional medicine industry by 8.01% in the second quarter of 2024 can contribute to a 18.52% increase in the non-oil and gas industry (Kemenperin, 2024). Based on Law Number 3 of 2014 concerning industry, articles 77-83, industries in Indonesia are required to process natural resources efficiently, in an environmentally friendly manner, and sustainably. This law governs the management of all industrial activities. The production process is always related to and dependent on the environment, so industrial activities will continue to maintain balance and provide benefits to the environment through their production function. This has been achieved by PT Herba Emas Wahidatama through the creation of significant operational efficiency, resulting in a 16.27% reduction in annual total operating energy (TOE). This efficiency reduces production costs and increases productivity, enabling the company to produce competitive products in terms of both price and quality.

Production activities in the manufacturing sector, such as those carried out by PT Herba Emas Wahidatama, have the potential to pose environmental risks, particularly in terms of waste management during the production process. The primary product of PT Herba Emas Wahidatama is Minyak Herba Sinergi (MHS), which generates solid waste in the form of herbal

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residues and liquid waste during its production process, resulting from the washing and extraction stages. Although liquid waste has undergone the processing stages at the IPAL, the effectiveness of its overall management still raises concerns, especially regarding the potential for pollution to the surrounding environment. In addition, suboptimal solid waste management can lead to local air pollution in the form of pungent odours, thereby creating discomfort for the surrounding community. These environmental impacts can have a direct effect on agricultural productivity in the surrounding industrial area and trigger social pressure from communities that rely on agricultural products for their livelihoods. Decreasing harvest yields in terms of both quantity and quality will have an impact on the social and economic aspects of the local community. Therefore, the adoption of a green industry approach is a strategic step that PT Herba Emas Wahidatama should implement comprehensively in response to the negative impacts of its production activities on the surrounding environment. Based on the description above, this study is titled "Analysis of the Influence of Green Input, Green Process, and Green Product on Economic Performance at PT Herba Emas Wahidatama." The purpose of this study is to analyse the impact of green inputs, green processes, and green products on the economic performance of PT Herba Emas Wahidatama.

LITERATURE REVIEW

Sustainable agriculture

Sustainable agriculture refers to the sustainable use of resources, such as land, water, and plant materials, for production activities that can produce agricultural products economically while providing benefits to the environment. Sudaryanto et al. (2018) explain agriculture as follows: "A sustainable agricultural production system can meet the needs of food, feed, and fibre for national needs, and provide economic benefits for business actors, so as not to damage natural resources for the future. In addition, Francis and Youngberg (1990) define sustainable agriculture as a theory based on goals and understanding that can provide long-term impacts through increased productivity and maintenance of environmental quality. Essentially, the concept of sustainable agriculture is founded on three pillars: economic, social, and ecological (Suanda et al., 2020). The existence of these principles and guidelines aims to provide a framework for sustainable agricultural practices that allow the agricultural industry to develop while reducing environmental impacts and supporting social justice. The relationship between sustainable agriculture and the green economy can have a positive impact on sustainable development by mitigating environmental risks and ecological scarcity, while promoting economic growth.

Production and Operational Management

Saragih (2024) characterises operational management as an aspect of design and continuous improvement that encompasses the development and refinement of systems, processes, and workflows to efficiently and effectively create products that meet consumer needs. However, the context of sustainability in question is that operational management is a company's effort to minimise its negative impact on the surrounding natural environment and achieve sustainability through resource and operational management. This definition emphasises corporate social responsibility and the role of operational management in managing environmental impacts.

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Green Input

Green input focuses on aspects of cost, efficiency, and optimal customer service quality while also considering the minimisation of adverse environmental impacts (Achillas, 2019). Green input is an innovation in implementing an environmentally oriented supply chain strategy, covering various activities such as reduction, recycling, reuse, and material substitution. The empirical reality in many industries suggests that supply chain decisions are often driven by considerations of cost and the availability of raw materials, rather than environmental sustainability. Research by Raharjo (2019) suggests that many companies only partially apply green inputs because the cost of substituting environmentally friendly raw materials is still considered expensive and uncompetitive.

Green Process

Meeus and Hage (2006) stated that the green process is an approach that considers environmental impacts at every stage of the manufacturing process. The production process is an activity in which value is created or added to goods and services using elements such as machinery, labour, and raw materials (Assauri, 2008). The implementation of Green processes by companies can improve product quality and expand markets (Wang et al., 2021). Previous research is also in line with that conducted by Karmagatri et al. (2023), which suggests that green processes enable companies to reduce emissions, waste, and resource consumption. However, Christian and Alhazami (2023) found that green processes do not have a significant impact on green competitive advantage, especially when the market does not yet sufficiently appreciate sustainable production processes.

Green Products

Green products emerged as a response to the increasing problems of global warming, pollution, and waste. As a result, consumers are increasingly committed to buying environmentally friendly products as part of their concern for environmental issues. According to Tonay and Murwaningsari (2022), green products are environmentally friendly products that have a positive impact on the environment. This statement aligns with Alharthey's (2019) opinion, who stated that "A Green product is a product that is made in an environmentally friendly manner, having least negative effects, the product can be recycled, saves natural resources and is prepared locally." However, this also contradicts consumer behaviour studies, which show that the intention to buy green products is not always translated into actual action. Chen and Chai (2010) stated that a green attitude-behaviour gap exists, namely the discrepancy between positive attitudes towards environmentally friendly products and actual purchasing decisions, particularly when the price of green products is higher or the information is less clear.

Economic Performance

Economic performance is a measure of a company's success in achieving its goals. Mariyamah and Handayani (2020) stated that a company's economic performance can be seen from its ability to consider stakeholder interests. This is important so that companies can achieve economic success while maintaining the sustainability of their businesses. Relevant information to measure economic performance can be obtained from various sources, including annual reports, stock market news, company financial analyses, management information, and other non-financial data (Chvatalová et al., 2011). In specific contexts, green innovation can indeed be a differentiation strategy, but it does not necessarily guarantee increased economic performance if the business ecosystem does not support it. Research by Xie et al., (2019)

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indicates that the impact of green innovation on financial performance is significantly influenced by the presence of green social capital and green consumer needs rather than technical innovation alone.

METHOD

This study examines the influence of green industry, green processes, and green products on economic performance. Therefore, this study employs a quantitative method, utilizing primary data collected through questionnaires distributed directly and supplemented by secondary data. The determination of the location was done intentionally (purposive sampling) with specific considerations in mind. In this case, PT Herba Emas Wahidatama, located on Jl. Gerilya, Kalikabong Village, Kalimanah District, Purbalingga Regency, Central Java, was chosen because it has implemented the principles of green industry and has an organizational structure and production process that are relevant to the research variables. This selection is also supported by the geographical proximity to the community's agricultural environment, making the issue of sustainability and company performance an interesting topic to study.

This sampling technique employs a saturated sampling method, where all members of the population are used as research samples. In this study, the sample consisted of 60 personnel from various departments at PT Herba Emas Wahidatama who were directly or indirectly involved in implementing green industry practices within the company environment. Additionally, each member of the population is considered to have an important perspective and relevant data related to the research variables. With saturated sampling, researchers can minimize the potential for bias in sample selection and increase the accuracy of generalization of results within the scope of the company that is the object of the study. This technique also allows for stronger internal validity because all population perceptions are obtained directly without taking a subset.

This study employs the SEM-PLS (Structural Equation Modeling – Partial Least Squares) analysis method using the SmartPLS 4.0 program. This method was chosen because it employs a variant-based structural equation model approach, which enables confirmation of the theory and explanation of the relationship between latent variables. This study involves 3 (three) independent variables, namely green input (X1), green process (X2), and green product (X3), and 1 (one) dependent variable, namely economic performance (Y). Each variable is explained as follows:

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Table 1 Variable Operationalization

Variable	Definition Variable	Operationalization Indicator
Green Input (X1)	Use of materials that are safe for the environment in industrial processes, both as main raw materials and substitute materials, taking into account sustainability (renewable) aspects (Zulkifli, 2018).	X.1.1 Environmentally friendly certified supplier X.1.2 Characteristics of raw materials X.1.3 Composition of raw materials X.1.4 Control of materials
Green Process (X2)	Stages of the production process are designed by taking into account the overall environmental impact, aiming to minimize negative effects on the ecosystem (Padmalia, 2018)	X.2.1 Efficient energy use X.2.2 Waste management X.2.3 Waste Utilization X.2.4 Emission reduction X.2.5 Utilities and Maintenance
Green Product (X3)	Products that have environmentally friendly indicators (T. B. Chen & Chai, 2010)	X.3.1 Use packaging that is easy to describe X.3.2 Existence of eco-labels X.3.3 Product durability X.3.4 product certification
Economic Peformance (Y)	Economic Performance (Y) A comprehensive picture of an organization operating and achieving its goals (Xie et al., 2019)	Y.1.1 Increased productivity Y.1.2 Creating Efficiency Y.1.3 Achievement of strategic targets Y.1.4 Creation of opportunities

The Structural Equation Modeling (SEM) method, based on Partial Least Squares (PLS), utilizes SmartPLS 4.0 software and involves three main stages: evaluation of the measurement model (outer model), assessment of the structural model (inner model), and hypothesis testing. The outer model serves to determine the extent to which the observed indicators accurately reflect a particular latent construct. This measurement model represents the relationship between indicators and their corresponding constructs in a single block and is used to test the validity and reliability of the research instrument. Meanwhile, the inner model or model explains the structural relationship between latent constructs based on the underlying theoretical framework. This model plays a role in estimating and predicting causal relationships between latent variables, enabling the testing of the proposed hypothesis.

RESULTS AND DISCUSSION

Outer Model

Ghozali & Latan (2015), the measurement model (outer model) is used to evaluate the construct validity and reliability of the research instrument. This evaluation is conducted through a series of analyses that include convergent validity tests, discriminant validity tests, and construct reliability assessments. The outer model represents the relationship between each indicator in one block and the latent construct it measures.

Convergent Validity Test

Convergent validity is determined by the loading factor value of each indicator against its corresponding construct. In the context of confirmatory research, the recommended loading factor value is more than 0.70. For exploratory study, a value between 0.60 and 0.70 is still acceptable, while in initial research, a value between 0.50 and 0.60 is considered adequate. In addition, convergent validity can also be assessed through the Average Variance Extracted (AVE) value, with a minimum criterion of > 0.50 (Ghozali & Latan, 2015).

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Discriminant Validity Test

Discriminant validity is a form of measurement carried out by evaluating reflective indicators through cross-loading values against constructs, where the ideal value that must be achieved is > 0.70 (Ghozali & Latan, 2015). Based on the results of data processing that has been carried out (Table 2), the results obtained that all variables studied, namely green input (X1), green process (X2), green product (X3), and economic performance (Y), have convergent validity and discriminant validity values above 0.70. Thus, it can be concluded that all constructs used in this study are declared valid and have met the established measurement criteria.

Table 2 Discriminant Validity

	Discriminant Validity			
Variable Indicators	*Green Input* (X1)	*Green Process* (X2)	*Green Product* (X3)	*Economic Performance* (Y)
X.1.1	0.803	0.416	0.362	0.470
X.1.2	0.884	0.412	0.358	0.565
X.1.3	0.853	0.485	0.391	0.393
X.1.4	0.915	0.628	0.510	0.692
X.2.1	0.534	0.943	0.411	0.77
X.2.2	0.458	0.901	0.330	0.534
X.2.3	0.449	0.899	0.305	0.467
X.2.4	0.575	0.892	0.359	0.567
X.2.5	0.578	0.924	0.322	0.510
X.3.1	0.346	0.339	0.754	0.525
X.3.2	0.383	0.259	0.763	0.463
X.3.3	0.348	0.249	0.783	0.525
X.3.4	0.482	0.398	0.794	0.428
Y.1	0.685	0.563	0.547	0.773
Y.2	0.464	0.444	0.548	0.881
Y.3	0.382	0.389	0.472	0.869
Y.4	0.559	0.545	0.461	0.869

Source: Data processed with the SmartPLS 4.0 application (2025)

Reliability Test Results

Table 3 Reliability Test Results

Variable	***Cronbach's Alpha***	***Composite reliability (rho_a)***	***Composite reliability (rho_c)***
Economic performance (Y)	0.872	0.876	0.912
Green input (X1)	0.888	0.927	0.922
Green process (X2)	0.949	0.953	0.961
Green product (X3)	0.822	0.828	0.883

Source: Data processed with the SmartPLS 4.0 application (2025)

Based on the table above, Cronbach's Alpha and Composite Reliability values show results that meet the reliability eligibility criteria, specifically values above 0.70. Therefore, the instrument in this study has a good level of reliability.

Inner Model

The structural model, also known as the inner model, is used to predict causal relationships between latent variables (Ghozali & Latan, 2015). Latent variables, as theoretical constructs that cannot be measured directly, are operationalized through empirical indicators.

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R – Square Test Results

The determination coefficient (R-squared) is used to measure the extent to which the independent variables influence the dependent variable. An R-Square value of 0.25 is categorized as a weak influence, 0.33 as a moderate influence, and 0.67 or more indicates a strong influence (Ghozali & Latan, 2015).

Table 4 R – Square Test

Variable	*R Square*	*R Square Adjusted*
Economic Performance (Y)	0.571	0.548

Source: Data processed with the SmartPLS 4.0 application (2025)

Based on the table above, it is known that the research results on the economic performance variable have an R - Square value of 0.571. This means that the percentage of economic performance variables influenced by green input, green process, and green product is 57.1%, and the remaining 42.9% is influenced by other variables not examined in this research, such as green marketing, environmental management accounting, green human resources management, and so on.

Effect Size Test Results (f – Square)

Effect Size is carried out to determine the influence of variable X on variable Y. The f – Square value ranging from 0.02-0.14 is said to be weak, 0.15-0.35 indicates the variable has a moderate (quite good) influence, and is said to have a strong influence if the value is > 0.35.

Table 5 f – square

Green Input (X1) > *Economic Performance* (Y)	0.136
Green Process (X2) > *Economic Performance* (Y)	0.114
Green Product (X3) > *Economic Performance* (Y)	0.217

Source: Data processed with the SmartPLS 4.0 application (2025)

Based on the research results, the f – Square value for the green input variable (0.136) and the green process variable (0.114) has a weak effect on economic performance. Meanwhile, the green product variable (0.217) has a high influence on economic performance.

Hypothesis Test Results

Hypothesis testing is carried out by looking at the significance value to determine the influence between variables through statistical calculations with bootstrapping. The significance value can be seen from the T-Statistics value and the P-Values value.

Table 6 Hypothesis Testing

Laten Variables	*Loading Factor*	T-Statistik	*Cut-off*	*P-Values*	Description
Green Input (X1) > *Economic Performance* (Y)	0.313	2.881	1,96	0.004	Positive and signifikan
Green Process (X2) > *Economic Performance* (Y)	0.273	3.259	1,96	0.001	Positive and signifikan
Green Product (X3) > *Economic Performance* (Y)	0.351	2.907	1,96	0.004	Positive and signifikan

Source: Data processed with the SmartPLS 4.0 application (2025)

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The Effect of Green Input on Economic Performance

The results indicate that green input has a significant impact on economic performance. The data presented indicate that the value of the path relationship obtained is 0.273, and the T-statistic value for the green input on economic performance is 2.881. The influence on these variables is also supported by green input indicators such as environmentally friendly certified suppliers, characteristics, composition, and raw material control. Of the four indicators, the one with the highest influence is the raw material control indicator, with a cross-loading value of 0.915. This demonstrates that the control of raw materials carried out by PT Herba Emas Wahidatama is effective, resulting in improved quality of the final product and reduced production costs. PT Herba Emas Wahidatama has implemented raw material control systems, including FIFO (First-In, First-Out) and FEFO (First Expired, First Out), through the Enterprise Resource Planning (ERP) software Odoo. Raw material control is crucial for companies to maintain stable raw material availability, enabling them to meet market demand (Sumiati and Susanto, 2021). Mariyamah and Handayani (2020) stated that raw material control can minimize operational costs.

Other indicators also play a role in influencing economic performance, such as certified environmentally friendly suppliers. By choosing environmentally friendly suppliers, companies can ensure that the characteristics and composition of the raw materials used meet the company's production standards and do not contain hazardous chemicals. Some raw materials taken from selected environmentally friendly suppliers include kencur rhizome, cinnamon, sambiloto, mint leaves, Javanese chili, date palm extract, habbat honey, and forest honey. The use of organic raw materials can be an attraction for consumers who are already aware of the environmentally friendly concept (Aditya and Atasa, 2024). The findings of Padmalia (2018) support the results of this study, which suggest that the characteristics and composition of product raw materials are primary considerations for consumers when purchasing products and that companies can comply with industry regulations while increasing market competitiveness.

The Influence of the Green Process on Economic Performance

Based on the analysis results, it is evident that the green process has a significant impact on economic performance. This influence is evident from the path coefficient of 0.273, with a T-statistic value of 3.259. The influence of these variables is supported by green process indicators, including efficient energy use, effective waste management, waste utilization, emission reduction, and utilities and maintenance. The indicator with the most decisive influence is the efficient use of energy in the production process, with a cross-loading cross-loading value of 0.943. Efficient use of energy can reduce dependence on resources while also reducing carbon emissions generated during the production process. The implementation of energy efficiency in the production process at PT Herba Emas Wahidatama can be achieved through the use of solar panels for office electricity, resulting in savings on electricity, water, and fuel. This aligns with the global trend of increasingly prioritizing environmentally friendly business practices, thereby enhancing the company's image in the eyes of consumers and other stakeholders (Cahyaningsih et al., 2024). By ensuring that energy consumption is managed optimally, PT Herba Emas Wahidatama can achieve better and more sustainable economic performance.

The waste management and utilization indicators have also been implemented by PT Herba Emas Wahidatama, as evidenced by the warehouse department's efforts, which include innovating to reduce paper usage in raw material release labels. The efficiency of paper use can reduce company costs in the form of stationery expenses, thereby lowering the company's

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overall operational costs. The commitment to implementing environmentally friendly processes must be carried out properly by company owners through minimization actions such as minimizing waste (Sumiati and Susanto, 2021). PT Herba Emas Wahidatama has been committed to implementing this innovation since 2024. The development of green products and services can produce positive externalities on the environment and save costs (Mariyamah and Handayani, 2020).

PT Herba Emas Wahidatama has implemented environmental management and sustainable utility control, encouraging the company to further increase productivity without compromising operational efficiency. The implementation of more efficient green processes within the company has a positive impact on improving economic performance. This is because the green process enables the company to achieve its targets through efficient resource management, thereby encouraging further productivity increases (Mariyamah and Handayani, 2020). The green process not only reduces environmental impacts but also affects maintenance and utilities, which can impact the company's operational costs and financial statements (Sumiati and Susanto, 2021).

The Influence of Green Products on Economic Performance

Based on the analysis results, it is evident that green products have a significant impact on economic performance. This influence is evident from the path coefficient of 0.351, with a T-statistic value of 2.907. There is an influence on the green product variable, including the use of easily decomposable packaging, the presence of eco-labels, product durability, and product certification. Of the four indicators, the cross-loading value of the product certification indicator is excellent. This is evidenced by the existence of products that have been tested and verified by authorized institutions. This study is proven by companies that have obtained product certification from BPOM in the form of CPOTB (Good Traditional Medicine Manufacturing Practices) and CPPOB (Good Processed Food Production Practices), Halal MUI, and several ISO standard certifications starting from their commitment to SMM ISO 9001: 2015, SMK3 45001, and SML 14001. This finding aligns with the research of Sumiati and Susanto (2021) which suggests that ISO standardization, particularly ISO 14001, plays a crucial role in supporting environmental protection and pollution prevention while balancing social and economic considerations. The existence of multiple certifications helps companies achieve high product sales and gain a competitive advantage.

PT Herba Emas Wahidatama also has the ability to innovate so that it can produce products PT Herba Emas Wahidatama can also innovate to produce products with various variations and the best quality, making the product competitive in its market. Environmentally friendly products provide benefits for the environment and consumers. Good-quality, helpful, and competitive products will attract consumers' attention, thereby increasing demand for these products (Mariyamah and Handayani, 2020). This study aligns with Raharjo (2019) research, which suggests that green products have a significant impact on the economic performance of batik SMEs. In these SMEs, the implementation of environmentally friendly products provides long-term benefits, including cost savings due to the eco-label and an improved company image. Overall, the implementation of green products in each company not only benefits the environment but also contributes to improving the company's economic performance. Therefore, investing in environmentally friendly products can be a profitable strategy for companies in the long term.

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CONCLUSION

Based on the research results, it can be concluded that the green input that has been carried out by PT Herba Emas Wahidatama has a significant influence on economic performance, which is indicated by one of its indicators, namely raw material control using the FIFO and FEFO methods. Meanwhile, the results of data processing on the green process variable applied to PT Herba Emas Wahidatama also have a significant effect on economic performance, which is indicated by the indicator of efficient energy use in the production process through the use of solar panels. The green product variable applied to PT Herba Emas Wahidatama has a significant effect on economic performance, which is indicated by one of the indicators, namely product certification including product certification from BPOM in the form of CPOTB (Good Traditional Medicine Manufacturing Method) and CPPOB (Good Processed Food Production Method), Halal MUI, and several ISO standard certifications starting from its commitment to SMM ISO 9001: 2015, SMK3 45001, and SML 14001.

Academic Advice

This research has many indicators that can influence the results of data processing as well as factors that can influence the accuracy of the data. This research can be developed by deepening the research topic and expanding variables such as green marketing, environmental management accounting, and green human resources management to provide a more comprehensive understanding of environmentally friendly production processes. Using different points of view can be used to gain deeper insights.

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