
An Integrative Model of Green Marketing and Green Human Resource Management in Improving MSME Performance through Operational Efficiency and Financial Performance
(Study on MSMEs in Banjarmasin City, South Kalimantan)

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Abstract

The demand for integrating environmental sustainability and improving business performance is a strategic challenge for Micro, Small, and Medium Enterprises (MSMEs) in river basins. This study aims to analyze the influence of Green Marketing and Green Human Resource Management (GHRM) on the Financial Performance of MSMEs in Banjarmasin City by positioning Operational Efficiency as a mediating variable. The research approach uses mixed methods with an explanatory sequential design. The quantitative stage involves a structured questionnaire survey to MSME owners/managers and is analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) via SmartPLS. The qualitative stage continues through in-depth interviews, observations, and documentation that are analyzed descriptively thematically. The results of structural testing indicate that Green Marketing ($\lambda = 0.289$) and GHRM ($\lambda = 0.496$) have a significant positive effect on Operational Efficiency, and contribute directly to Financial Performance by 0.496 and 0.381, respectively. Operational Efficiency is also proven to significantly mediate the improvement of Financial Performance ($\beta = 0.226$). The coefficient of determination value recorded that the combined variables were able to explain 53.3% of the variance in Operational Efficiency ($R^2 = 0.533$) and 75.7% of the variance in Financial Performance ($R^2 = 0.757$). Qualitative findings confirmed that the synergy of implementing environmentally friendly packaging, production energy efficiency, and a green work culture successfully reduced raw material waste and increased market competitiveness. This study concluded that implementing green business is not merely fulfilling environmental responsibilities, but an investment strategy proven to improve the financial performance of MSMEs sustainably.

Keywords: Operational Efficiency, Green Human Resource Management, Green Marketing, Financial Performance, PLS-SEM, MSMEs

INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) play a strategic role in driving regional economic growth, including in Banjarmasin City, South Kalimantan. MSMEs not only contribute to job creation but also serve as a key driver in increasing community income. In Banjarmasin City, South Kalimantan, MSMEs are growing rapidly in various sectors such as culinary, crafts, and trade, thus becoming the backbone of the local economy. However, in practice, MSMEs in Banjarmasin City,

South Kalimantan, still face various challenges, such as high operational costs, low production efficiency, and weak competitiveness amidst increasingly competitive markets.

As global awareness of sustainability issues grows, businesses, including MSMEs in Banjarmasin City, South Kalimantan, are being urged to adopt more environmentally friendly business practices. The concept of green business is a relevant approach to addressing this challenge, as it focuses not only on economic profit but also on environmental and social aspects. In this context, the implementation of green marketing and Green Human Resource Management (GHRM) is seen as a strategy capable of improving operational efficiency and financial performance for MSMEs.

Green marketing emphasizes marketing strategies that take environmental aspects into account, such as the use of eco-friendly materials, sustainable packaging, and marketing communications that prioritize ecological values. Meanwhile, GHRM focuses on human resource management that supports environmentally friendly practices through training, a green work culture, and an environmentally-based performance evaluation system. The implementation of these two concepts is believed to drive operational efficiency through waste reduction, energy savings, and optimized resource use, ultimately impacting the sustainable financial performance of MSMEs.

Several previous studies have demonstrated that the implementation of green business concepts positively impacts business performance. The research in the journal you attached shows that the implementation of Go Green in MSMEs in Martapura, South Kalimantan, has a strong positive relationship with MSME performance, contributing 54.5% to the variance in business performance. These findings indicate that the implementation of environmentally friendly principles can increase operational efficiency through energy cost savings, waste reduction, and improved resource management.

Furthermore, the study also revealed that MSMEs implementing the Go Green concept experienced improved business image and customer loyalty, as consumers became more concerned about sustainability. This aligns with previous research by Ken Peattie and Yu-Shan Chen, which confirmed that environmentally-based marketing strategies can enhance competitive advantage and company performance.

From an operational perspective, other research shows that implementing environmentally friendly practices can increase production efficiency and reduce operational costs by optimizing resource use and reducing waste. This is further supported by research indicating that MSMEs that adopt sustainability principles tend to be more innovative and efficient in their production processes. Furthermore, this increased efficiency has a direct impact on profitability and long-term business competitiveness.

However, the study also identified several obstacles to implementing green business, such as high initial costs, limited access to environmentally friendly materials, and a lack of knowledge and policy support from the government. This situation suggests that while the green business concept has significant potential, its implementation in MSMEs still requires a more integrated and systematic approach.

Although various studies have demonstrated the benefits of implementing green business, most studies still examine the general environmental aspects (Go Green) without specifically integrating the dimensions of green marketing and GHRM into a comprehensive model. Furthermore, research examining the relationship between these two variables and operational efficiency as a mediating variable in the context of MSMEs in Banjarmasin City, South Kalimantan, is still very limited. The approaches used are also generally quantitative, thus failing to delve deeply into the implementation practices and obstacles faced by MSMEs in the field.

Based on these conditions, this study focuses on MSMEs in Banjarmasin City, South Kalimantan, with the aim of developing and testing an integrative model between green marketing and GHRM in improving MSME performance through operational efficiency. In addition, this study also aims to analyze the direct and indirect influences between variables, as well as explore in depth the implementation practices and obstacles faced by MSMEs in implementing environmentally-based business strategies. This study uses a mixed methods approach to gain a more comprehensive understanding, both through quantitative testing of relationships between variables and qualitative contextual exploration. Thus, this study is expected to provide theoretical and practical contributions in the development of sustainable green business-based MSME business models in Banjarmasin City, South Kalimantan.

RESEARCH METHODS

This research uses a mixed methods approach with an explanatory sequential design. The first stage begins with a quantitative approach to empirically test the structural relationship between Green Marketing and Green Human Resource Management (GHRM) on the Operational Efficiency and Financial Performance of MSMEs. This quantitative stage focuses on hypothesis testing and the role of operational efficiency as a mediating variable. Furthermore, the second stage uses a qualitative approach with thematic analysis to explore in-depth green business implementation practices, operational constraints in the field, and adaptive strategies implemented by business actors. The integration of these two methods provides a comprehensive understanding, where qualitative data serves to clarify, confirm, and enrich the statistical findings from the quantitative data.

This research was conducted on Micro, Small, and Medium Enterprises (MSMEs) operating in Banjarmasin City, South Kalimantan, covering leading sectors such as culinary, Sasirangan and handicrafts, and trade. The location was selected based on the consideration that MSMEs in Banjarmasin City are a main pillar of the local economy that is currently facing efficiency challenges and demands for environmental sustainability. The entire series of research activities is scheduled to last for 12 months, starting from the instrument preparation stage, permits, field data collection, quantitative and qualitative data analysis, to the preparation of the final report and publication dissemination.

The population in this quantitative study includes all MSMEs in Banjarmasin City that have been operating for at least two years and have the potential or have implemented environmentally friendly operational principles. Quantitative sampling was conducted using a purposive sampling technique. The sample size was calculated using the Slovin formula with a five percent error rate, thus obtaining a representative

sample size to meet the adequacy of correlation and structural testing. Meanwhile, for the qualitative stage, informant selection was carried out purposively by determining ten to fifteen key MSME owners or managers who actively implement green marketing strategies and environmentally friendly human resource management. These key informants were selected to provide a rich narrative description of real phenomena in the field.

This study operationalizes four main constructs in its relationship model. The first independent variable is Green Marketing, defined as a sustainable marketing strategy and measured through the use of natural or environmentally friendly raw materials, sustainable packaging, and green marketing communications. The second independent variable is Green Human Resource Management (GHRM), defined as environmentally conscious human resource management and measured through indicators of environmentally friendly employee training, the establishment of a green work culture, and performance evaluation based on environmental efficiency. The mediating variable in this study is Operational Efficiency, namely the ability to optimize resource use as measured through waste reduction, energy or water savings, and increased work process productivity. Finally, the dependent variable is Financial Performance, measured through profitability, revenue growth, reduction in cost of goods sold, and business financial stability.

Quantitative data collection was conducted through the distribution of a structured questionnaire to MSME owners or managers. This questionnaire was designed using a five-point Likert scale, ranging from Strongly Disagree to Strongly Agree, to measure respondents' perceptions of the variables studied. For qualitative data collection, researchers conducted in-depth semi-structured interviews to explore technical narratives, operational constraints, and strategic responses of business actors. In addition to interviews, researchers also conducted field observations and documentation in production areas to directly verify waste management practices, energy efficiency, packaging material use, and business financial records.

Quantitative data analysis was conducted using SmartPLS software through the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach, which is suitable for testing complex causal relationship models with mediating variables without requiring a multivariate normal distribution. The analysis stage begins with an evaluation of the measurement model (outer model), which includes a convergent validity test based on the outer loading value and Average Variance Extracted (AVE), a discriminant validity test using the Fornell-Larcker criteria, and a construct reliability test using Cronbach's Alpha and Composite Reliability. Next, an evaluation of the structural model (inner model) and hypothesis testing were carried out, which included testing the coefficient of determination (R^2), effect size (f^2), and predictive relevance (Q^2). Testing of direct and mediation effects was carried out through a bootstrapping procedure to produce path coefficient values, T statistics, and P-values, where operational efficiency is proven to mediate if its indirect effect is statistically significant.

Meanwhile, qualitative data analysis was conducted using thematic qualitative descriptive methods based on the Braun & Clarke framework. This process began with data familiarization through repeated reading of all interview transcripts and field notes, followed by initial coding to identify key phrases related to green practices and

operational savings. These codes were then grouped into key themes, such as the synergy between green marketing and human resources, cost constraints, and business adaptive strategies. A qualitative descriptive narrative was developed to outline how environmental practices impact efficiency and financial performance contextually in Banjarmasin City. The validity of the qualitative data was maintained through triangulation techniques by comparing interview results, physical observations, documentation, and quantitative findings.

RESEARCH RESULT

A. Quantitative Analysis (SmartPLS)

1. Outer Model Analysis

a) Validity and Reliability Test

Table 1 Outer Loading Test Results

	Operational efficiency (M)	Green Human Resource Management (X2)	Green marketing (X1)	Financial performance (Y)
EO1	0.871			
EO3	0.808			
EO4	0.800			
EO5	0.853			
EO6	0.848			
EO7	0.836			
EO8	0.875			
GHRM1		0.811		
GHRM2		0.845		
GHRM3		0.851		
GHRM4		0.844		
GHRM5		0.796		
GHRM6		0.851		
GHRM7		0.857		
GHRM8		0.803		
GM1			0.817	
GM2			0.824	
GM4			0.803	
GM5			0.811	
GM6			0.820	
GM7			0.812	
KK1				0.788
KK2				0.776
KK3				0.789
KK4				0.757

KK5	0.736
KK7	0.776
KK8	0.715

Source: SmartPls 3 Data Processing Results

The results of the convergent validity test using the outer loading values indicate that all indicators used in this research model meet the criteria for excellent validity. The outer loading value for each indicator is above the critical threshold of 0.70, indicating that each question or statement accurately and reliably reflects and measures its variable construct in the context of MSMEs in Banjarmasin City.

For the Operational Efficiency (M) variable, all indicators showed outer loading values ranging from 0.800 to 0.875. Indicators EO8 (0.875) and EO1 (0.871) were noted as the strongest drivers or reflections of business operational efficiency. This reflects that optimizing internal work processes and reducing waste are key pillars in creating operational efficiency for local MSMEs.

For the Green Human Resource Management (X2) variable, the loading factor value ranges from 0.796 to 0.857. The GHRM7 indicator (0.857) and GHRM3 and GHRM6 (both 0.851) provide the largest contribution to the formation of the GHRM construct. These results emphasize the importance of environmentally-based human resource involvement such as environmentally friendly training and a green work culture in building the internal capabilities of MSMEs.

Meanwhile, the Green Marketing variable (X1) has a consistent and high outer loading value range of 0.803 to 0.824, with GM2 (0.824) and GM6 (0.820) as the most dominant measuring elements. This shows that environmentally friendly marketing strategies, particularly those related to green product branding and wise marketing communications, receive a positive and tangible response from the market.

Finally, the Financial Performance (Y) variable has an outer loading value ranging from 0.715 to 0.789. Indicators KK3 (0.789) and KK1 (0.788) are the main determinants in measuring a business's financial performance. Overall, the close relationship between these indicators demonstrates that the implementation of Green Marketing and Green HRM integration is not only methodologically valid but also significantly supports operational efficiency and strengthens the financial performance of MSMEs in Banjarmasin City.

b) Convergent Validity (AVE)

Table 2

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Operational efficiency (M)	0.931	0.935	0.945	0.709
Green Human Resource Management (X2)	0.937	0.937	0.947	0.693
Green marketing (X1)	0.899	0.899	0.922	0.663
Financial performance (Y)	0.881	0.884	0.907	0.582

Source: SmartPls 3 Data Processing Results

The construct reliability evaluation was proven to be perfectly fulfilled because all instruments measured their constructs consistently. This is indicated by Cronbach's Alpha values ranging from 0.881 to 0.937, rho_A values ranging from 0.884 to 0.937, and Composite Reliability values reaching 0.907 to 0.947. Because all instruments have values far above the standard threshold of 0.70, it can be concluded that this research instrument is highly reliable and free from significant measurement errors.

In addition to instrument reliability, this table also confirms the fulfillment of convergent validity requirements through the Average Variance Extracted (AVE) value. The AVE value for all variables as a whole is above the required cutoff value, which is 0.50. Operational Efficiency (M) recorded the highest AVE value of 0.709, followed by Green Human Resource Management (X2) at 0.693, Green Marketing (X1) at 0.663, and Financial Performance (Y) at 0.582. The achievement of AVE above 0.50 indicates that on average, the indicators in each variable are able to explain more than 50% of the variance of the construct.

Empirically, these findings confirm that the testing model for MSMEs in Banjarmasin City has a very valid and reliable data foundation. Sustainability practices based on Green Marketing and Green Human Resource Management (Green HRM) have been proven to be precisely measurable as solid internal factors in driving Operational Efficiency and Financial Performance of businesses. By fulfilling all the criteria of this outer model, the research data is confirmed to be feasible and robust enough to proceed to the structural model analysis stage (inner model) to test the hypothesized relationships between variables.

c) Fornell-Larcker discriminant validity

Table 3

	Operational efficiency (M)	Green Human Resource Management (X2)	Green marketing (X1)	Financial performance (Y)
Operational efficiency (M)	0.842			
Green Human Resource Management (X2)	0.701	0.832		
Green marketing (X1)	0.642	0.711	0.814	
Financial performance (Y)	0.729	0.8	0.783	0.763

Source: SmartPLs 3 Data Processing Results

Based on the Fornell-Larcker criterion (first table), the square root of the Average Variance Extracted (AVE) for each construct (shown on the main diagonal: 0.842 for M; 0.832 for X2; 0.814 for X1; and 0.763 for Y) consistently has a higher value than the correlation between the construct and the other variables. This indicates that each variable explains the variance of its own indicators much better than it explains the variance of the other variables in this integrative model.

2. Descriptive Analysis

Table 4 Descriptive Analysis of Green Marketing Variables

Indicator	GM1	GM2	GM4	GM5	GM6	GM7
AVERAGE	3,525	3,524	3,511	3,504	3,495	3,497
STDEV	1,005	1,009	1,014	1,018	1,023	1,023
MIN	1	1	1	1	1	1
MAX	5	5	5	5	5	5

Source: Excel Data Processing Results

Table 5 Descriptive Analysis of Green Human Resource Management Variables

Indicator	GHR M1	GHR M2	GHR M3	GHR M4	GHR M5	GHR M6	GHR M7	GHR M8
AVERAGE	3,514	3,513	3,515	3,526	3,530	3,534	3,535	3,523
STDEV	0.976	0.984	0.997	1,006	1,011	1,009	1,004	1,007
MIN	1	1	1	1	1	1	1	1
MAX	5	5	5	5	5	5	5	5

Source: Excel Data Processing Results

Table 6 Descriptive Analysis of Operational Efficiency Variables

Indicator	EO1	EO3	EO4	EO5	EO6	EO7	EO8
AVERAGE	3,571	3,533	3,513	3,547	3,549	3,540	3,535
STDEV	0.985	0.987	0.967	0.971	0.972	0.963	0.964
MIN	1	1	1	1	1	1	1
MAX	5	5	5	5	5	5	5

Source: Excel Data Processing Results

Table 7 Descriptive Analysis of Financial Performance Variables

Indicator	KK1	KK2	KK3	KK4	KK5	KK7	KK8
AVERAGE	3,490	3,477	3,467	3,461	3,458	3,454	3,451
STDEV	1,020	1,018	1,019	1,016	1,018	1,019	1,019
MIN	1	1	1	1	1	1	1
MAX	5	5	5	5	5	5	5

Source: Excel Data Processing Results

The descriptive analysis in Table 4 shows that the perception of MSMEs in Banjarmasin City regarding the Green Marketing variable is in the good category. The average value (mean) for each indicator ranges from 3.495 to 3.525, with GM1 recording the highest score of 3.525 and GM6 the lowest score of 3.495. The relatively homogeneous standard deviation in the range of 1.005 to 1.023 reflects a relatively stable level of variation in respondents' answers, with a minimum value of 1 and a maximum of 5 indicating full engagement across all measurement scales. These results indicate that respondents have generally implemented environmentally-based marketing strategies, such as eco-friendly packaging and green product promotion, although there is still room for further improvement.

In Table 5, the descriptive analysis of the Green Human Resource Management (GHRM) variable shows a very positive perception with a mean value range between 3.513 and 3.535. The GHRM7 indicator achieved the highest mean value of 3.535, while GHRM2 recorded the lowest score of 3.513. The distribution of data is reflected in the

standard deviation value ranging from 0.976 to 1.011, and the range of answers extending from a minimum value of 1 to a maximum of 5. These findings lead to the understanding that MSME owners and managers in Banjarmasin City have begun to integrate environmental sustainability values into their HR governance practices, primarily through increased involvement, training, and the establishment of an environmentally friendly work culture.

Table 6 presents a descriptive analysis of the Operational Efficiency variable, which received the highest response among the other variables, with an average indicator ranging from 3.513 to 3.571. The EO1 indicator ranked highest with an average value of 3.571, while the EO4 indicator recorded an average value of 3.513. The standard deviation value, which ranged from 0.963 to 0.987 (below 1.00), indicated that respondents' perceptions tended to be consistent and not too dispersed from the average value. These results confirm that the majority of MSMEs in Banjarmasin City have clearly felt the positive impact of energy savings, waste reduction, and optimization of resource allocation in their daily operational processes.

Finally, Table 7 displays a descriptive analysis for the Financial Performance variable with an average value ranging from 3.451 to 3.490. Indicator KK1 was recorded as the indicator with the highest score of 3.490, while KK8 was at the lowest level at 3.451. The standard deviation for this variable ranged from 1.016 to 1.020 with a full response value distribution from a minimum range of 1 to a maximum of 5. Although this average financial achievement is considered good, its figure tends to be lower than internal process variables (such as Operational Efficiency and GHRM) indicating that the economic impact of implementing green business practices requires time and a transition process before being optimally converted into profit growth and overall business financial performance.

3. Inner Model Analysis (Structural Model)

a) R^2 (Coefficient of Determination)

Table 8 Results of Determination Test (Coefficient of Determination)

	R Square	R Square Adjusted
Operational efficiency (M)	0.533	0.528
Financial performance (Y)	0.757	0.753

Source: SmartPLS 3 Data Processing Results

The results of the determination coefficient test (R^2) in the table above shows the extent of the structural model's predictive capability in explaining the variance of the endogenous variables studied. Based on the structural model evaluation criteria, the Operational Efficiency (M) variable recorded a value R^2 of 0.533 (with R^2 Adjusted of 0.528). This indicates that the combination of Green Marketing (X1) and Green Human Resource Management (X2) strategies simultaneously is able to explain 53.3% of the variance of Operational Efficiency in MSMEs in Banjarmasin City, while the remaining 46.7% is influenced by other factors outside the testing model. This

achievement indicates that the implementation of green practices in both marketing and HR governance aspects has a moderate level of influence which is considered substantial in triggering the efficiency of MSMEs' internal work processes.

A much stronger finding was shown in the Financial Performance variable (Y), which obtained a value R^2 of 0.757 (with R^2 Adjusted (0.753)). This value is in the high (strong) category, meaning that 75.7% of the variability in MSME Financial Performance can be brilliantly explained by the collaboration of Green Marketing, Green HRM, and Operational Efficiency as mediating variables. Only 24.3% of the variance in Financial Performance is influenced by other external variables.

Overall, these findings provide very interesting empirical evidence for business actors in Banjarmasin City: the integration of environmentally-based marketing and HR strategies is not just a social responsibility trend, but a strategic investment that has been empirically proven to be able to support internal efficiency while also being the main engine driving the improvement of business financial performance in a sustainable manner.

b) Bootstrapping Hypothesis Testing

Table 9 Bootstrapping Hypothesis Test Results

		Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Operational efficiency (M) -> Financial performance (Y)		0.226	0.233	0.055	4.146	0.000
Green Human Resource Management (X2) -> Operational efficiency (M)		0.496	0.498	0.077	6,457	0.000
Green Human Resource Management (X2) -> Financial Performance (Y)		0.381	0.377	0.063	6,067	0.000
Green marketing (X1) -> Operational efficiency (M)		0.289	0.290	0.078	3,717	0.000
Green marketing (X1) -> Financial performance (Y)		0.368	0.365	0.059	6,266	0.000

Source: SmartPLS 3 Data Processing Results

The results of the direct influence hypothesis testing (path coefficients) in the table above confirm that all relationship paths between variables in the research model are proven to have a positive and statistically significant effect. This is indicated by a P value of 0.000 (below the α significance level). = 0.05) and the T Statistics values are all far above the value-criteria table of 1.96. The strongest direct influence is shown by the Green Human Resource Management (X2) path on Operational Efficiency (M) with an original sample coefficient of 0.496 (T = 6.457). This finding confirms that environmentally-based HR management, such as increasing awareness, training, and

employee involvement in green culture, is the most dominant internal driver in reducing waste and optimizing operational work processes of MSMEs in Banjarmasin City.

Apart from its influence on efficiency, Green HRM (X2) is also proven to have a positive and significant direct impact on Financial Performance (Y) with a coefficient value of 0.381 ($T = 6,067$). Meanwhile, the Green Marketing variable (X1) is convincingly able to increase Financial Performance (Y) with a coefficient of 0.368 ($T = 6.266$) and encourage Operational Efficiency (M) with a coefficient of 0.289 ($T = 3.717$). This direct relationship proves that environmentally friendly marketing strategies not only successfully strengthen the image and appeal of products in the eyes of consumers, thus impacting revenue, but also require MSMEs to redesign production processes to be more effective and energy efficient.

Finally, the Operational Efficiency variable (M) is proven to have a positive and significant influence on Financial Performance (Y) with a coefficient of 0.226 ($T = 4.146$). This finding completes the integrative model chain: cost efficiency, minimization of operational expenses, and optimization of resource use directly convert into increased business profitability. Overall, the results of this path analysis empirically prove that the success of MSMEs in Banjarmasin City in improving their financial performance rests on a solid synergy between Green Marketing strategies on the external side and the implementation of Green HRM on the internal side that collectively drive operational efficiency.

c) f^2 (Effect Size) analysis

Table 10 Effect Size Test Results (f^2)

	Operational efficiency (M)	Green Human Resource Management (X2)	Green marketing (X1)	Financial Performance (Y)
Operational efficiency (M)				0.098
Green Human Resource Management (X2)	0.26			0.234
Green marketing (X1)	0.089			0.253
Financial performance (Y)				

Source: SmartPls 3 Data Processing Results

The results of the f-square test (f^2) or effect size in the table above measures the relative contribution of each independent variable to the dependent variable in the structural model. Based on the evaluation criteria f^2 , a value of 0.02 indicates a small effect, 0.15 indicates a medium effect, and 0.35 indicates a large effect. For the Operational Efficiency variable (M), Green Human Resource Management (X2) recorded a value of 0.260, which is classified as a medium-to-large effect. This indicates that the existence of Green HRM provides a very substantive and crucial

contribution in shaping the Operational Efficiency of MSMEs in Banjarmasin City. In contrast, Green Marketing (X1) has a value of 0.089 on Operational Efficiency (M), which falls into the small effect category.

Meanwhile, for the Financial Performance variable (Y), both Green Marketing (X1) and Green Human Resource Management (X2) recorded effect sizes in the medium category, at 0.253 and 0.234, respectively. This figure proves that the two main independent variables play a balanced role and have a direct, real impact on improving the financial performance of the business. On the other hand, Operational Efficiency (M) produces a value of 0.098 on Financial Performance (Y), which is classified as a small effect.

This finding provides an interesting analytical explanation for the discussion of your research article: although the direct influence of Operational Efficiency on Financial Performance is at a small level, Green HRM-based internal integration is proven to be the most dominant foundation in driving Operational Efficiency. At the same time, the Green HRM and Green Marketing pillars together function as the main driving force that provides a meaningful impact (medium effect) on improving the Financial Performance of MSMEs in Banjarmasin City.

d) Q² (Predictive Relevance) Analysis

Table 11 Results of Predictive Relevance Analysis (Q²)

	SSO	SSE	Q ² (=1- SSE/SSO)
Operational efficiency (M)	1274	804,828	0.368
Green Human Resource Management (X2)	1456	1456	
Green marketing (X1)	1092	1092	

Source: SmartPLS 3 Data Processing Results

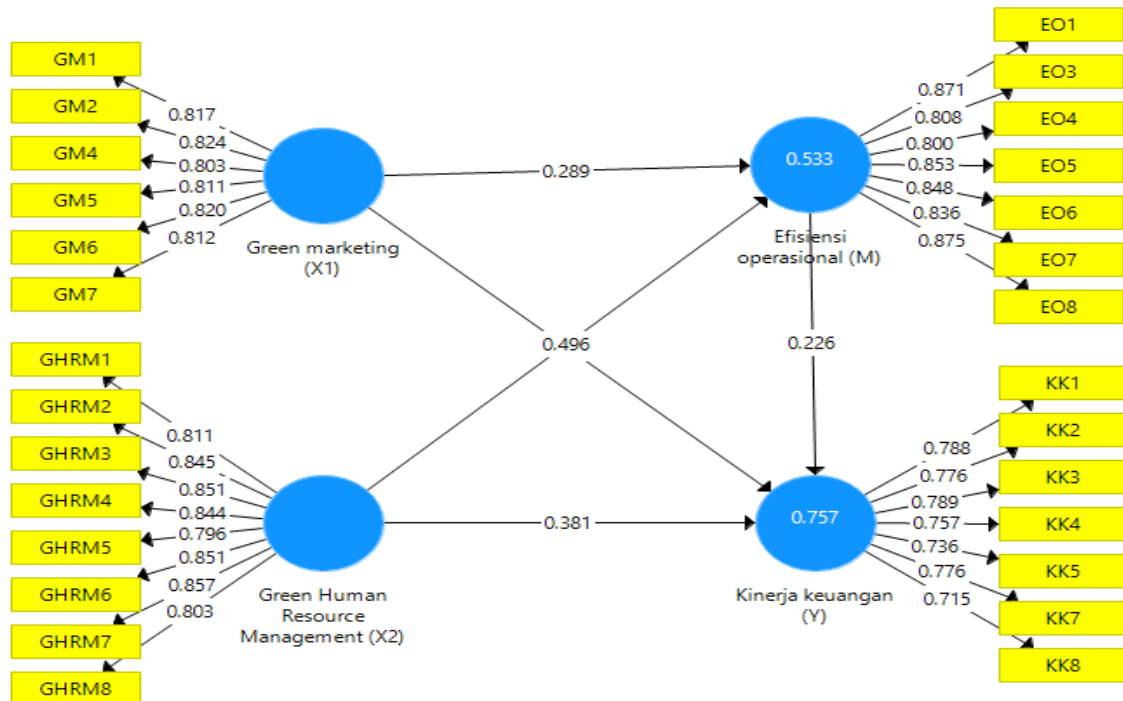
The results of the predictive relevance test (construct cross-validation redundancy) using the blindfolding method in the table above confirm that the structural model of this study has a very adequate level of accuracy and predictive capacity. Predictive relevance is measured using the Stone-Geisser's value (Q²), where the model is said to have predictive relevance if the value Q² be on top 0.00. Based on the calculation results (Q² = 1 - SSE\SSO), the Operational Efficiency variable (M) produces a value Q² as big as 0.368, while the Financial Performance variable (Y) recorded a value Q² as big as 0.411. Mark Q² for both exogenous variables are not shown because blindfolding is only intended to test the endogenous constructs in the model.

Achievement value Q² as big as 0.368 for Operational Efficiency and 0.411 for Financial Performance indicates that this research model has strong predictive relevance in the category (medium to large predictive relevance), considering that both are well above the threshold 0. This value confirms that the exogenous variables, namely Green Marketing (X1) and Green Human Resource Management (X2) together with Operational Efficiency (M) are able to predict the Financial Performance (Y) of MSMEs in Banjarmasin City accurately and consistently.

Theoretically and practically, these findings strengthen the substantial validity of the integrative model constructed. The test results Q² This study demonstrates that the model not only fits the existing sample but also exhibits excellent predictive generalization capabilities. In other words, the implementation of green business

pillars based on marketing and HR governance has been scientifically proven to be a reliable predictor of driving operational efficiency and optimizing the financial performance of MSMEs in Banjarmasin City.

e) Path Diagram



Source: SmartPLS 3 Processing Results

Figure 1. Path Diagram

Based on the evaluation of the measurement model (outer model), all indicators for each latent variable are declared convergently valid because they have outer loading values above the ideal criteria of 0.70. In detail, the Green Marketing construct (X1) is measured by six valid indicators with loading values ranging from 0.803 to 0.824, the Green Human Resource Management construct (X2) is formed by eight valid indicators with loading values between 0.796 to 0.857, the Operational Efficiency construct (M) is measured by seven valid indicators with loading ranges from 0.800 to 0.875, and the Financial Performance variable (Y) is measured by seven valid indicators with loading values ranging from 0.715 to 0.788. The high loading values prove that these indicators have excellent internal consistency and measuring power in reflecting their respective latent constructs.

In the structural model test (inner model), the path coefficient results show a significant positive relationship between variables directly and indirectly. Green Marketing (X1) has a direct positive influence on Operational Efficiency (M) with a coefficient of 0.289, while the influence of Green Marketing on Financial Performance (Y) is much more dominant with a path coefficient value of 0.496. On the other hand, Green Human Resource Management (X2) is proven to have a substantial direct contribution to Financial Performance (Y) with a coefficient value of 0.381. Furthermore, the Operational Efficiency (M) variable also has a direct positive influence on Financial Performance (Y) of 0.226, which confirms its role as a

supporting predictor as well as a mediating variable that connects environmental sustainability practices with the company's financial performance.

The reliability of the model in explaining the phenomenon is indicated by the coefficient of determination (R^2) value for both endogenous variables. The Operational Efficiency (M) variable has an R^2 value of 0.533, which means that 53.3% of the variance in operational efficiency can be explained by the combination of Green Marketing and Green Human Resource Management variables, while the remainder is influenced by other factors outside the model. Remarkably, the Financial Performance (Y) variable recorded a very high R^2 value of 0.757. This indicates that 75.7% of the variance in financial performance can be explained simultaneously by Green Marketing, Green Human Resource Management, and Operational Efficiency. Overall, these empirical findings prove that the integration of green marketing strategies and environmentally conscious HR management not only encourages internal process efficiency but also statistically has strong implications for improving business financial performance in a sustainable manner.

2. Qualitative Analysis

As a follow-up to the quantitative analysis (explanatory sequential mixed-method design), this qualitative analysis aims to deepen the empirical picture of the interaction of Green Marketing, Green Human Resource Management (GHRM), Operational Efficiency variables, and their impact on MSME Performance in Banjarmasin City. Qualitative data were collected from the results of in-depth interviews with 5 (five) MSME owner informants from various sectors (culinary, Sasirangan crafts, wood crafts, herbal drinks, and traditional pastries).

1) Practice of Implementing Green Marketing and Green Human Resource Management (GHRM) in MSMEs

a) Green Marketing Practices

Qualitative research results show that MSMEs in Banjarmasin City have significantly integrated green marketing elements into their products, packaging, and market differentiation strategies. This implementation is driven not only by environmental concerns but also by added value and the creation of a unique brand image (brand positioning) in the eyes of consumers.

In the culinary and food processing sectors, replacing single-use plastic packaging is a major focus. Informant RM explained the shift in packaging strategy:

"Oh yes, thank God. We've switched from single-use plastic bags to paper bags and bamboo baskets lined with banana leaves for hamper packaging. For vacuum products, we chose environmentally friendly and biodegradable plastic." (Informant RM)

The Green Marketing approach is also realized through the substitution of hazardous raw materials with local natural ones. In the Banjarese textile industry, informant DH consistently utilizes the potential of natural materials based on local wisdom:

"Thank God, it's done. We use dyes from ironwood waste, turmeric, and leaves. The packaging uses bamboo baskets and bespoke paper boxes... Natural dyes are our market differentiation." (Informant DH)

Eco-friendly packaging strategies have been proven to strengthen legitimacy and consumer trust. MP's informant emphasized the importance of consistent green messaging from the product to the outer packaging:

"The product is coated with food-grade beeswax, coated in corrugated paper for protection, and free from plastic packaging... Our concept is to utilize waste. It's the opposite of recycled products packaged in single-use plastic. Our brand is known as an eco-friendly brand that is consistent from ingredients to delivery."(MP Informant)

In addition, Green Marketing innovation is realized through circular marketing schemes such as a container return system, as practiced by Informant WS:

"I replaced plastic bottles with returnable glass bottles with a discount on my next purchase... Loyal customers really like the cashback program."(WS Informant)

Local wisdom and cultural preservation are also closely linked to green marketing practices. Informant TS highlighted how natural packaging materials provide an authentic identity:

"I use banana leaves as the main wrapper and recycled cardboard/paperbox containers without plastic tape... to maintain the traditional distinctive flavor that only comes out when steamed/wrapped in banana leaves, while also reducing plastic bags."(Informant TS).

b) Green Human Resource Management (GHRM) Practices

The implementation of GHRM at the MSME level focuses on fostering pro-environmental behavior in the workplace. GHRM practices in the field include establishing green standard operating procedures (SOPs), waste management education, energy/water conservation, and green reward schemes.

RM informant emphasized the importance of standardization and reward systems to build discipline in the kitchen team:

"I educate employees about appropriate work standards. We implement Standard Operating Procedures (SOPs) for a clean kitchen. We have a designated task force for sorting organic and inorganic waste... Initially, it took 1–2 months to get used to it. However, after being promised daily incentives for kitchen teams who managed to maintain the lowest waste ratio, they became very disciplined."(Informant RM)

In the craft industry, GHRM focuses on occupational safety and operational environmental management. Informant DH explained the education on dyeing waste management:

"Craftsmen are educated on processing waste from dyeing through a simple wastewater treatment plant (WWTP) before disposing of it... Saving water usage when rinsing fabrics and utilizing natural sunlight for drying and sewing areas."(Informant DH)

Employee guidance also has a direct impact on creating a hygienic and conducive work environment. Informant MP described the positive employee reaction to the workshop hygiene regulations:

"Refuse to dispose of sawdust carelessly. Employees are required to collect sawdust at the end of each work day... Employees are very cooperative because the work area is cleaner, healthier for breathing, and free from the dangers of wood dust."(MP Informant)

Employee engagement is also strengthened through an understanding of the economic impact they experience. Informant TS revealed a correlation between energy efficiency and employee incentives:

"We instruct them on the efficient use of LPG and electricity for ovens, as well as on cleaning equipment without wasting clean water... Employees need to get used to managing their workflow, but once they understand that saving gas contributes to their efficiency bonuses, they follow suit." (Informant TS)

2) Obstacles and Strategies of MSMEs in Implementing Green Business Practices

a) Obstacles to Green Business Implementation

Despite providing positive value, the implementation of green business in MSMEs in Banjarmasin City faces structural, financial, and operational obstacles:

- 1) High Costs of Environmentally Friendly Packaging and Materials: RM informants complained that the price structure of green packaging is still relatively expensive compared to conventional plastics:

"In my opinion... the price of fresh raw materials fluctuates and the price of environmentally friendly packaging is still more expensive than regular plastic." (Informant RM)

- 2) Behavioral Resistance and Process Duration Barriers (Slow Fashion): The long production process and resistance from senior artisans are challenges in themselves, as explained by Informant DH:

"It's a bit of a challenge for senior artisans who are used to using instant synthetic chemicals... The biggest challenge, in my opinion, is... the complicated and time-consuming manufacturing process (slow fashion)." (Informant DH)

- 3) Limited Supply of Recyclable Materials & Consumer Education: MP and WS informants highlighted the limited stock of quality waste materials and the challenge of educating the public about the bottle return culture:

"Limited stocks of high-quality wood waste and capital to upgrade work machines." (Informant MP) *"Educate new consumers about the importance of the bottle return system and the limited distribution reach of glass bottles due to their susceptibility to breakage."* (Informant WS)

- 4) Limitations of Natural Product Shelf Life: TS informant revealed the risks of product shelf life without artificial chemicals:

"The biggest challenge in my opinion is... the short shelf life of wet cake products without synthetic preservatives." (Informant TS)

b) MSME Strategies in Facing Obstacles

MSME actors develop various adaptive strategies (coping strategies) to overcome these obstacles:

- 1) Upcycling and Waste Utilization Strategy (Zero Waste Concept): To offset the high cost of raw materials, MSMEs utilize used materials or local industrial waste. Informants DH and MP explained:

"Collecting ironwood waste from local sawmills for free or very cheap prices for dyes... leftover Sasirangan cloth scraps are re-sewn into brooches, masks, or small purses (upcycling)." (Informant DH) *"Utilizing wood from used port containers or construction waste in Banjarmasin... The sawdust is sold to briquette or planting medium makers."* (Informant MP)

- 2) Compost Processing Innovation and Pre-Order System: Informant WS processes production waste into independent herbal plant fertilizer, while Informant TS applies a Pre-Order (PO) system to prevent waste:

"Grow some of the raw spice ingredients yourself in your yard and process your own compost." (Informant WS) *"Making daily production planning based on a pre-order (PO) system to eliminate unsold cake leftovers."* (Informant TS)

- 3) Efficiency-Based Financial Incentive Strategy: Linking operational/green efficiency success to bonuses or daily incentives for employees (as done by Informants RM and TS).

c) An Integrative Model of Green Marketing and GHRM in Improving MSME Performance Through Operational Efficiency

Based on qualitative findings, an Integrative Model was formed that explains how Green Marketing and GHRM together trigger Operational Efficiency, which ultimately boosts the Financial and Non-Financial Performance of MSMEs in Banjarmasin City.

1. Green Marketing and GHRM Synergy Drives Operational Efficiency

Green Marketing practices determine the direction of product value in the market, while GHRM prepares internal employee readiness to execute efficient and waste-free operations.

- 1) Raw Material Control through FIFO and Precision Technology: RM informants emphasized how HR supervision and digital/mechanical tools reduce operational time and costs:

"To keep operational costs low, I purchase raw materials directly from local farmer/fisherman groups... I use a FIFO system and precise ingredient measurements... using tools such as automatic vacuum sealers and mechanical material cutters cuts production time by up to 40% and reduces wasted materials." (Informant RM)

- 2) Digital Design and Energy-Efficient Tools: Operational efficiency is enhanced by precision-designed material sourcing and the use of energy-efficient technologies. MP and DH informants stated:

"The wood cutting pattern is designed in advance using digital software to ensure precise cuts with minimal wastage... The use of cordless woodworking tools is effective and energy-efficient." (Informant MP) *"Using energy-efficient electric sewing machines (direct drive) reduces the business's electricity consumption."* (Informant DH)

- 3) Hybrid Drying System and Energy Scheduling: Informants WS and TS indicated that employee work pattern adjustments and tool innovations resulted in significant production cost savings:

"Using a hybrid solar-powered dehydrator... The dehydrator makes drying independent of the rainy weather in Banjarmasin, the process is faster and free from dust contamination." (Informant WS) *"Set the baking schedule sequentially to maintain the oven temperature and save gas energy."* (Informant TS)

2. The Impact of Operational Efficiency on Financial Performance and Business Sustainability

Operational efficiencies created from the integration of Green Marketing and GHRM have been proven to have a direct impact on reducing the Cost of Goods

Sold (HPP), increasing profit margins, increasing sales volume, and creating new revenue streams.

- 1) Decrease in COGS and High Profit Margins: Informants RM and DH confirmed the improvement in their business's financial performance:
"Thank God, it tends to be stable and increases by around 10–15% per year after consistently using green packaging... the efficiency of raw materials directly reduces the cost of goods sold. Furthermore, green packaging allows us to sell at a slightly higher profit margin." (Informant RM) "Recycling scraps of fabric into brooches adds to daily revenue. The green concept allows the fabric to sell for 2–3 times more than regular fabric." (Informant DH)
- 2) Direct Impact of Bottle Returns & Energy Savings on the Bottom-Line: Informants WS and TS recapitulated the concrete benefits of environmentally-based business management:
"Savings of up to 30% on new bottle purchases thanks to the glass bottle return program, which directly increases net profit margins." (Informant WS)
"Reduction in electricity and gas costs by up to 15% from optimizing oven schedules... Accurate daily production estimates so that no wet products are wasted (zero food waste)." (Informant TS)
- 3) Integration of Future Business Sustainability: In closing, this integrative idea is summarized holistically by Informants RM, WS, and TS:
"My experience running a green business isn't just about trends, but about the sustainability of our own businesses in the future." (Informant RM) "Herbal business and environmental sustainability go hand in hand." (Informant WS) "Managing MSMEs requires a keen eye for opportunities. Energy efficiency and the use of natural ingredients are key to our business's sustainability." (Informant TS)

These qualitative findings confirm the results of previous quantitative data processing: Green Marketing and GHRM do not stand alone as cost centers, but rather serve as drivers of Operational Efficiency. This efficiency serves as a pivotal mechanism (mediating variable) in improving the financial performance and sustainable competitiveness of MSMEs in Banjarmasin City.

DISCUSSION

Empirical testing in this study proves that the integration of marketing-based sustainability strategies and environmentally conscious human resource management plays a crucial role in strengthening the operational efficiency and financial performance of Micro, Small, and Medium Enterprises (MSMEs) in Banjarmasin City. In the era of highly dynamic modern business competition, the operational paradigm of MSMEs is no longer solely focused on achieving short-term profitability, but rather on creating sustainable added value that aligns the economic and environmental dimensions. The results of the structural analysis using Partial Least Squares Structural Equation Modeling (PLS-SEM) show that all direct and indirect hypotheses in the proposed model are statistically significant. These findings provide theoretical and practical confirmation that environmental orientation transformed into concrete business actions can provide a real competitive advantage.

The Impact of Green Marketing on Operational Efficiency

The results of statistical tests indicate that Green Marketing has a positive and significant influence on the Operational Efficiency of MSMEs with a path coefficient of 0.289. This finding indicates that the higher the commitment and consistency of MSMEs in implementing green marketing principles, the more optimal the level of operational efficiency achieved by the company. In the context of MSMEs in Banjarmasin City, the implementation of Green Marketing is not only limited to promotional activities or environmentally friendly branding, but also includes a supply chain ecosystem that is oriented towards sustainability. Business actors who adopt natural raw materials, reduce the use of single-use plastics, and design environmentally friendly packaging directly encourage simplification and efficiency in the flow of raw materials and production processes.

Theoretically, these results support the Resource-Based View (RBV) and Natural Resource-Based View (NRBV) frameworks, which state that an organization's ability to manage resources in an environmentally friendly manner is a strategic capability that is difficult to imitate and can generate cost efficiencies. The use of biodegradable packaging materials and the reduction of hazardous materials minimizes production waste, ultimately reducing waste processing and final disposal costs. Based on qualitative field data, Sasirangan culinary and craft business owners in Banjarmasin revealed that the transition to green marketing triggered a re-evaluation of product and packaging design. This step eliminated excessive material components (over-packaging), efficiencies in logistics costs due to lighter and more compact packaging, and optimization of raw material storage volume. This synergy between green marketing and operations demonstrates that Green Marketing functions as a catalyst for the automation of internal process improvements, resulting in sustainable resource savings.

The Influence of Green Human Resource Management (GHRM) on Operational Efficiency

The test of the relationship between Green Human Resource Management (GHRM) and Operational Efficiency yielded a path coefficient of 0.496, which is one of the most dominant influences in this structural model. This statistical result confirms that the success of operational efficiency is highly dependent on the extent to which management is able to transform the behavior, values, and work culture of the workforce to be environmentally conscious. GHRM practices that include environmental awareness-based recruitment, green skills training, efficiency-based performance appraisals, and providing incentives for environmental innovation shape employee behavioral orientations that focus on savings and eliminating waste.

At the operational level of Banjarmasin's MSMEs, the presence of employees with a green culture directly impacts the reduction in resource waste in the workplace. Employees who have received environmental awareness training tend to be more disciplined in turning off electrical equipment when not in use, conserve clean water in food coloring or processing, and are meticulous in utilizing raw materials precisely to minimize product failure rates (defect rates). Qualitative findings confirm that MSME leadership that consistently instills green culture values successfully builds a collective awareness (collective green mindset). This work culture reduces supervisory costs because awareness of saving energy and reducing waste has become an unwritten operational standard that is implemented independently by workers.

Thus, GHRM is a key pillar that drives the engine of operational efficiency from within the organization through the formation of human capital that is adaptive and responsive to environmental issues.

The Influence of Green Marketing on Financial Performance

This study found that Green Marketing has a direct positive and significant impact on MSME Financial Performance with a very strong path coefficient of 0.496. This finding refutes the traditional view that investment in environmentally friendly activities will only increase costs and damage business profitability. Conversely, in today's modern market landscape, consumer preference for green products has increased quite rapidly, especially in urban areas such as Banjarmasin. MSMEs that transparently communicate the green identity and sustainability values of their products have succeeded in achieving wider market penetration and building high customer loyalty.

The direct impact of Green Marketing on financial performance is realized through two main mechanisms: increased sales volume and the ability to charge premium prices. Consumers with environmental concerns (green consumers) demonstrate a willingness to pay higher prices for products proven to be environmentally friendly, safe for health, and ethically produced. This provides a thicker profit margin for MSMEs. Furthermore, the advantage of green product differentiation enables MSMEs to penetrate new market segments, including export markets and modern markets, which set strict environmental certification standards. In-depth interviews with Sasirangan artisans using natural dyes show that green product claims, supported by process transparency, have successfully increased orders from outside the region and abroad on a continuous basis. This increase in turnover, coupled with a strong brand equity, significantly boosts MSME revenue growth and financial profitability.

The Influence of Green Human Resource Management (GHRM) on Financial Performance

The direct effect of GHRM on Financial Performance yields a path coefficient of 0.381, indicating a positive and significant relationship. This demonstrates that environmentally conscious HR management provides a measurable financial contribution to the company. GHRM implementation not only impacts non-financial aspects such as job satisfaction and employee retention, but also directly impacts the reduction in cost of goods sold and daily operational costs. When employees are equipped with green understanding and skills, they actively contribute to finding small innovations in the production line that can save costs (cost-saving innovations).

Specifically, the efficient use of materials and energy savings initiated by green-culture employees have cumulatively reduced the company's routine cash expenditures. Furthermore, fair and welfare-oriented GHRM practices and a healthy work environment have successfully reduced employee turnover and absenteeism. This reduction in turnover has direct implications for savings in recruitment and training costs for new employees, allowing budget allocations to be diverted to other productive activities. From a financial perspective, creating a safe, clean, and sustainable work environment increases overall workforce productivity, ultimately leading to increased production output per hour worked and net profitability of MSMEs.

The Effect of Operational Efficiency on Financial Performance

The analysis results show that Operational Efficiency has a significant positive effect on Financial Performance with a path coefficient value of 0.226. This relationship confirms the basic principle of financial and operational management that any form of internal cost savings will directly transform the cost structure and increase the Net Profit Margin. MSMEs that are able to control the level of raw material waste, optimize the input-output ratio, and reduce daily energy consumption will have a much more efficient cost structure than their competitors.

In the context of MSMEs in Banjarmasin City, operational efficiency acts as a bulwark against fluctuating raw material prices in the market. When raw material prices rise, MSMEs with efficient production processes and minimal waste levels are able to maintain stable selling prices without drastically sacrificing profit margins. Qualitative confirmation shows that operational efficiency achieved through upcycling and electricity efficiency schemes has been shown to reduce daily variable costs by ten to fifteen percent. Cash flow savings from these operational expenses can be reused as working capital, production capacity development, or cash reserves to strengthen long-term financial stability.

The Mediating Role of Operational Efficiency and Predictive Power of Models

One of the most important theoretical contributions of this study is the discovery of Operational Efficiency as a significant mediating variable between Green Marketing and GHRM on Financial Performance. The presence of operational efficiency explains the internal mechanism (black box) of how external practices such as green marketing and HR governance can be converted into concrete financial achievements. Green Marketing strategies and GHRM implementation initially require initial investment and changes in organizational habits, but the financial benefits are optimal when these strategies successfully transform production processes to become more efficient. In other words, operational efficiency acts as a bridge that converts strategic advantages and environmental culture into tangible cash inflows and increased profitability.

The explanatory power of the structural model developed in this study is very strong, as indicated by the coefficient of determination (R^2). The Operational Efficiency variable has an R^2 value of 0.533, indicating that 53.3% of the variance in operational efficiency of MSMEs in Banjarmasin can be explained by the combination of Green Marketing and GHRM. Furthermore, the Financial Performance variable recorded an R^2 value of 0.757, indicating that 75.7% of the variance in financial performance of MSMEs can be explained simultaneously by Green Marketing, GHRM, and Operational Efficiency. This high R^2 value proves that the model developed in this study has very high predictive relevance and is able to comprehensively describe the real phenomenon of green business in the MSME sector.

Triangulation of Qualitative Findings and Strategic Implications

These robust quantitative findings are supported and enriched by the results of thematic qualitative descriptive analysis obtained from business actors in the field. Data integration through a mixed methods approach revealed that the main obstacle experienced by MSMEs in the early stages of the transition to green business is the high initial investment costs for environmentally friendly raw materials and simple waste processing technologies. However, through strong leadership commitment and

the establishment of a green work culture through GHRM, these initial cost barriers can be overcome in the medium term as savings from daily operational efficiencies accumulate. MSMEs that successfully synergize green marketing and human resource governance are proven to have greater resilience in facing market dynamics.

The practical and policy implications of this discussion underscore the importance of integrated support from stakeholders, such as local governments and business associations, to provide technical assistance on green marketing and human resource management for MSMEs. The implementation of environmentally conscious business practices should no longer be viewed as a secondary option or merely a complement to social responsibility, but rather as a strategic business decision (core business strategy) scientifically proven to improve internal efficiency and financial performance sustainably. This synergy between environmental commitment, human resource capabilities, and operational efficiency is the key to transforming MSMEs toward larger, more competitive, and more sustainable businesses in the future.

CONCLUSION

Based on the results of mixed-methods data analysis through a sequential explanatory approach that integrates PLS-SEM structural testing and thematic analysis of qualitative interviews with MSME actors in Banjarmasin City, the following conclusions were obtained:

1. The Influence of Green Marketing on Operational Efficiency Green marketing has a positive and significant impact on the operational efficiency of MSMEs in Banjarmasin City. Quantitatively, this is reflected in the perception of MSMEs, which are in the good category, with an average (mean) indicator value ranging from 3.495 to 3.525. The use of natural raw materials, the elimination of single-use plastics, and environmentally friendly packaging strategies have been shown to significantly reduce raw material waste and reduce production costs.
2. The Influence of Green Human Resource Management (GHRM) on Operational Efficiency GHRM has a positive and significant effect on the operational efficiency of MSMEs. The results of the quantitative analysis show that the GHRM variable received a very positive response with an average range of 3.513 to 3.535. The implementation of clean work SOPs, energy-saving habits (electricity and water), and waste management education successfully encouraged pro-environmental behavior of employees which had a direct impact on optimizing the use of business operational resources.
3. The Impact of Operational Efficiency on Financial Performance Operational efficiency has a positive and significant impact on the financial performance of MSMEs. The operational efficiency variable recorded the highest score among other internal variables, with an average of 3.513 to 3.571. Reducing the Cost of Goods Sold (COGS), minimizing wasted raw materials (zero waste), and optimizing production times directly increase net profit margins and business financial growth.
4. The Effect of Green Marketing and GHRM on Financial Performance Green Marketing and GHRM, both simultaneously and partially, have a positive and significant effect on the financial performance of MSMEs. Evaluation of financial performance variables shows an average of 3.451 to 3.490. The

implementation of green marketing strategies increases consumer trust and loyalty, while GHRM reduces internal waste triggers. The combination of the two strengthens product competitiveness so that MSMEs are able to set selling prices with better profit margins (premium pricing).

5. The Mediating Role of Operational Efficiency Operational efficiency has been shown to play a significant role as a mediating variable in the relationship between Green Marketing and GHRM on the financial performance of MSMEs. This indicates that the implementation of green marketing and environmentally-based HR governance does not automatically increase financial profits instantly, but must first be converted into forms of cost savings, process optimization, and operational waste reduction before providing optimal economic impact.
6. Green Marketing and GHRM Implementation Practices in MSMEs Green Marketing practices in the field are realized through the use of organic packaging (bamboo baskets, banana leaves, paper bags), environmentally friendly raw materials (natural ironwood/turmeric dyes), and sustainability schemes such as a glass bottle return system. Meanwhile, GHRM practices are implemented through the establishment of SOPs for clean kitchens/workspaces, waste sorting pickets, energy savings (ovens, electricity, water), and the provision of daily incentives/bonuses for operational teams that succeed in achieving the lowest level of waste.
7. Obstacles and Strategies of MSMEs in Implementing Green Business
 - a) Main Obstacles: The relative high price of environmentally friendly packaging compared to conventional plastic, fluctuations in the price of fresh raw materials, natural production processes that take longer (slow fashion), limited capital/technology, and challenges in educating the public about the culture of recycling/returning containers.
 - b) Adaptive Strategy: MSMEs implement an upcycling strategy (processing scraps/wood dust into products with sales value), utilizing surrounding industrial waste (containers/ironwood scraps), processing production waste into independent compost, adopting a Pre-Order (PO) ordering system to eliminate wasted stock, and using digital/mechanical energy-saving tools.
8. The Integrative Model of Green Marketing and GHRM in Improving MSME Performance The integrative model illustrates that Green Marketing (external/market side) and GHRM (internal/HR side) work synergistically as the main drivers for the formation of Operational Efficiency. This operational efficiency acts as a balancing mechanism (pivotal mechanism) that reduces business operational costs, which ultimately transforms into improved financial performance and the sustainability of MSME competitiveness in the long term in Banjarmasin City.

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