Archipel: Journal of Indonesian Interdisciplinary Studies
E-ISSN : 3124-6621
Vol.1 No. 12 August 2026
https://ojsap.com/index.php/archipel/index
DOI : https://doi.org/10.65739/archipel.v1i12.77

The Role Of Governance And Digitalization As Moderating Variables In The Effect Of Village Funds On Economic Growth In South Aceh Regency

Yulizar [1], Shabri Abd. Majid2[2], Putri Bintusy Syathi[3]
[1]Magister of Economics Program, Faculty of Economics and Business, Syiah Kuala University, Indonesia,
[2,3] Faculty of Economics and Business, Syiah Kuala University, Indonesia

Email: 46.yuza@gmail.com

Submit : July 05, 2026 Revised : August 06, 2026
Accepted: August 10, 2026 Published : August 14, 2026

ABSTRACT

This study aims to analyze the effect of Village Funds on economic growth with governance and digitalization as moderating variables in South Aceh Regency. The study employed a quantitative approach using panel data regression through the Random Effect Model (REM). The data used consisted of panel data from 260 villages during the 2019–2023 period. The results indicate that Village Funds have a positive and significant effect on economic growth in South Aceh Regency. This finding shows that increasing Village Fund allocations can stimulate community economic activities through infrastructure development and productive economic activities. Meanwhile, governance and digitalization show positive but insignificant relationships with economic growth. Furthermore, governance and digitalization as moderating variables have not been able to strengthen the influence of Village Funds on economic growth. The findings imply that the effectiveness of Village Fund utilization plays a more important role in promoting economic growth than governance quality and digitalization implementation. Therefore, village governments need to improve governance capacity, strengthen supervision mechanisms, and accelerate digital transformation to support sustainable rural economic development.

***Keywords**: Village Funds, Governance, Digitalization, Economic Growth, Panel Data Regression.*

INTRODUCTION

Economic growth is one of the primary indicators used to measure regional development performance. In rural areas, economic growth reflects the improvement of community welfare, productivity, and economic activities. As part of its fiscal decentralization strategy, the Government of Indonesia has implemented the Village Fund (Dana Desa) policy to accelerate rural development and reduce disparities between urban and rural regions (Ernawati et al., 2021).

Village Funds are expected to improve village infrastructure, empower local communities, and stimulate productive economic activities. However, the effectiveness of Village Funds in encouraging economic growth is highly dependent on governance quality and the implementation of digitalization at the village level.

A growing body of empirical research has examined the relationship between Village Funds and rural economic outcomes across Indonesia. Studies in Sumatra and Aceh have analyzed Village Funds alongside other fiscal transfers, such as local own-source revenue and general and special allocation funds, in explaining regional economic growth (Hutasuhut et al., 2025; Royanti et al., 2025), while others have evaluated Village Fund policy effectiveness and its contribution to local economic resilience and community development in regions such as Sleman, Aceh Barat, and Penukal Abab Lematang Ilir (Saptayuda, 2024; Sari & Maifizar, 2023; Suandi et al., 2022). Additional studies have documented the role of Village Funds in post-disaster rural recovery in Pidie

Jaya (Iqbal et al., 2021), village income and expenditure patterns in Aceh (Iskandar & Dolan, 2026), community perceptions of Village Fund management in North Sumatra (Nasution & Welly, 2023), the moderating role of economic growth on the effect of allocation funds and capital expenditure in local government (Sarwono & Astuti, 2021), and the contrasting effects of local own-source revenue and special allocation funds on regional economic growth in South Sulawesi (Tajuddin & Kessi, 2025).

Good governance plays an important role in ensuring transparency, accountability, participation, and effectiveness in village financial management. Warokka et al. (2025) found that governance dimensions—including ethical governance, implementation capacity, mandatory disclosure and reporting, community participation, and financial management capacity—significantly shape the performance and sustainability of village fund management, although these relationships are highly context-dependent across regions. Similarly, Ningsih et al. (2025) showed that good governance, apparatus competency, and internal control systems influence village fund management outcomes, while Fadhilah et al. (2025) emphasized the importance of governance accountability in aligning Village Fund management with the Sustainable Development Goals. Weak governance may therefore reduce the effectiveness of Village Funds and limit their impact on economic growth.

In addition, digitalization has become increasingly important in supporting administrative efficiency, transparency, and community economic activities through information technology utilization. Ningsih et al. (2025) found that the use of information technology moderated the relationship between governance-related factors and village fund management effectiveness, and Murthi et al. (2023) demonstrated that government support and digitalization (ICT) played a significant role in fostering inclusive and equitable economic growth in coastal villages in Badung, Bali. Related studies have also explored the digitization of village information systems and its effect on community participation (Sessu, 2025) and the interrelationship between digitalization, finance, and governance in supporting inclusive regional growth (Fajri et al., 2026).

Despite this growing body of research, most previous studies have examined governance and digitalization separately, either as direct determinants of village fund accountability (Ningsih et al., 2025; Fadhilah et al., 2025) or as isolated drivers of inclusive growth (Murthi et al., 2023; Sessu, 2025), rather than jointly testing their moderating role in the relationship between Village Funds and economic growth. Moreover, empirical evidence remains limited for South Aceh Regency, whose socio-economic and geographic characteristics differ from previously studied regions such as South Sulawesi, Papua, and Bali (Warokka et al., 2025; Phoek et al., 2024; Murthi et al., 2023). Therefore, this study seeks to fill this research gap by analyzing the moderating role of governance and digitalization in the relationship between Village Funds and economic growth in South Aceh Regency, using panel data from 260 villages during the 2019–2023 period.

RESEARCH METHODS

This study uses a quantitative approach with panel data regression analysis. The research was conducted in South Aceh Regency using panel data from 260 villages during 2019–2023.

Variables

- Dependent Variable:
  - Economic Growth (EG)
- Independent Variable:

- Village Funds (VF)

• Moderating Variables:

- Governance (GV)
- Digitalization (DG)

Regression Model

The regression model is formulated as follows:

$PE_{it} = \alpha_0 + \alpha 11DD_{it} + \alpha 12TK_{it} + \alpha 13DG_{it} + \varepsilon_1$..(1)

$PE_{it} = \alpha_0 + \alpha 21DD_{it} + \alpha 22TK_{it} + \alpha 23DG_{it} + \alpha 24DD_{it}*TK_{it} + \alpha 25DD_{it}*DG_{it} + \varepsilon_2$.........(2)

Description :

PE : Economic Growth
DD : Village Funds
TK : Village Fund Governance
DG : Village Fund Digitalization
α : Estimation Coefficient
ε : Residual/Error Term

The model selection was conducted through:

• Chow Test,
• Hausman Test,
• and Lagrange Multiplier Test.
• The best model selected was the Random Effect Model (REM).

RESULTS AND DISCUSSION

Research Design

As presented in Table 1, the Village Fund (DD) variable has a regression coefficient of 1.0486 with a probability value of 0.0632, indicating a positive effect that is statistically significant at the 10% level. This result shows that a one-unit increase in Village Fund allocation is associated with a corresponding increase in economic growth, holding the other variables constant. This finding indicates that increasing Village Fund allocations contributes to rural economic development through infrastructure improvement and productive economic activities. This result is consistent with Karim et al. (2024), who found that Village Fund utilization contributed to poverty reduction and economic activity in Enrekang Regency, and with Ernawati et al. (2021), who showed that Village Fund allocation as a form of government expenditure encourages inclusive, pro-poor, and pro-job growth across Indonesia.

Governance (TK) and digitalization (DG) show positive coefficients of 0.5513 and 0.6657, respectively, suggesting that both factors are associated in principle with higher economic growth. However, based on their estimated probability values, neither effect meets conventional statistical significance thresholds, indicating that governance and digitalization do not yet exert a statistically reliable influence on economic growth in South Aceh Regency. This condition suggests that governance quality and digital transformation in villages are not yet fully optimized. This finding is in line with Phoek et al. (2024), who reported that although several governance-related elements substantially affect village economic empowerment in South Papua, these factors have not been fully optimized to achieve full economic independence, and with Warokka et al. (2025), who emphasized that the influence of governance dimensions on village fund performance is highly context-dependent, varying with geography, institutional capacity, and socio-cultural conditions.

Furthermore, the interaction terms DD*TK and DD*DG, which represent the moderating effects of governance and digitalization, show negative coefficients of –

5.8054 and –7.0884, respectively, and are not statistically significant. This indicates that, rather than strengthening the effect of Village Funds on economic growth, governance and digitalization are associated with a weakening of that relationship, although this effect cannot be considered statistically reliable. In other words, governance and digitalization have not been able to strengthen the influence of Village Funds on economic growth. This contrasts with settings where governance and information technology have been shown to moderate village financial management more clearly, such as Ningsih et al. (2025), who found that information technology utilization strengthened the effect of good governance, apparatus competence, and internal control on village fund management in Riau, and Murthi et al. (2023), who found that government support and digitalization significantly fostered equitable growth in coastal villages in Bali. This difference suggests that the maturity of digital infrastructure and governance institutions in South Aceh's villages has not yet reached the level required for these variables to function effectively as moderators.

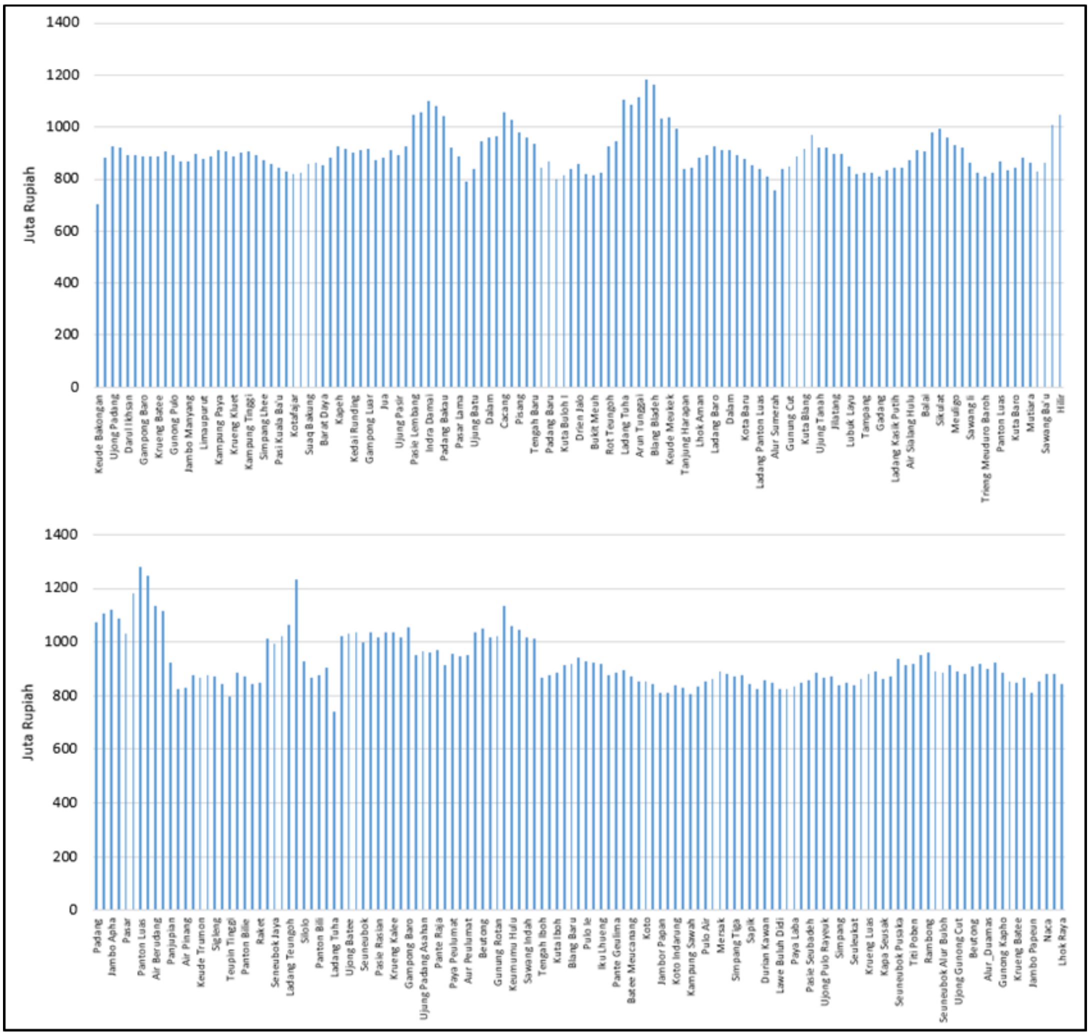
Several factors may explain these findings, including:

- limited digital infrastructure,
- low digital literacy,
- weak supervision mechanisms,
- and uneven governance quality among villages.

These constraints are consistent with challenges documented in other developing or transitional rural regions in Indonesia, where governance and digital transformation processes remain uneven across villages (Warokka et al., 2025; Phoek et al., 2024).

Data Sources

This study employed panel data, combining time-series and cross-sectional observations. The time-series data span the period from 2019 to 2023, while the cross-sectional data comprise 260 villages in South Aceh Regency, Indonesia. The panel dataset consists of annual observations for each village over the five-year study period, subject to data availability. This combination of temporal and cross-sectional dimensions enables a more comprehensive analysis of the relationships among the research variables across villages and over time.



Source: South Aceh Community and Village Empowerment Agency (DPMG) and the State Treasury Service Office (KPPN), 2026.

Figure 1. Average Village Fund Allocation in 260 Villages of South Aceh Regency, 2019–2023 (Million IDR).

Variabels

The variabels employed in this study are presented in Table 1.

Table 1. Definition of Variables

VARIABLE	COEFFICIENT	STD. ERROR	T-STATISTIC	PROB.
DD	1.0486	7.1670	146.3114	0.0632
TK	0.5513	0.0170	32.3037	6.8589
DG	0.6657	0.0163	40.7509	2.3078
DD*TK	-5.8054	1.8383	-31.5799	7.8873
DD*DG	-7.0884	1.8187	-38.97487	3.1492

Source: Processed by the author using a combination of EViews 12, Stata 17, and Microsoft Excel.
Notes: The data analysis in this study was conducted using two complementary software packages for cross-validation purposes: (i) EViews 12, which was employed for the primary panel data estimation, model selection tests, and classical diagnostic tests; and (ii) Stata 17.

CONCLUSIONS

This study concludes that Village Funds significantly contribute to economic growth in South Aceh Regency, although governance and digitalization have not yet demonstrated a significant moderating effect in strengthening this relationship; therefore, the study recommends improving the effectiveness of Village Fund management, strengthening village governance capacity, enhancing transparency and accountability, and accelerating rural digital transformation, while future research should incorporate additional factors such as human capital, institutional quality, and infrastructure development to provide a more comprehensive understanding of the determinants of rural economic growth..

REFERENCES

Journal

Ernawati, E., Tajuddin, T., & Nur, S. (2021). Does government expenditure affect regional inclusive growth? An experience of implementing village fund policy in Indonesia. *Economies*, 9(4), 164. https://doi.org/10.3390/economies9040164

Fadhilah, K., Suryanto, T., & Syarif, A. H. (2025). Accountability of governance and Sustainable Development Goals (SDGs) on economic growth in village fund management according to the perspective of Islamic economics. *Jurnal Indonesia Sosial Sains*, 6(4). https://doi.org/10.59141/jiss.v6i4.1665

Fajri, M., Pratama, B. P., & Kusumawardhani, A. (2026). Digitalization, finance, and governance for blue inclusive growth in Sulampua. *Journal of Scientific Research, Education, and Technology (JSRET)*, 5(2). https://doi.org/10.58526/jsret.v5i2.1145

Hutasuhut, N., Yahya, I., & Erwin, K. (2025). Analysis of the effect of local own-source revenue, general allocation funds, special allocation funds, and village funds on economic growth with capital expenditure as a moderating variable in regency/city of Sumatera. *International Journal of Research and Review*. https://doi.org/10.52403/ijrr.20250959

Iqbal, R., Nugroho, A., Fajri, Martiastuti, H., Nonita, L., & Fadhiela, K. (2021). Financial performance and impacts of village fund on post disaster rural economic development in Pidie Jaya-Indonesia. *IOP Conference Series: Earth and Environmental Science*, 708. https://doi.org/10.1088/1755-1315/708/1/012070

Iskandar, I., & Dolan, E. (2026). Analysis of village income and expenditure in Aceh with institutional moderation. *Aptisi Transactions on Technopreneurship (ATT)*, 8(2). https://doi.org/10.34306/att.v8i2.636

Karim, A., Ahmad, A., & Syamsuddin, I. (2024). An empirical study on the impact of village fund on economic growth and poverty alleviation. *Journal of Logistics, Informatics and Service Science*, 11(9), 333–352. https://doi.org/10.33168/jliss.2024.0921

Murthi, N. W., Utama, M. S., Saskara, I. A. N., & Marhaeni, A. A. I. N. (2023). The role of government and digitalization (ICT) in fostering equitable growth at the coastal village of Badung, Bali. *Tuijin Jishu/Journal of Propulsion Technology*, 44(4), 7044–7054. https://doi.org/10.52783/tjjpt.v44.i4.2538

Nasution, D. A. D., & Welly, Y. (2023). Community perspective in village fund management in Nagur Village, Serdang Bedagai Regency. *Basic and Applied Accounting Research Journal*, 3(2). https://doi.org/10.11594/baarj.03.02.01

Ningsih, W. S., Taufik, T., & Nurulita, S. (2025). The impact of good governance implementation, competency of village apparatus, and internal control systems on village fund management with the utilization of information technology as a moderating variable. *Jurnal Akuntansi, Manajemen, Bisnis dan Teknologi*. https://doi.org/10.56870/ak6pk184

Phoek, I. C. A., Bhaumik, A., Isaac, O., & Tjilen, A. (2024). How village funds influence economic development in South Papua, Indonesia. *Problems and Perspectives in Management*, 22(1). https://doi.org/10.21511/ppm.22(1).2024.26

Royanti, M., Nasir, M., & Seftarita, C. (2025). Economic growth as a moderator in the nexus between public finance, human development, and income inequality in Aceh. *Grimsa Journal of Business and Economics Studies*. https://doi.org/10.61975/gjbes.v2i2.90

Saptayuda, A. (2024). Evaluating the effectiveness of village fund policy in strengthening local economic resilience: Evidence from Sleman Regency, Indonesia. *VISIONER: Jurnal Pemerintahan Daerah di Indonesia*, 16(3). https://doi.org/10.54783/jv.v16i3.1260

Sari, N., & Maifizar, A. (2023). Implementation of the village community development and empowerment program through priorities of the use of village funds in the coastal area, Aceh Barat Regency. *Jurnal Sosiologi USK (Media Pemikiran & Aplikasi)*, 17(1). https://doi.org/10.24815/jsu.v17i1.32804

Sarwono, A. E., & Astuti, D. (2021). The role of moderating economic growth variables on the effect of allocation funds and capital expenditures in local government. *International Journal of Educational Research & Social Sciences*, 2(3). https://doi.org/10.51601/ijersc.v2i3.95

Sessu, A. (2025). Digitization of village information and its impact on community participation in village funds in Gowa Regency. *Journal of Asian Multicultural Research for Economy and Management Study*, 6(4). https://doi.org/10.47616/jamrems.v6i4.681

Suandi, S., Muhtar, E., Buchari, R., & Darto, D. (2022). The evaluation of village fund policy in Penukal Abab Lematang Ilir Regency (PALI), South Sumatera, Indonesia. *Sustainability*, 14(22), 15244. https://doi.org/10.3390/su142215244

Tajuddin, I., & Kessi, A. M. F. (2025). Fiscal decentralization and regional economic growth: The contrasting effects of PAD and DAK in Gowa Regency, South Sulawesi. *Amkop Management Accounting Review (AMAR)*, 5(2). https://doi.org/10.37531/amar.v5i2.3055

Warokka, A., Warokka, V., & Aqmar, A. Z. (2025). Financing rural futures: Governance and contextual challenges of village fund management in underdeveloped regions. *Journal of Risk and Financial Management*, 18(11), 603. https://doi.org/10.3390/jrfm18110603

Book

Gujarati, D. N., & Porter, D. C. (2009). Basic Econometrics. McGraw-Hill Education (5th edition).

Organization/government report

Badan Pusat Statistik. (2024). Statistik Indonesia 2024. Jakarta: BPS RI.