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Driving Sustainable Rural Enterprise: The Integrated Effects of Green Entrepreneurial Orientation, Good Governance, and Green Finance

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Abstract:

Research aims: This study examines the effects of Green Entrepreneurial Orientation (GEO), Good Governance (GG), and Green Finance (GF) on Sustainability Performance (SP) in Village-Owned Enterprises (BUMDes) in Kampar Regency, Riau Province.

Design/Methodology/Approach: Data were collected through questionnaires distributed to BUMDes managers. Of 213 questionnaires distributed, 200 were returned and 192 valid responses were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4.

Research findings: The results indicate that GEO, GG, and GF have positive and significant effects on sustainability performance. GEO emphasizes environmentally oriented innovation, proactiveness, risk-taking, and autonomy; GG reflects participation, transparency, accountability, and rule of law; while GF encompasses green lending, carbon financing, and climate financing.

Theoretical contribution/Originality: This study extends the Resource-Based View by integrating green entrepreneurial capabilities, governance mechanisms, and green financial resources to explain sustainability performance in BUMDes as rural economic institutions.

Practitioner/Policy implication: The findings highlight the importance of strengthening green innovation, governance quality, and access to appropriate green financing to improve BUMDes sustainability.

Research limitation/Implication: The study is limited to BUMDes in Kampar Regency, and the model explains 47.8% of the variance in sustainability performance. Future studies should examine additional determinants and broader regional contexts.

Keywords: Green entrepreneurial orientation, governance, green finance, sustainability performance, and Village-Owned Enterprises (BUMDes)

Introduction

The growing emphasis on sustainability has extended to village-based economic institutions, particularly Village-Owned Enterprises (BUMDes), which are expected to generate economic, social, and environmental value while supporting rural development and the Village Sustainable Development Goals (SDGs). This role is reinforced by Government Regulation Number 11 of 2021 and the Sustainability Disclosure Standards (SDS) issued by the Sustainability Standards Board of the Indonesian Institute of Accountants in 2024. However, the contribution of BUMDes remains uneven. Basri et al. (2023) reported that approximately 30% of BUMDes have not made a significant contribution to village economies, while BUMDes in Kampar Regency continue to face challenges related to financial transparency, business innovation, managerial capacity, and environmentally oriented practices (BAPPEDA

Riau, 2022). These conditions indicate that institutional establishment alone does not guarantee sustainable BUMDes performance.

Previous research has progressively identified organizational and institutional determinants of BUMDes performance. Basri et al. (2021) found that human capital, social capital, and innovation capability are important to BUMDes performance, while Basri et al. (2022) highlighted institutional pressure and social entrepreneurship orientation. Accountability and social performance were subsequently examined by Basri et al. (2023), followed by organizational justice, leadership trust, and organizational learning (Basri et al., 2024a), and transformational leadership and social entrepreneurship orientation (Basri et al., 2024b). These findings are complemented by studies emphasizing governance and institutional mechanisms. Rois et al. (2025) found that good governance affects BUMDes performance, while Basri et al. (2025a) demonstrated the relevance of institutional pressure and social performance. Basri et al. (2025b) further showed that governance contributes to sustainability performance and green innovation, whereas Basri et al. (2026a) identified organizational sustainability as an important mechanism linking nonfinancial government support with BUMDes performance.

The literature has recently moved toward environmental and financial dimensions. Mondal et al. (2024) demonstrated that Green Entrepreneurial Orientation (GEO) can enhance sustainability performance. Basri et al. (2026b) examined green finance, green innovation, and GEO in BUMDes, while Saputri and Basri (2026) investigated strategic planning and green finance with organizational capabilities as moderating factors. Nevertheless, the literature remains fragmented. Existing studies have examined organizational resources, governance, institutional support, GEO, and green finance through different models and mechanisms, but the simultaneous direct effects of GEO, Good Governance (GG), and Green Finance (GF) on BUMDes sustainability performance remain insufficiently examined within an integrated framework. This gap is important because GEO represents entrepreneurial capability, GG represents governance capability, and GF provides financial resources for sustainability-oriented activities.

The Resource-Based View (RBV) provides an appropriate theoretical foundation for integrating these dimensions. GEO enables BUMDes to identify and pursue green opportunities, GG facilitates accountability and effective resource coordination, and GF supports sustainability-oriented investments. The novelty of this study therefore lies in integrating GEO, GG, and GF as complementary direct antecedents of BUMDes sustainability performance within a single RBV framework, extending previous studies that have predominantly examined these dimensions separately or through mediating and moderating mechanisms.

Kampar Regency, Riau Province, provides a relevant empirical setting because previous studies have examined BUMDes resources, innovation, governance, and sustainability in this region (Basri et al., 2021; Basri et al., 2025b). Building on this research trajectory, this study aims to examine the effects of Green Entrepreneurial Orientation, Good Governance, and Green Finance on the sustainability performance of BUMDes in Kampar Regency, Riau Province. The findings are expected to extend the application of RBV to village-owned enterprises and provide practical insights for strengthening green entrepreneurship, governance, and sustainable financing.

Literature Review

This study employs two main theoretical frameworks as its foundation: the Resource-Based View (RBV) and Stakeholder Theory. From the perspective of the Resource-Based View (RBV), organizational resources and capabilities play a crucial role, as they form the basis of a firm's competitive advantage and performance derived from its internal resources (Wernerfelt, 2013). Green entrepreneurial orientation, good governance, and green finance are viewed as valuable and rare organizational capabilities. The ability of BUMDes to consistently engage in green innovation, demonstrate environmental proactiveness, and undertake sustainable risk-taking represents capabilities that are difficult for other BUMDes to imitate, thereby serving as a source of competitive advantage (Thakor & Hart, 1996).

From the perspective of Stakeholder Theory, green entrepreneurial orientation, good governance, and green finance are often driven by pressures or expectations from both external stakeholders (such as communities and government) and internal stakeholders (such as employees). By responding to these expectations, BUMDes can build legitimacy and reputation, which in turn support sustainability performance (Clarkson, 1995). Furthermore, good governance principles—such as transparency and accountability—serve as essential mechanisms for managing relationships with stakeholders (Elms & Berman, 1997).

Hypothesis Development

The Effect of Green Entrepreneurial Orientation on Sustainability Performance

Green Entrepreneurial Orientation (GEO) extends entrepreneurial orientation by incorporating environmental considerations into organizational innovation, proactiveness, and risk-taking (Schaltegger & Wagner, 2011). From the Resource-Based View (RBV), GEO represents a strategic organizational capability that enables firms to identify green opportunities, develop environmentally oriented innovations, and respond proactively to changing market and environmental conditions. By integrating environmental considerations into entrepreneurial activities, organizations can improve resource efficiency, stimulate innovation, and create long-term economic, social, and environmental value.

The relationship between entrepreneurial orientation and organizational performance has received empirical support. Sari et al. (2022) found that entrepreneurial orientation improves MSME performance through innovation and competitiveness. In the BUMDes context, Basri et al. (2021) demonstrated that organizational resources, particularly human capital and social capital, contribute to innovation capability and ultimately improve BUMDes performance. Basri et al. (2022) further showed the relevance of social entrepreneurship orientation in strengthening BUMDes outcomes. These findings suggest that entrepreneurial capabilities become particularly valuable when organizations can transform available resources into innovative and socially relevant business activities.

More specifically, Mondal et al. (2024) found that GEO positively affects sustainability performance, indicating that environmentally oriented entrepreneurial behavior can contribute to long-term organizational outcomes. This argument is further supported by Basri et al. (2026b), who examined GEO together with green finance and green innovation in the context

of BUMDes sustainability performance. Their research strengthens the argument that environmental orientation and innovation are increasingly important capabilities for BUMDes in responding to sustainability demands.

For BUMDes, GEO is particularly relevant because these entities pursue not only financial objectives but also social and environmental responsibilities. BUMDes that proactively identify environmentally sustainable business opportunities and incorporate green innovation into their activities are more likely to improve resource efficiency, community value, and long-term organizational viability. Therefore, building on previous evidence concerning entrepreneurial orientation, innovation capability, and green-oriented organizational behavior (Basri et al., 2021, 2022; Mondal et al., 2024; Basri et al., 2026b), this study proposes that GEO contributes positively to BUMDes sustainability performance.

H1: Green Entrepreneurial Orientation has a significant positive effect on sustainability performance.

The Effect of Good Governance on Sustainability Performance

Good Governance encompasses transparency, accountability, participation, and effective organizational control. From the perspective of Agency Theory, governance mechanisms help reduce conflicts of interest between organizational managers and stakeholders through monitoring, information disclosure, and accountability (Eisenhardt, 1989). Effective governance can improve resource utilization, reduce opportunistic behavior, strengthen stakeholder trust, and support organizational decisions that are consistent with long-term objectives.

In BUMDes, governance has particular importance because these organizations manage village assets and economic resources for the benefit of local communities. Basri et al. (2023) emphasized the importance of accountability and social performance in BUMDes, indicating that accountability mechanisms are closely associated with the ability of village enterprises to fulfill their broader social responsibilities. Similarly, Basri et al. (2024a) demonstrated the importance of organizational justice, leadership trust, and organizational learning in strengthening organizational outcomes. These findings suggest that governance is not merely an administrative requirement but also provides an organizational environment that supports trust, learning, and effective resource management.

Empirical evidence also directly supports the relationship between governance and BUMDes performance. Kurnianto and Iswanu (2021) found that good governance significantly improves BUMDes performance through more effective organizational management. Rois et al. (2025) further demonstrated that good governance positively influences BUMDes sustainability performance. Consistent with these findings, Basri et al. (2025b) showed that governance contributes to sustainability performance and green innovation, highlighting the importance of governance in facilitating sustainability-oriented organizational practices.

Theoretically, transparent and accountable governance can strengthen sustainability by ensuring that organizational resources are allocated in accordance with economic, social, and environmental objectives. In BUMDes, community participation can additionally strengthen social legitimacy, while accountability and transparency can increase stakeholder confidence and reduce the risk of resource misuse. Thus, previous findings on accountability,

organizational trust, governance, and sustainability (Basri et al., 2023, 2024a, 2025b; Rois et al., 2025) provide a basis for expecting a positive relationship between good governance and BUMDes sustainability performance.

H₂: Good Governance has a significant positive effect on sustainability performance.

The Effect of Green Finance on Sustainability Performance

Green Finance refers to financial resources and financing mechanisms directed toward environmentally and socially sustainable economic activities. From the RBV perspective, access to green finance can constitute a valuable organizational resource because it enables organizations to invest in sustainable technologies, environmentally friendly processes, green innovation, and long-term business development (Amit & Schoemaker, 1993). For resource-constrained organizations such as BUMDes, appropriate financing can therefore determine their capacity to implement sustainability-oriented strategies.

Green finance can improve sustainability performance by enabling organizations to undertake investments that simultaneously support economic efficiency and environmental responsibility. Financing for resource-efficient technologies, waste management, renewable energy, environmentally friendly production, and green products can generate long-term value while reducing environmental impacts. Green finance can also strengthen organizational legitimacy by signaling commitment to responsible business practices (Weber, 2008).

This relationship is particularly relevant to BUMDes because limited capital and restricted access to appropriate financing can constrain their ability to develop innovative and environmentally sustainable businesses. Previous BUMDes research has increasingly recognized the importance of financial and organizational resources in supporting sustainable performance. Basri et al. (2021) demonstrated the importance of organizational resources and innovation capability for BUMDes performance, while Basri et al. (2026b) specifically incorporated green finance into the analysis of BUMDes sustainability performance. Saputri and Basri (2026) further demonstrated the relevance of green finance in BUMDes sustainability-oriented development, particularly when combined with strategic planning and organizational capabilities.

Beyond the BUMDes context, Abuatwan (2023) found that green finance has a positive and significant effect on sustainability performance. This evidence indicates that access to environmentally oriented financing can strengthen an organization's ability to implement sustainable business activities. Accordingly, the combination of evidence on organizational resources, green finance, innovation, and sustainability (Basri et al., 2021, 2026b; Saputri & Basri, 2026; Abuatwan, 2023) provides a theoretical and empirical basis for expecting green finance to enhance BUMDes sustainability performance.

H₃: Green Finance has a significant positive effect on sustainability performance.

Research Method

Population and Sampling Technique

The population in this study consists of Village-Owned Enterprises in Kampar Regency, Riau Province, Indonesia. This region was selected because it has substantial natural resource-based

economic potential despite facing various social and environmental challenges (Rabbani, 2025). This condition requires the presence of green innovation that can offer sustainable solutions. To date, there is no official data available regarding the exact number of Village-Owned Enterprises.

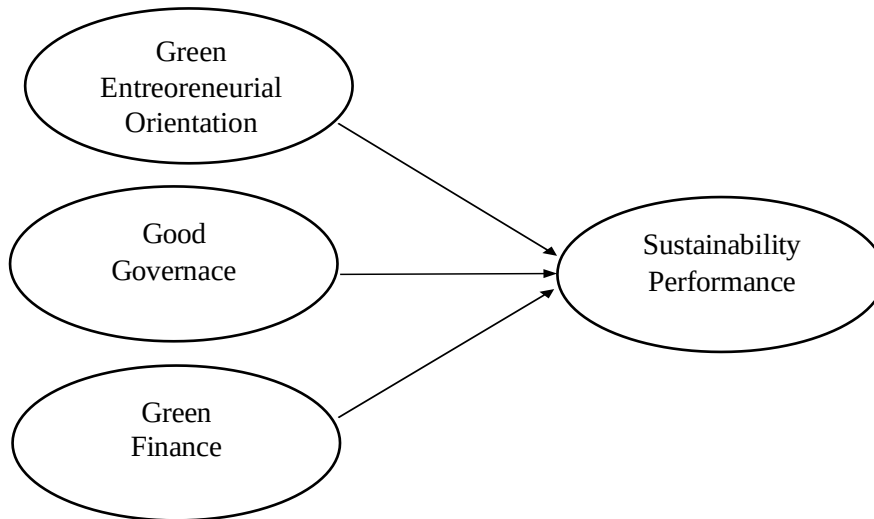


Figure 3.1: Research Model

Village-Owned Enterprises in Kampar Regency, Riau Province, Indonesia are currently in the early stages of formal registration through the system of the Office of Community and Village Empowerment, which has only been implemented since the end of 2024. Therefore, this study relies on primary data obtained through field surveys and direct verification of active and relevant Village-Owned Enterprises (BUMDes).

The research sample was purposively selected to represent Village-Owned Enterprises (BUMDes) in Kampar Regency, Riau Province, which are actively involved in addressing social and environmental issues, with the criterion of having been in operation for at least one year. The BUMDes included in this study consist of cooperatives, waste banks, and MSME-based health clinics that provide social and community health services. Due to the lack of comprehensive official statistics on the total number of social enterprises in Riau, secondary data on the population of related enterprises were used as a reference point. This includes approximately 242 BUMDes (DPMD, 2024).

This purposive sampling approach aims to select social enterprises with comparable characteristics in the region. Nevertheless, the findings are interpreted with caution regarding their generalizability to the broader population.

In this study, the sample size follows the 10-times rule of thumb, meaning that the sample should be at least ten times the maximum number of indicators used in the research framework (Chin, 1998). This approach is commonly applied when examining relationships between variables using Partial Least Squares Structural Equation Modeling (PLS-SEM) techniques. The largest number of indicators is four; therefore, the minimum required sample size is $10 \times 4 = 40$ respondents. However, to improve external validity and the reliability of model estimation, the actual sample size was increased beyond this minimum requirement. This

sampling strategy still prioritizes the principle of representativeness in terms of both business type and organizational capacity in implementing social innovation.

A preliminary trial was conducted prior to distributing the questionnaire to the target respondents. The results were used to refine the wording of the questions and to ensure that the questionnaire was easily understood by respondents. Data collection was carried out by distributing questionnaires to social enterprise managers, including leaders, secretaries, treasurers, and department heads. Each organization received two to three questionnaires, which were delivered either directly or via Google Forms. The instrument used was adapted from previously validated questionnaires. To ensure that the questionnaire met the standards of validity and reliability within the scope of this study, the researcher conducted further testing. Prior to data collection, each respondent was provided with a detailed explanation of the study's objectives, procedures, and their rights as participants, including the right to refuse participation or withdraw at any time without any consequences. The researcher obtained participants' informed consent to take part in the study, both orally and in writing, and documented it accordingly. The entire process was conducted in accordance with applicable research ethical principles.

Measurement of Variables

The measurement of variables used a 5-point Likert scale, measured on an ordinal scale ranging from 1, representing "strongly disagree," to 5, representing "strongly agree." The sustainability performance variable refers to performance measured from various dimensions, consisting of economic, social, and environmental aspects (Rodríguez-espíndola et al., 2022) and is composed of six items

The green entrepreneurial orientation variable refers to entrepreneurial activities aimed at generating economic value while contributing to environmental improvement. These activities include the development of products, services, or production processes that minimize negative environmental impacts and promote resource efficiency. This construct comprises innovation creation, proactiveness, risk-taking, and autonomy (Ebrahimi & Mirbargkar, 2017), and includes eight items.

The good governance variable refers to state management encompassing the implementation of political, economic, and administrative policies. Good governance also regulates complex mechanisms, processes, and organizations to serve the interests of stakeholders and society, mediate differences, and uphold rights and obligations. Good governance is characterized by participation, transparency, accountability, and adherence to the rule of law (Elahi, 2009), and consists of twelve items.

Finally, the green finance variable, according to the OECD (2020), refers to efforts that support economic growth while reducing negative externalities such as pollution, greenhouse gas emissions, and waste, as well as improving resource and energy efficiency (Rahmanisa, 2023). It consists of green lending, carbon financing, and climate financing (Akomea-Frimpong et al., 2022), and includes eight items.

Data Analysis Technique

Data analysis was conducted using PLS-SEM with SmartPLS 4. The analysis comprised two stages: Measurement Model Evaluation (Outer Model) – assessing construct reliability and

validity. Internal reliability was evaluated using Cronbach's Alpha and Composite Reliability ($CR \geq 0.70$), while convergent validity was assessed based on Average Variance Extracted ($AVE \geq 0.50$) and outer loadings (≥ 0.60). Discriminant validity was evaluated using cross-loading analysis, by comparing the factor loadings of each indicator on its associated construct with its loadings on other constructs. Discriminant validity is considered established when each indicator exhibits the highest loading on its intended construct compared to other constructs (Hair et al., 2021).

The second stage is Structural Model Evaluation (Inner Model), which assesses the strength of relationships among constructs through path coefficients, R^2 , f^2 , and Q^2 predictive relevance. Mediation analysis was conducted to examine the role of Green Competitive Advantage as a mediator between Green Innovation and Sustainability Performance, using bias-corrected bootstrapping (5,000 resamples) with a significance level of $p < 0.05$. In addition, PLSpredict was employed to assess the model's predictive power on out-of-sample data.

Results

Descriptive Statistics

The total number of questionnaires distributed by the researcher to BUMDes managers in Kampar Regency, both directly and via Google Forms, was 213 questionnaires. The number of returned questionnaires was 200 (94%), while 13 questionnaires (6%) were not returned or received no response. Among the returned questionnaires, 8 were considered invalid (7%). Therefore, the number of questionnaires eligible for analysis in this study was 192 (ninety-two) respondents (93%). Table 1 shows that the participation rate of BUMDes managers in Kampar Regency in this study was relatively high. This is indicated by the questionnaire return rate of 94%.

Table 1. Descriptive Statistical Analysis Results

Variable	N	Minimum	Maximum	Mean	Std. Deviation
GEO	192	3.000	5.000	4.304	0.456
GG	192	2.000	5.000	4.240	0.495
GF	192	3.000	5.000	4.224	0.450
SP	192	3.000	5.000	4.341	0.447
Valid (listwise)	192				

The results of the descriptive statistical analysis indicate that the data for each variable are in good condition, as evidenced by the standard deviation values being lower than the corresponding mean values.

Outer Model Result

Validity Test Results

In SEM-PLS analysis, the first step is to assess the outer model by conducting a convergent validity test, which involves examining the extent to which each indicator correlates with its respective construct. For confirmatory research, indicators should have factor loadings greater than 0.50, while loadings in the range of 0.50 to 0.70 are still acceptable in exploratory contexts. In addition, the Average Variance Extracted (AVE) must exceed 0.50 to ensure that the construct adequately captures more than half of the variance of its indicators (Hair et al., 2021). Table 2 presents the results, showing that the factor loading values for each latent variable exceed the threshold of 0.6, thereby confirming validity.

The factor loading analysis indicates that all indicators exhibit higher loadings on their respective constructs compared to other constructs, thereby satisfying the requirements of convergent validity. Green Entrepreneurial Orientation (0.692–0.817), Good Governance (0.637–0.855), Green Finance (0.620–0.9229), and Sustainability Performance (0.634–0.860) all exceed the AVE threshold of 0.50, indicating that each construct explains more than half of the variance in its indicators (Robinson et al., 2025) and (Hair Jr et al., 2021)

Table 2. Factor Loading

	GEO	GG	GF	SP
GEO 2	0.692			
GEO 3	0.736			
GEO 4	0.817			
GEO 5	0.775			
GEO 6	0.762			
GEO 7	0.703			
GEO 8	0.726			
GG 1		0.836		
GG 2		0.791		
GG 3		0.820		
GG 4		0.819		
GG 5		0.837		
GG 6		0.810		
GG 7		0.737		
GG 8		0.637		
GG 9		0.827		
GG 10		0.855		
GG 11		0.844		
GG 12		0.848		
GF 1			0.746	
GF 5			0.620	
GF 6			0.910	
GF 7			0.929	
GF 8			0.925	
SP 1				0.636
SP 2				0.634
SP 3				0.760
SP 4				0.733
SP 5				0.860
SP 6				0.837

Discriminant validity testing was conducted using three approaches: the Fornell–Larcker criterion, and the HTMT ratio. The cross-loading results show that each indicator has a stronger loading on its associated construct than on other constructs, thereby meeting the required guidelines. Table 3 presents the results of the discriminant validity assessment using the Fornell–Larcker criterion and the Heterotrait–Monotrait (HTMT) ratio.

Table 3. Discriminant Validity Assessment

Construct / Relationship	GF	SP	GEO	GG	HTMT
GF	0.855				
SP	0.462	0.748			
GEO	0.399	0.625	0.755		
GG	0.525	0.490	0.393	0.807	
SP ↔ GF					0.522
GEO ↔ GF					0.407
GEO ↔ SP					0.679
GG ↔ GF					0.509
GG ↔ SP					0.529
GG ↔ GEO					0.415

The discriminant validity results confirm that the constructs are empirically distinct. The Fornell–Larcker criterion is satisfied because the square root of AVE for GF (0.855), SP (0.748), GEO (0.755), and GG (0.807) exceeds their correlations with other constructs. This is further supported by the HTMT values, which range from 0.407 to 0.679 and remain below the recommended threshold of 0.85 (Henseler et al., 2015). Thus, the measurement model demonstrates adequate discriminant validity and is suitable for structural model assessment.

Reliability Test Results

Reliability testing aims to assess the consistency among indicators. Reliability is evaluated using two criteria, namely composite reliability and Cronbach’s alpha. Values greater than 0.70 for both measures are generally required to be considered acceptable. According to the results presented in Table 4, all variables achieved composite reliability scores above 0.70 and Cronbach’s alpha values exceeding 0.70, indicating that the measurement instruments are reliable and demonstrate strong internal consistency (Bassem, 2023).

Table 4. Realibilitas Cronbach’s Alpha and Composite Realibility Test Results

Variable	Cronbach’s Alpha	Composite Realibility (rho_c)	Description
GEO	0,876	0,886	Reliabel
GG	0,951	0,956	Reliabel
GF	0,907	0,934	Reliabel
SP	0,840	0,859	Reliabel

Inner Model Result

Model Fit and Quality Index Results

To evaluate the adequacy of the estimated SEM-PLS model, a goodness-of-fit assessment was conducted, which includes overall model fit and predictive capability. This evaluation comprises SRMR and NFI as model fit indices, along with the PLSpredict procedure, which reports Q^2 predict, RMSE, and MAE values to assess the model's predictive accuracy for endogenous constructs (Robinson et al., 2025).

The model fit assessment of the estimated model, as summarized in Table 5, shows an SRMR value of 0.010, which is below the recommended threshold of 0.10, indicating acceptable model fit. Although the NFI value of 0.688 is relatively modest, it is still considered adequate for exploratory research purposes. Predictive validity was further examined using the PLSpredict procedure, and the results indicate positive Q^2 predict values for all endogenous constructs (0.443 for sustainability performance), confirming the model's predictive relevance. In addition, the RMSE value (0.755) and MAE value (0.544) demonstrate that the model achieves a satisfactory level of predictive accuracy, in line with predictive assessment guidelines in PLS-SEM (Shmueli et al., 2019).

The model explains 47.8% of the variance in Sustainability Performance, as indicated by the R^2 value of 0.478, while the adjusted R^2 of 0.470 confirms a similar explanatory capacity after adjustment. The Q^2 value of 0.443, which is greater than zero, indicates that the model has predictive relevance for Sustainability Performance. The SRMR value of 0.010 is well below the 0.08 threshold, supporting an adequate model fit. Meanwhile, the NFI value of 0.688 indicates a relatively limited incremental fit and should therefore be interpreted cautiously rather than classified as a strong fit. Overall, the findings demonstrate that the structural model has adequate explanatory power and predictive relevance, although its overall fit should be interpreted based on multiple assessment criteria rather than NFI alone.

Table 5. Structural Model Evaluation Results

Assessment	Construct	Value	Criteria	Interpretation
R-square	Sustainability Performance	0.478	—	Moderate
Adjusted R-square	Sustainability Performance	0.470	—	Moderate
Q-square	Sustainability Performance	0.443	> 0	Predictive relevance
RMSE	Sustainability Performance	0.755	—	—
MAE	Sustainability Performance	0.544	—	—
SRMR	Estimated Model	0.010	< 0.08	Good fit
NFI	Estimated Model	0.688	0–1	Acceptable

Hypothesis Testing Results

The results of the hypothesis testing are presented in Table 6. The table reports the estimated path coefficients, standard errors, t-statistics, and p-values for the proposed relationships between Green Entrepreneurial Orientation, Good Governance, Green Finance, and

Sustainability Performance. The estimated SEM-PLS model and the structural relationships among the constructs are illustrated in Figure 2.

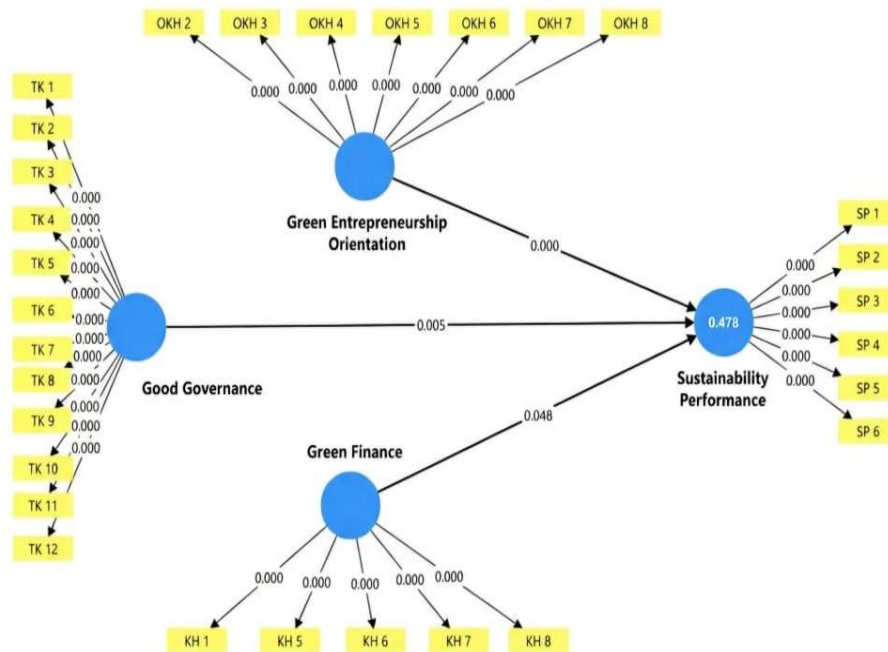


Figure 2. SEM-PLS Structural Model

Table 6 . Hypothesis Result Test

Hypothesis	Relationship	t-statistic	p-value	Decision
H1	GEO → SP	7.543	< 0.001	Supported
H2	GG → SP	3.448	0.001	Supported
H3	GF → SP	1.978	0.048	Supported

The hypothesis testing results presented in Table 6 show that all three proposed hypotheses are supported. Green Entrepreneurial Orientation has the strongest effect on Sustainability Performance ($t = 7.543$; $p < 0.001$), indicating that environmentally oriented entrepreneurial practices play an important role in strengthening the sustainability performance of BUMDes. Good Governance also has a positive and significant effect ($t = 3.448$; $p = 0.001$), demonstrating that transparent, accountable, and participatory governance contributes to better sustainability outcomes. Green Finance has a positive and significant effect as well ($t = 1.978$; $p = 0.048$), although its statistical strength is the lowest among the three predictors.

Overall, the findings indicate that Sustainability Performance is influenced by a combination of entrepreneurial orientation, governance quality, and access to green-oriented financial resources. The stronger effect of GEO suggests that the capacity of BUMDes to pursue environmentally oriented innovation and business opportunities may be particularly important

for achieving sustainability outcomes. These findings also support the proposed theoretical relationships and provide empirical evidence for the structural model illustrated in Figure 2.

Discussion

The Effect of Green Entrepreneurial Orientation on Sustainability Performance

The results of Hypothesis 1 (H1) indicate that Green Entrepreneurial Orientation (GEO) has a positive and significant effect on the sustainability performance of Village-Owned Enterprises (BUMDes). This finding suggests that the sustainability performance of BUMDes is not determined solely by their ability to generate economic returns, but also by their capability to develop entrepreneurial activities that respond to environmental and social challenges. In the context of BUMDes in Kampar Regency, GEO reflects managers' ability to identify environmentally oriented business opportunities, pursue green innovation, take calculated risks, and proactively develop business activities with longer-term economic, social, and environmental objectives.

This finding is consistent with Mondal et al. (2024), who demonstrate that GEO positively contributes to sustainable performance by encouraging firms to integrate environmental considerations into entrepreneurial activities. It is also consistent with W. E. Putra and Utama (2022), who find that GEO and green innovation contribute to sustainable performance. The present finding further supports the BUMDes literature developed by Basri et al. (2021), who demonstrate that human capital and social capital contribute to innovation capability and subsequently improve BUMDes performance. This evidence suggests that organizational capabilities provide an important foundation for transforming entrepreneurial orientation into organizational outcomes.

The significant relationship between GEO and sustainability performance can be explained through the capability-based perspective of the Resource-Based View. GEO represents an internal organizational capability because it determines how managers recognize opportunities, allocate resources, develop innovations, and respond to environmental changes. Basri et al. (2022) similarly demonstrate the relevance of social entrepreneurship orientation in strengthening the performance of village-based social enterprises. Although social entrepreneurship orientation and GEO emphasize different dimensions, both findings indicate that entrepreneurial orientation becomes strategically important when managers integrate organizational resources with social or environmental objectives.

The stronger influence of GEO compared with Good Governance and Green Finance provides an additional empirical insight. GEO directly affects managerial decisions concerning opportunity recognition, innovation, proactiveness, and risk-taking, whereas governance primarily establishes mechanisms for control and accountability and green finance provides financial resources for sustainability-oriented activities. The finding is particularly relevant to BUMDes because their sustainability depends on the ability of managers to convert locally available resources into innovative and environmentally responsible business activities. Basri et al. (2026) further demonstrate the relevance of GEO, green finance, and green innovation in explaining sustainability performance in BUMDes. This study therefore extends that research stream by showing that GEO maintains a significant direct relationship with sustainability performance when Good Governance and Green Finance are simultaneously incorporated into the model.

Furthermore, the stronger effect of GEO compared with Green Finance indicates that financial resources alone may not automatically generate sustainability outcomes. BUMDes require managerial capabilities to identify appropriate investment opportunities and transform financial resources into green products, services, processes, or innovations. This interpretation is consistent with Basri et al. (2021), which emphasizes the importance of organizational resources and innovation capability in BUMDes performance. Accordingly, the present findings suggest that the value of financial resources depends partly on the organizational capability to deploy them strategically.

These findings also indicate a shift in the management orientation of BUMDes from a predominantly short-term economic orientation toward a broader sustainability-oriented business model. Such a shift is particularly important because BUMDes are expected to generate economic value while contributing to village welfare and environmental sustainability. The findings of Mondal et al. (2024) and Putra & Utama (2022) support the argument that green entrepreneurial orientation can improve sustainability-related organizational outcomes. The present study extends these findings to the BUMDes context by demonstrating that GEO is a significant predictor of sustainability performance in village-based economic organizations.

The Effect of Good Governance on Sustainability Performance

The results of Hypothesis 2 (H2) demonstrate that Good Governance (GG) has a positive and significant effect on sustainability performance. This finding indicates that transparency, accountability, participation, and adherence to organizational rules constitute important governance mechanisms for supporting the sustainability of BUMDes. Because BUMDes manage village-related economic resources and operate in close interaction with local communities, governance quality can influence not only managerial efficiency but also stakeholder confidence and organizational legitimacy.

The finding is consistent with Kurnianto & Iswanu (2021), who find that good governance improves BUMDes performance through more effective organizational management. It is also consistent with Rois et al. (2025), who demonstrate that good governance contributes positively to BUMDes sustainability performance. The present result therefore provides additional empirical support for the proposition that governance quality represents an important determinant of sustainable performance in village-owned enterprises.

The findings are further supported by Basri et al. (2023), who emphasize the importance of accountability and social performance in BUMDes and social enterprises. Accountability is particularly relevant because BUMDes are expected to demonstrate responsible management of resources to village stakeholders. Similarly, Basri et al. (2024a) demonstrate the importance of organizational justice, leadership trust, and organizational learning in BUMDes performance. These findings indicate that governance mechanisms operate within a broader organizational environment involving trust, fairness, accountability, and learning. Consequently, good governance can contribute to sustainability not only through formal control mechanisms but also by strengthening organizational relationships and managerial processes.

Basri et al. (2025b) provide further evidence that governance contributes to sustainability performance and green innovation in BUMDes. This finding is particularly relevant to the

present study because it indicates that governance may create an organizational environment that facilitates sustainability-oriented innovation. Transparent decision-making, accountability, and stakeholder participation can reduce uncertainty surrounding resource allocation and create greater confidence among organizational members and village stakeholders. In turn, such conditions can facilitate the implementation of sustainability-oriented initiatives.

The significant effect of Good Governance, although weaker than the effect of GEO, suggests that governance and entrepreneurial orientation perform different but complementary functions. Governance provides the institutional structure through which resources are controlled, monitored, and allocated, whereas GEO directly shapes managerial behavior toward innovation and opportunity recognition. Thus, the lower coefficient of GG should not be interpreted as indicating that governance is unimportant. Rather, it suggests that governance functions primarily as an enabling and controlling mechanism, while GEO operates more directly as a strategic capability for business development.

This interpretation is consistent with Basri et al. (2024a), who show that organizational justice, leadership trust, and organizational learning are relevant to BUMDes performance. It also complements Basri et al. (2025b), which highlights governance as part of an integrated model of sustainability and green innovation in BUMDes. Therefore, the present study reinforces the view that governance should be understood not merely as an administrative or compliance mechanism but as an organizational capability that supports the effective deployment of resources and sustainability-oriented business strategies.

The Effect of Green Finance on Sustainability Performance

The results of Hypothesis 3 (H3) demonstrate that Green Finance (GF) has a positive and significant effect on sustainability performance. This finding indicates that access to environmentally oriented financial resources can increase the capacity of BUMDes to undertake activities that simultaneously support economic efficiency and environmental and social objectives. Green finance can provide resources for investments in environmentally friendly technologies, resource efficiency, waste management, sustainable production, and other activities that require financial support beyond routine operational expenditure.

The finding is consistent with Abuatwan (2023), who reports a positive and significant relationship between green finance and sustainability performance. The present study extends this evidence by demonstrating that the relationship also exists within BUMDes, which have substantially different institutional and resource characteristics from conventional corporations and financial institutions.

The finding is particularly consistent with Basri et al. (2026b), who specifically examine green finance and sustainability performance in BUMDes and incorporate green innovation and GEO into the analytical framework. Their research demonstrates the importance of green finance in supporting sustainability-oriented outcomes in BUMDes. The present study complements this evidence by demonstrating a significant direct effect of green finance on sustainability performance when GEO and Good Governance are simultaneously included as independent variables.

The relatively weaker effect of Green Finance compared with GEO and Good Governance provides an important contextual finding. The availability of financial resources does not

necessarily guarantee sustainability outcomes if BUMDes lack the organizational capabilities required to identify, manage, and implement appropriate sustainability-oriented investments. This interpretation is consistent with Saputri and Basri (2026), who examine strategic planning and green finance in relation to BUMDes sustainability performance and emphasize the relevance of organizational capabilities in strengthening sustainability-oriented outcomes. Green finance can therefore be viewed as an enabling resource whose effectiveness depends on the managerial and organizational capabilities of BUMDes.

The weaker effect may also reflect the current operating characteristics of BUMDes in Kampar Regency. Many BUMDes continue to operate at a relatively small scale and may have limited access to specialized green financial instruments. In such circumstances, managers may prioritize conventional financing for operational activities rather than financing specifically designed for environmental investments. Consequently, green finance can support sustainability performance, but its contribution may remain lower than that of an internal capability such as GEO. This interpretation is consistent with the resource-based argument that resources create value only when organizations possess the capabilities required to deploy them effectively.

The relationship between Green Finance and sustainability performance also complements the findings of Basri et al. (2026b), which position green innovation and GEO as important mechanisms surrounding the relationship between green finance and sustainability performance in BUMDes. The present findings suggest that green finance remains relevant even when GEO and Good Governance are modeled as direct predictors. This provides additional evidence that financial resources constitute an important component of the sustainability architecture of BUMDes, although their effectiveness is likely to depend on complementary organizational capabilities.

Overall, the findings indicate that BUMDes sustainability performance is shaped by three complementary dimensions: entrepreneurial capability, governance capability, and financial resources. GEO demonstrates the strongest statistical relationship with sustainability performance, indicating that the capacity to identify green opportunities, innovate, and proactively respond to environmental challenges is particularly important. Good Governance provides the organizational mechanisms required to ensure accountability, transparency, and stakeholder participation, while Green Finance provides resources to support sustainability-oriented investments. This configuration extends the Resource-Based View by demonstrating that sustainability performance depends not only on possessing valuable resources but also on the organizational capabilities required to transform those resources into economic, social, and environmental value.

Conclusion

Based on the research objective of examining the effect of Green Entrepreneurial Orientation on Sustainability Performance in Kampar Regency, the findings of this study indicate that the higher the commitment of BUMDes managers in adopting green entrepreneurship—characterized by innovation, proactiveness, risk-taking, and autonomy—the higher the sustainability performance achieved. Good governance has a significant effect on Sustainability Performance in Kampar Regency. The findings show that the implementation of transparency,

accountability, participation, and the rule of law principles contributes to achieving sustainability performance. Green finance also has a significant effect on Sustainability Performance in Kampar Regency. The results indicate that the implementation of green finance, characterized by green lending, carbon financing, and climate financing, can enhance sustainability performance.

This study has several limitations, namely that the scope of the research is limited to BUMDes in Kampar Regency, and the research object covers all BUMDes, which may lead to differences in respondents' perceptions. In addition, the R-square value of 0.478 indicates that there are other variables influencing sustainability performance that have not yet been examined. Furthermore, model fit indices such as SRMR and NFI still have room for improvement.

Based on these limitations, future research is recommended to expand the research area, focus the object on a single BUMDes, and include additional variables such as resource quality, management systems, and government support. Future studies may also add independent variables or introduce moderating variables to provide new insights into sustainability performance. Model development and indicator refinement are also necessary to improve overall model fit.

Theoretically, this study supports the Resource-Based View (RBV) theory, which explains that organizational resources such as green entrepreneurial orientation can create sustainable performance and enhance organizational outcomes. Practically, the findings provide implications for BUMDes managers in Kampar Regency to strengthen green entrepreneurial orientation and green finance practices. Support from the Department of Village Community Empowerment and Civil Registration (DPMD Dukcapil) of Riau Province is also needed through training, financing facilitation, and information-sharing platforms to help BUMDes improve competitiveness and business sustainability.

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CONFLICTS OF INTEREST

The author declares no conflict of interest. The author confirms that there is no financial or personal relationship that could influence the research results.



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