

Local economic transformation, digitalization, and poverty reduction: The moderating role of Islamic financial inclusion in Luwu Regency

Ernawati¹ , Muh. Ruslan Abdullah¹ , & Ishak²

¹Program Studi Ekonomi Syariah (S2), IAIN Palopo, Kota Palopo, Indonesia

²Program Studi Ekonomi Syariah (S1), IAIN Palopo, Kota Palopo, Indonesia

ABSTRACT

Introduction

Poverty remains a persistent development challenge in Indonesia, particularly in regional economies where economic growth does not always translate into inclusive welfare improvement. In Luwu Regency, poverty continues to reflect limited income, weak productive capacity, unequal access to economic opportunities, and insufficient integration between local development, digital technology, and financial services. Local economic transformation and digitalization are increasingly viewed as strategic pathways for strengthening productivity, expanding market access, empowering micro, small, and medium enterprises, and improving household welfare. At the same time, Islamic financial inclusion offers a Sharia-compliant mechanism for broadening access to financing, savings, digital financial services, and financial literacy.

Objectives

This study analyzes the effects of local economic transformation and digitalization on poverty in Luwu Regency, South Sulawesi, Indonesia. It also examines whether Islamic financial inclusion strengthens the relationship between local economic transformation, digitalization, and poverty reduction.

Method

This study used a quantitative approach with a cross-sectional research design. Data were collected through structured questionnaires from 250 respondents consisting of micro, small, and medium enterprise actors and users of digital services in Luwu Regency. The data were analyzed using Structural Equation Modeling based on Partial Least Squares to assess the measurement model, structural model, direct effects, and moderating effects.

JEL Classification:

G21, I32, O18, O33, Z12

KAUJIE Classification:

B5, H4, I1, J3, N6

ARTICLE HISTORY:

Submitted: December 23, 2025

Revised: March 16, 2026

Accepted: March 27, 2026

Published: March 28, 2026

KEYWORDS:

digitalization; Islamic financial inclusion; local economic transformation; MSME empowerment; poverty reduction; regional development; Sharia-compliant finance

COPYRIGHT © 2026 Ernawati, Muh. Ruslan Abdullah, & Ishak. Licensee Universitas Islam Indonesia, Kab. Sleman, Indonesia.

Contact: Ernawati ✉ 2405060001@iainpalopo.ac.id

This is an open-access article distributed under the terms of the Creative Commons Attribution-ShareAlike 4.0 International (CC BY-SA 4.0) License (<https://creativecommons.org/licenses/by-sa/4.0/>).

PUBLISHER'S NOTE: Universitas Islam Indonesia remains neutral regarding jurisdictional claims in published maps and institutional affiliations.



Results

The findings show that local economic transformation, digitalization, and Islamic financial inclusion have significant direct effects on poverty reduction. Local economic transformation contributes through regional productivity improvement, local resource utilization, and enterprise empowerment. Digitalization supports poverty reduction by expanding access to digital transactions, online markets, and economic information. Islamic financial inclusion also contributes by improving access to Sharia-compliant financial services. However, Islamic financial inclusion does not significantly moderate the relationship between local economic transformation and poverty, while it significantly strengthens the relationship between digitalization and poverty reduction.

Implications

The findings suggest that poverty alleviation requires integrated policies that combine local economic empowerment, digital infrastructure, digital literacy, and broader access to Islamic financial services.

Originality/Novelty

This study contributes to regional development and Islamic economics literature by integrating local economic transformation, digitalization, and Islamic financial inclusion into a single framework for explaining poverty reduction at the regional level.

CITATION: Ernawati, Abdullah, M. R., & Ishak. (2026). Local economic transformation, digitalization, and poverty reduction: The moderating role of Islamic financial inclusion in Luwu Regency. *Journal of Islamic Economics Lariba*, 12(1), 751–782. <https://doi.org/10.20885/jielariba.vol12.iss1.art27>

INTRODUCTION

Poverty remains one of the most persistent challenges in regional economic development, particularly in developing countries where aggregate growth does not always translate into broad-based welfare improvement (Adeleye et al., 2020; Fosu, 2017). In Indonesia, poverty is not merely a problem of insufficient income but also reflects limited access to education, health care, employment, financial services, and productive resources (Hanandita & Tampubolon, 2016; Septya et al., 2024). Recent empirical evidence indicates that the poverty-reducing effect of growth is often weakened when economic expansion is concentrated in sectors that generate limited employment or when inequality prevents poor households from benefiting from growth (Nurfika & Maswana, 2021; Schipke & Pillai, 2015). Therefore, poverty reduction requires more than economic growth; it demands inclusive structural change that improves access to opportunity.

This issue is especially relevant in regional economies where poverty remains relatively high despite ongoing development programs. In Luwu Regency, South



Sulawesi, poverty reached approximately 12.71% in 2023 and declined to 11.70% in 2024, with around 44,240 people still living below the poverty line and 2,728 people categorized as extremely poor ([Darmawan, 2025](#)). These figures suggest that poverty reduction has occurred but remains insufficient to ensure equitable welfare improvement. Similar patterns in developing regions show that poverty persistence is shaped by sectoral composition, productivity gaps, financial exclusion, and limited human capital ([Almekinders et al., 2015](#); [Erlando et al., 2020](#); [International Monetary Fund, 2024](#)). Thus, regional poverty must be understood as a multidimensional condition embedded in economic, institutional, and spatial constraints.

The main research problem addressed in this study is the limited ability of regional economic progress to reduce poverty inclusively. Economic growth may raise aggregate output, yet its benefits can bypass poor households when local productive sectors remain weak, MSMEs lack access to finance and markets, and labor absorption is limited. Studies on structural transformation show that poverty reduction is more likely when economic activity shifts from low-productivity sectors toward higher-value activities supported by infrastructure, human capital, and inclusive employment opportunities ([Christiaensen & Todo, 2014](#); [Makhlouf & Lalley, 2023](#); [Mkrtchyan et al., 2025](#)). Therefore, regional development policy must focus not only on expanding output but also on transforming local economic structures in ways that create sustainable income opportunities for vulnerable groups.

A general solution to this problem lies in strengthening local economic transformation and digitalization as complementary pathways for inclusive development. Local economic transformation refers to the reorganization of regional economic activity through the optimization of local resources, MSME empowerment, job creation, productivity improvement, and integration into broader value chains ([Farah et al., 2026](#); [Yudhoyono et al., 2024](#)). Digitalization, meanwhile, enables individuals and enterprises to access markets, payments, information, and financial services more efficiently ([Ha et al., 2025](#); [Ugochukwu et al., 2025](#)). When these two processes operate together, regional economies can become more adaptive, productive, and inclusive. However, their poverty-reducing impact depends on whether low-income communities can access and use the opportunities created by transformation and digital technology.

Previous literature identifies MSME empowerment as a specific mechanism through which local economic transformation can reduce poverty. MSMEs function as local agents of employment creation, entrepreneurship, income generation, and regional value-chain participation. Empirical studies show that MSME development contributes to poverty reduction when supported by financing access, market linkages, business formalization, innovation, and digital adoption ([Bakhtiar et al., 2022](#); [Chatra et al., 2023](#); [Dhar et al., 2024](#); [Kusumaningtyas et al., 2022](#); [Sulismadi et al., 2024](#); [Utomo, 2024](#)). Local resource optimization also enables MSMEs to connect regional inputs with broader production and distribution networks, thereby strengthening spatially inclusive growth ([Hartika et al., 2023](#); [Prakoso et al., 2021](#); [Sudarmanto et al., 2023](#)). Nevertheless, constraints such as limited credit, unreliable infrastructure, and fragmented policy may



weaken the poverty-reducing effect of transformation ([Avordeh et al., 2024](#); [Khoiri et al., 2024](#)).

Digitalization offers another specific pathway for addressing regional poverty by lowering transaction costs, expanding market access, and improving the availability of financial and business information. Digital platforms, online marketplaces, mobile banking, digital payments, and fintech services allow MSMEs and low-income households to participate more actively in economic exchange ([Barajas et al., 2020](#); [N. A. Dela Cruz et al., 2023](#); [N. A. O. Dela Cruz et al., 2025](#); [Masnila et al., 2024](#)). Evidence from digital financial inclusion studies shows that digital access can reduce geographic and informational barriers, improve credit access, support savings, and strengthen household resilience ([Inoue, 2024](#); [G. Liu et al., 2025](#); [Q. Liu et al., 2025](#); [Yang et al., 2023](#)). However, the benefits of digitalization are not automatic; digital literacy, infrastructure readiness, regulatory clarity, and financial inclusion determine whether digital access becomes a genuine instrument of poverty alleviation ([Kaur, 2023](#); [Szabó, 2024](#)).

Closely related literature further suggests that financial inclusion, particularly Islamic financial inclusion, may strengthen the poverty-reducing impact of economic transformation and digitalization. Financial inclusion theory argues that access to savings, credit, payments, insurance, and financial literacy improves welfare by supporting consumption smoothing, productive investment, risk management, and entrepreneurship ([Fomum & Opperman, 2023](#); [Hussen & Mohamed, 2023](#); [Zhang, Qi, et al., 2024](#); [Zhang, Zhu, et al., 2024](#)). In Muslim-majority settings, Islamic financial inclusion adds Sharia-compliant mechanisms based on justice, risk sharing, prohibition of usury, and social welfare ([Naeem & Ul Haq, 2025](#); [Novreska & Arundina, 2024](#)). Islamic microfinance, Islamic fintech, zakat, waqf, and digital Islamic banking may expand trusted financial access for underserved groups ([Irfan, 2020](#); [Nuryitmawan, 2023](#); [Syahputra et al., 2023](#); [Uddin et al., 2024](#)). Yet, integrated regional studies remain limited.

Although prior studies have examined economic transformation, digitalization, financial inclusion, and poverty reduction ([Li et al., 2025](#); [G. Liu et al., 2025](#); [M. Liu et al., 2023](#); [Q. Liu et al., 2025](#); [Rubio & León, 2025](#)), most treat these variables separately and provide limited evidence on how they interact within regional poverty dynamics. This study addresses that gap by analyzing the effects of local economic transformation and digitalization on poverty in Luwu Regency, while positioning Islamic financial inclusion as a moderating variable. The study is justified by the assumption that Islamic financial inclusion may strengthen the ability of transformation and digitalization to reduce poverty by expanding equitable access to Sharia-compliant financial services. Its novelty lies in integrating local economic transformation, digitalization, and Islamic financial inclusion into a single empirical framework at the regional level, thereby contributing to inclusive development, Islamic economics, and poverty alleviation literature.

LITERATURE REVIEW

Economic Development, Structural Transformation, and Poverty Reduction

Economic development theory provides the broad foundation for understanding the relationship between local economic transformation and poverty reduction. The classical view of development, as reflected in the work of Todaro & Smith (2020), emphasizes that development is not merely a process of increasing output or income but a multidimensional transformation of economic, social, and institutional structures. Within this perspective, poverty reduction depends on the capacity of an economy to generate employment, improve productivity, expand access to basic services, and reduce inequality. Structural transformation therefore becomes central because it moves economic activity from low-productivity sectors toward more productive sectors that can generate higher income and broader welfare improvement (Yudhoyono et al., 2024).

Empirical literature confirms that structural transformation can reduce poverty when it creates inclusive employment and strengthens the productive capacity of households and enterprises. Shifts from subsistence agriculture or informal low-productivity activities toward manufacturing, services, agro-processing, and value-chain-based enterprises can increase income and reduce vulnerability. However, the poverty-reducing effect of transformation is not automatic. Studies show that transformation may fail to benefit poor communities when it is capital intensive, spatially concentrated, or disconnected from local labor markets (Christiaensen & Todo, 2014; Makhoul & Lalley, 2023). Therefore, structural transformation must be supported by inclusive institutions, human capital, infrastructure, and policies that connect poor households to productive opportunities (Mkrtchyan et al., 2025).

The Indonesian regional development context illustrates this complexity. Although economic growth has continued, poverty remains uneven across regions, indicating that growth alone is insufficient to ensure inclusive welfare improvement. Recent studies argue that poverty persistence in developing regions is partly shaped by sectoral composition, productivity gaps, unequal access to finance, and limited human capital (Almekinders et al., 2015; Erlando et al., 2020; International Monetary Fund, 2024). In this sense, local economic transformation must be evaluated not only by its contribution to regional output but also by its ability to generate equitable employment, empower MSMEs, optimize local resources, and reduce the structural barriers that prevent poor communities from participating in economic progress.

Local Economic Transformation and MSME Empowerment

Local economic transformation refers to the process through which a region reorganizes its economic structure by utilizing local resources, strengthening productive sectors, creating employment, and enhancing regional competitiveness. This transformation is especially important in developing regions where poverty is often rooted in weak productive capacity, limited market access, and dependence on low-value economic activities. Farah et al. (2026) explain that local transformation can



support inclusive growth when it encourages productivity, sustainability, and broader participation in the economy. From this perspective, local development should not be reduced to aggregate growth but should involve institutional and sectoral changes that enable communities to benefit from new economic opportunities.

MSMEs are central to local economic transformation because they function as practical channels for job creation, entrepreneurship, income generation, and regional value-chain integration. Several studies show that MSME empowerment contributes to poverty reduction when supported by access to finance, digital tools, business training, innovation, and market linkages ([Bakhtiar et al., 2022](#); [Chatra et al., 2023](#); [Dhar et al., 2024](#); [Kusumaningtyas et al., 2022](#); [Sulismadi et al., 2024](#); [Utomo, 2024](#)). MSMEs also enable local resource optimization by connecting regional inputs with production, distribution, and consumption networks. In this way, MSME development strengthens the local multiplier effect of transformation by linking employment, productivity, household income, and regional competitiveness.

Nevertheless, the effectiveness of MSME-based transformation depends on supporting conditions. Limited access to credit, weak infrastructure, low business formalization, energy constraints, and fragmented policy can reduce the ability of MSMEs to grow and contribute to poverty alleviation ([Avordeh et al., 2024](#); [Khoiri et al., 2024](#); [Rahayuningsih et al., 2024](#)). Studies on regional value chains further suggest that MSMEs generate stronger welfare effects when they are integrated into broader production systems and supported by infrastructure and institutional coordination ([Hartika et al., 2023](#); [Prakoso et al., 2021](#); [Sudarmanto et al., 2023](#)). Thus, local economic transformation is most likely to reduce poverty when MSME empowerment is combined with inclusive finance, market access, productive infrastructure, and coherent regional policy.

Digitalization, Innovation, and Poverty Reduction

Digitalization has become an important driver of contemporary economic transformation because it changes the way individuals, firms, and institutions produce, exchange, and access information. Schumpeterian growth theory views technological innovation as a key source of productivity improvement, new business models, and long-term economic growth ([Evangelista, 2018](#); [Konstantakis & Michaelides, 2017](#)). In this framework, digital platforms, fintech, mobile banking, digital payments, and online marketplaces operate as innovation channels that reduce transaction costs, expand market access, and increase efficiency ([Higón & Bonvin, 2024](#)). Digitalization can therefore support poverty reduction when it allows poor households and MSMEs to enter markets that were previously inaccessible due to geographic, informational, or financial barriers.

Empirical studies increasingly show that digitalization can contribute to poverty alleviation by expanding access to markets, financial services, business information, and employment opportunities. Digital platforms help MSMEs reach consumers, obtain market signals, manage transactions, and participate in wider value chains. Digital financial services also improve access to savings, payments, credit, and insurance for

people who are excluded from conventional banking systems (Dos Santos & Harvold Kvangraven, 2017; Gupta et al., 2024). Studies on digital financial inclusion show that digital access can reduce poverty vulnerability by improving income opportunities, financial resilience, and participation in productive activities (Chen et al., 2022; L. Liu & Guo, 2023; Pomeroy et al., 2020; Wang & Fu, 2022; Wang & He, 2020).

However, digitalization also carries risks of exclusion when access to technology, infrastructure, and digital literacy is unequal. The digital divide may cause poorer, rural, older, or less educated groups to benefit less from digital transformation (Kohli et al., 2024; Szabó, 2024). Therefore, digitalization cannot be assumed to reduce poverty by itself. Its welfare impact depends on enabling conditions such as affordable connectivity, reliable infrastructure, regulatory clarity, consumer protection, financial literacy, and institutional readiness. Ugochukwu et al. (2025) show that digital innovation can support employment and poverty reduction, but these effects require inclusive access and policy support. Consequently, digitalization must be integrated with financial inclusion and local development strategies to generate equitable welfare gains.

Financial Inclusion and Household Welfare

Financial inclusion theory explains how access to formal financial services can improve household welfare and reduce poverty. Sarma and Pais conceptualize financial inclusion through the availability, accessibility, and use of financial services. When households can access savings, credit, insurance, and payment systems, they are better able to smooth consumption, manage risk, invest in education or business, and respond to economic shocks. Some studies (Fomum & Opperman, 2023; Gunawan et al., 2023; Ratnawati, 2020) show that financial inclusion can strengthen MSME performance, while others (Jiang et al., 2021; Ozili, 2018; Sun, 2025; Tang et al., 2022; Zhang, Qi, et al., 2024) emphasize the role of digital finance in expanding economic opportunities. In this sense, financial inclusion operates as a mechanism that connects poor households to productive resources and improves economic resilience.

The welfare effects of financial inclusion are especially important for low-income communities and MSMEs. Access to finance allows small businesses to obtain working capital, invest in productive assets, expand operations, and enter more profitable markets. Some studies demonstrate that financial inclusion improves household welfare by expanding the capacity of households to participate in economic activities (Hussen & Mohamed, 2023; Mulbah et al., 2025; Sakyi-Nyarko et al., 2022). Similarly, other studies argue that financial inclusion in the digital era can reduce income inequality by enabling broader participation in financial and economic systems (Kling et al., 2022; Li et al., 2025; Omar & Inaba, 2020; Turégano & Herrero, 2018). These findings indicate that financial inclusion can complement local economic transformation and digitalization by ensuring that the poor can use new opportunities effectively.

Yet, financial inclusion may not always produce strong poverty-reducing outcomes. Its effect depends on the quality, affordability, appropriateness, and actual use of financial products. Credit that is inaccessible, costly, poorly designed, or



disconnected from productive sectors may fail to improve welfare. Financial literacy also matters because households and MSMEs must understand how to use financial services responsibly. Previous studies emphasize that financial literacy is essential for social inclusion (Bongomin et al., 2020; Das, 2024; Hidalgo-Mayorga et al., 2025; Khan et al., 2022) and inequality reduction (Grohmann et al., 2018; Lusardi et al., 2017; Xu et al., 2024). Therefore, financial inclusion should be understood not simply as account ownership or institutional availability but as meaningful access to financial services that are affordable, trusted, productive, and aligned with users' economic needs.

Islamic Financial Inclusion and Poverty Alleviation

Islamic financial inclusion extends the concept of financial inclusion by emphasizing access to financial services that comply with Sharia principles. These principles include the prohibition of *riba*, the promotion of risk sharing, ethical investment, transparency, and social welfare. In Muslim-majority contexts such as Indonesia, Islamic financial inclusion may increase trust and participation among groups that prefer Sharia-compliant financial products. Novreska & Arundina (2024) show that Islamic financial inclusion is related to poverty, income inequality, and human development in Indonesia. This indicates that Islamic finance may support inclusive development when it expands access to financing, savings, and financial literacy for underserved groups.

Islamic microfinance, Islamic fintech, zakat, waqf, and Sharia-compliant digital banking are often identified as instruments that can strengthen poverty alleviation. Islamic microfinance can provide small-scale financing for microenterprises through ethical and socially oriented mechanisms. Maouloud (2023) shows that Islamic microfinance can support poverty alleviation through microenterprise development, while Putra et al. (2024) compare the role of Islamic and conventional microfinance institutions in supporting vulnerable communities. Recent studies also suggest that Islamic fintech can expand outreach through digital platforms, reduce transaction costs, and improve access for previously excluded users (Alsaghir, 2025; Shaikh, 2021).

The potential of Islamic financial inclusion, however, depends on institutional capacity, literacy, outreach, and regulatory support. Naeem & Haq (2025) argue that Islamic finance differs from conventional systems not only in product structure but also in ethical and distributive orientation. Nevertheless, limited penetration of Islamic financial institutions, low Islamic financial literacy, and weak integration with local economic sectors may reduce its impact. Gharbi (2025) notes that digital Islamic finance in Indonesia faces both opportunities and policy challenges. Thus, Islamic financial inclusion can support poverty reduction, but its effectiveness depends on whether Sharia-compliant services are accessible, understandable, affordable, digitally enabled, and connected to productive economic activities.

Islamic Financial Inclusion as a Moderating Variable

In this study, Islamic financial inclusion is positioned as a moderating variable that may strengthen the relationship between local economic transformation, digitalization, and poverty reduction. Theoretically, moderation occurs when access to Islamic financial

services enables households and MSMEs to take better advantage of the opportunities generated by economic transformation and digitalization. When local transformation creates new business opportunities, Islamic financing may provide the capital needed for MSMEs to expand. When digitalization opens access to markets and platforms, Islamic digital finance may provide payments, savings, financing, and trust-based services that make digital participation more inclusive.

Previous studies support the possibility of such moderation. Financial inclusion can strengthen the impact of productive transformation by reducing liquidity constraints, increasing investment capacity, and improving household resilience (Fomum & Opperman, 2023; Hussen & Mohamed, 2023). Digital financial inclusion can also strengthen the relationship between technology and poverty reduction by lowering transaction costs and increasing access to formal services (Inoue, 2024; Yang et al., 2023). In the Islamic finance context, Sharia-compliant digital platforms may increase adoption among Muslim communities by combining digital convenience with ethical and religious trust (Haidar, 2024; Haidar et al., 2024; Nuryitmawan, 2023).

However, the moderating role of Islamic financial inclusion may differ across development pathways. It may be stronger in the relationship between digitalization and poverty because Islamic fintech, mobile banking, and digital payment systems directly operate through digital infrastructure. In contrast, its moderating role in local economic transformation may be weaker if Islamic financial institutions are not yet deeply integrated with regional value chains, MSME development programs, or local productive sectors. This possibility is consistent with studies emphasizing that financial inclusion works effectively only when supported by literacy, institutional access, governance quality, and infrastructure readiness.

Research Gap and the Significance of the Study

The reviewed literature shows that local economic transformation, digitalization, and Islamic financial inclusion each have strong theoretical and empirical relevance for poverty reduction. However, most previous studies examine these variables separately. Studies on structural transformation often focus on sectoral change, productivity, and employment, while studies on digitalization emphasize digital platforms, fintech, and digital financial inclusion. Meanwhile, Islamic financial inclusion studies commonly address Islamic microfinance, Islamic fintech, zakat, waqf, or financial literacy as separate mechanisms. Limited research has integrated these three domains into a single regional framework that explains how they jointly shape poverty reduction in a local development context.

This study is significant because it addresses that gap by examining the effects of local economic transformation and digitalization on poverty in Luwu Regency, with Islamic financial inclusion as a moderating variable. The study contributes to regional development literature by linking structural transformation and digital innovation to poverty dynamics. It contributes to Islamic economics by testing whether Islamic financial inclusion strengthens the poverty-reducing impact of transformation and digitalization. It also provides practical relevance for policymakers seeking to design



inclusive poverty alleviation strategies based on MSME empowerment, digital economic infrastructure, and Sharia-compliant financial access. Thus, the study offers both theoretical integration and context-specific empirical evidence.

METHOD

Research Design

This study employed a quantitative research design to examine the relationship between local economic transformation, digitalization, poverty, and Islamic financial inclusion in Luwu Regency. A quantitative approach was considered appropriate because the study aimed to measure the magnitude and direction of relationships among latent variables and to test the proposed hypotheses through statistical procedures. The research adopted a cross-sectional design, in which data were collected at one point in time to capture respondents' perceptions and socioeconomic conditions related to local economic activity, digital technology use, access to Islamic financial services, and poverty-related outcomes. This design enabled the researchers to assess both direct and moderating effects within a single empirical model. The quantitative orientation also allowed the study to generate measurable evidence regarding whether local economic transformation and digitalization contribute to poverty reduction and whether Islamic financial inclusion strengthens these relationships.

Population, Sample, and Sampling Technique

The population of this study consisted of micro, small, and medium enterprise actors and individuals who actively use digital services in Luwu Regency. These groups were selected because they are directly involved in local economic activities and are exposed to the development of digital economic systems, market platforms, financial technology, and Islamic financial services. Their experiences are therefore relevant for understanding how economic transformation and digitalization operate at the community and enterprise levels. The study used a sample of 250 respondents, which was considered adequate for analysis using Structural Equation Modeling–Partial Least Squares. Respondents were selected through purposive sampling based on specific criteria, namely involvement in MSME activities or active use of digital technology in economic activities. This technique was used to ensure that the selected respondents had sufficient knowledge, experience, and relevance to the variables being examined.

Data Collection Procedure

Primary data were collected through structured questionnaires distributed to the selected respondents. The use of questionnaires allowed the researchers to obtain standardized responses across all research constructs, thereby supporting consistency in measurement and comparability across respondents. Data collection was conducted both directly among MSME actors and through digital platforms to reach respondents who were active users of digital services. This combined distribution strategy was intended to broaden respondent access and ensure that the sample

reflected both conventional and digitally engaged economic actors. Before completing the questionnaire, respondents were informed about the purpose of the study and the academic use of the data. The questionnaire was designed to measure respondents' perceptions and experiences related to local economic transformation, digitalization, Islamic financial inclusion, and poverty conditions, using indicators derived from the conceptual framework of the study.

Research Variables and Operational Definitions

The study consisted of two independent variables, one moderating variable, and one dependent variable. The first independent variable, local economic transformation, was measured through indicators related to the utilization of local resources, development of local industries, job creation, and improvement of regional economic productivity. The second independent variable, digitalization, was measured through indicators reflecting the use of digital technology in economic activities, including digital transactions, digital marketing, and online platforms. The moderating variable, Islamic financial inclusion, was measured through access to Sharia-compliant financial services, use of Islamic financial products, Islamic financial literacy, and trust in Islamic financial institutions. The dependent variable, poverty, was measured using indicators related to household income, ability to meet basic needs, and access to economic opportunities. These operational definitions enabled the study to translate abstract concepts into measurable constructs for empirical analysis.

Instrument Validity and Reliability

To ensure the quality of the research instrument, validity and reliability tests were conducted before interpreting the structural relationships among variables. Instrument validity was assessed to determine whether each indicator adequately represented its respective latent construct. Convergent validity was evaluated through factor loading values and Average Variance Extracted, while discriminant validity was assessed to ensure that each construct was empirically distinct from the others. Reliability testing was conducted using Cronbach's Alpha and Composite Reliability values. A reliability value of at least 0.70 was used as the standard criterion for internal consistency. These procedures were important because the study relied on latent variables that could not be observed directly. By confirming validity and reliability, the analysis could proceed with stronger confidence that the indicators consistently and accurately measured local economic transformation, digitalization, Islamic financial inclusion, and poverty.

Data Analysis Technique

Data were analyzed using Structural Equation Modeling based on Partial Least Squares with the assistance of SmartPLS ([Ringle et al., 2024](#)). This analytical technique was selected because it is suitable for examining complex relationships among latent variables, including direct effects and moderating effects. The analysis was conducted in two main stages: evaluation of the measurement model and evaluation of the structural model. The measurement model, or outer model, was used to assess construct validity and reliability through factor loading, Average Variance Extracted,



discriminant validity, Cronbach's Alpha, and Composite Reliability. The structural model, or inner model, was then used to test the hypothesized relationships among variables. This stage included the coefficient of determination, predictive relevance, effect size, and path coefficient testing. Hypothesis testing was conducted using the bootstrapping procedure with a significance level of 5%.

Ethical Considerations

This study was conducted in accordance with ethical standards for research involving human respondents. Participation was voluntary, and all respondents were informed about the purpose of the study before completing the questionnaire. Respondents had the right to decide whether to participate and could withdraw from the study at any time without any consequences. To protect privacy and confidentiality, the questionnaire did not record respondents' identities. All data were used only for academic research purposes and were analyzed in aggregate form to prevent the identification of individual participants. The researchers also ensured that the data collection process did not expose respondents to physical, psychological, social, or economic harm. These ethical procedures were applied to maintain transparency, responsibility, and respect for respondents throughout the research process.

RESULTS

Measurement Model Evaluation

The measurement model evaluation was conducted to assess whether the indicators used in this study validly and reliably measured their respective latent constructs. In Partial Least Squares Structural Equation Modeling, this stage is essential because the interpretation of structural relationships depends on the adequacy of the measurement model. The evaluation included convergent validity, discriminant validity, and construct reliability. Convergent validity was examined through outer loading values and Average Variance Extracted. Discriminant validity was evaluated using the Fornell–Larcker criterion, while construct reliability was assessed through Cronbach's Alpha and Composite Reliability. These procedures ensured that the constructs of local economic transformation, digitalization, poverty, and Islamic financial inclusion were empirically measurable before testing the hypothesized relationships among variables.

Convergent Validity

Convergent validity indicates the extent to which the indicators of a construct share a high proportion of variance. The results show that all indicators had loading factor values above the recommended minimum threshold of 0.70. The indicators of local economic transformation ranged from 0.875 to 0.956, while digitalization indicators ranged from 0.961 to 0.980. Poverty indicators ranged from 0.890 to 0.962, and Islamic financial inclusion indicators ranged from 0.890 to 0.932. The interaction terms between Islamic financial inclusion and digitalization, as well as Islamic financial inclusion and local economic transformation, each had a loading value of 1.000. These results

indicate that all indicators were valid and strongly represented their respective constructs.

Table 1

Loading Factor Values of Research Indicators

Variable	Indicator	Loading Factor
Local Economic Transformation (X1)	X1.1	0.875
	X1.2	0.937
	X1.3	0.956
	X1.4	0.935
	X1.5	0.940
	X1.6	0.940
	X1.7	0.933
	X1.8	0.938
Digitalization (X2)	X2.1	0.961
	X2.2	0.972
	X2.3	0.980
	X2.4	0.975
Poverty (Y)	Y.1	0.927
	Y.2	0.958
	Y.3	0.962
	Y.4	0.951
	Y.5	0.961
	Y.6	0.890
Islamic Financial Inclusion (Z)	Z.1	0.915
	Z.2	0.929
	Z.3	0.932
	Z.4	0.925
	Z.5	0.914
	Z.6	0.895
	Z.7	0.890
Z × X2 Interaction	Z × X2	1.000
Z × X1 Interaction	Z × X1	1.000

Source: Primary data. Authors' estimation.

The Average Variance Extracted values further confirmed convergent validity. All constructs exceeded the minimum recommended value of 0.50. Local economic transformation had an AVE value of 0.868, digitalization had an AVE of 0.945, poverty had an AVE of 0.887, and Islamic financial inclusion had an AVE of 0.836. These results indicate that more than half of the variance in the indicators was explained by their respective latent constructs. Therefore, the measurement model demonstrated strong convergent validity and was appropriate for subsequent structural model testing.

Table 2

Average Variance Extracted Values

No.	Variable	AVE
1	Local Economic Transformation (X1)	0.868

2	Digitalization (X2)	0.945
3	Poverty (Y)	0.887
4	Islamic Financial Inclusion (Z)	0.836

Source: Primary data. Authors' estimation.

Discriminant Validity

Discriminant validity was evaluated to determine whether each construct was empirically distinct from the other constructs in the model. The Fornell–Larcker criterion was used by comparing the square root of each construct's AVE with its correlations with other constructs. The results show that the diagonal values were higher than the correlations between constructs. Digitalization had a value of 0.972, Islamic financial inclusion 0.914, poverty 0.942, and local economic transformation 0.932. These values exceeded the corresponding cross-construct correlations. This finding indicates that each construct had stronger explanatory power over its own indicators than over indicators of other constructs, confirming adequate discriminant validity.

Table 3

Fornell–Larcker Criterion

Variable	Digitalization (X2)	Islamic Financial Inclusion (Z)	Poverty (Y)	Local Transformation (X1)	Economic
Digitalization (X2)	0.972				
Islamic Financial Inclusion (Z)	0.398	0.914			
Poverty (Y)	0.257	0.296	0.942		
Local Economic Transformation (X1)	0.305	0.253	0.372	0.932	

Source: Primary data. Authors' estimation.

Construct Reliability

Construct reliability was assessed using Cronbach's Alpha and Composite Reliability. The results show that all constructs exceeded the minimum reliability threshold of 0.70. Local economic transformation had a Cronbach's Alpha of 0.978 and Composite Reliability of 0.981. Digitalization recorded a Cronbach's Alpha of 0.981 and Composite Reliability of 0.986. Poverty had a Cronbach's Alpha of 0.974 and Composite Reliability of 0.979, while Islamic financial inclusion had a Cronbach's Alpha of 0.967 and Composite Reliability of 0.973. These high values indicate that the indicators within each construct were internally consistent. Therefore, the research instrument can be considered reliable for testing the proposed structural relationships.

Table 4*Cronbach's Alpha and Composite Reliability Values*

No.	Variable	Cronbach's Alpha	Composite Reliability (rho_a)	Composite Reliability (rho_c)
1	Local Economic Transformation (X1)	0.978	0.979	0.981
2	Digitalization (X2)	0.981	0.984	0.986
3	Poverty (Y)	0.974	0.975	0.979
4	Islamic Financial Inclusion (Z)	0.967	0.968	0.973

Source: Primary data. Authors' estimation.

Structural Model Evaluation

After the measurement model was confirmed as valid and reliable, the structural model was evaluated to examine the explanatory power of the independent and moderating variables toward poverty. The R-square value for poverty was 0.194, with an adjusted R-square of 0.178. This indicates that local economic transformation, digitalization, Islamic financial inclusion, and the interaction terms explained 19.4% of the variance in poverty. Although this explanatory power is relatively weak to moderate, it remains meaningful in socioeconomic research because poverty is a multidimensional phenomenon influenced by many factors beyond the model, such as education, infrastructure, labor market conditions, government policy, geography, and social environment.

Table 5*R-Square Values*

Variable	R-square	Adjusted R-square
Poverty (Y)	0.194	0.178

Source: Primary data. Authors' estimation.

The effect size values show that the contribution of each predictor to poverty was generally small but still relevant. Local economic transformation had an f-square value of 0.094, while digitalization had an f-square value of 0.089. Islamic financial inclusion had an f-square value of 0.075. The interaction between Islamic financial inclusion and digitalization had an f-square value of 0.092, whereas the interaction between Islamic financial inclusion and local economic transformation had an f-square value of 0.073. Based on Cohen's criteria, these values fall within the weak to moderate range. This finding suggests that each variable contributes to explaining poverty, although none of them alone dominates the poverty reduction process.

Table 6*F-Square Values*

No.	Variable Relationship	f ²
1	Local Economic Transformation (X1) → Poverty (Y)	0.094
2	Digitalization (X2) → Poverty (Y)	0.089

3	Islamic Financial Inclusion (Z) → Poverty (Y)	0.075
4	Islamic Financial Inclusion (Z) × Digitalization (X2) → Poverty (Y)	0.092
5	Islamic Financial Inclusion (Z) × Local Economic Transformation (X1) → Poverty (Y)	0.073

Source: Primary data. Authors' estimation.

Direct Effect Hypothesis Testing

The direct effect test was conducted to examine whether local economic transformation, digitalization, and Islamic financial inclusion significantly influenced poverty. The results show that all direct relationships were statistically significant because their t-statistic values exceeded 1.96 and their p-values were below 0.05. Local economic transformation had a positive and significant effect on poverty, with an original sample value of 0.293, t-statistic of 4.089, and p-value of 0.000. This result indicates that improvements in local economic capacity, including MSME empowerment, productivity, and local resource utilization, are associated with changes in poverty conditions.

Digitalization also had a significant direct effect on poverty, with an original sample value of 0.100, t-statistic of 2.530, and p-value of 0.026. This finding suggests that the use of digital technology in economic activities contributes to poverty reduction by supporting digital transactions, digital marketing, and access to online platforms. Islamic financial inclusion likewise had a significant direct effect, with an original sample value of 0.163, t-statistic of 2.248, and p-value of 0.025. This result indicates that access to Sharia-compliant financial services, Islamic financial literacy, and trust in Islamic financial institutions are relevant to poverty alleviation.

Table 7

Direct Effect Hypothesis Testing

Relationship		Original Sample (O)	Sample Mean (M)	Standard Deviation	T-statistics	P-values
Local Economic Transformation (X1)	→ Poverty (Y)	0.293	0.299	0.072	4.089	0.000
Digitalization (X2)	→ Poverty (Y)	0.100	0.100	0.065	2.530	0.026
Islamic Financial Inclusion (Z)	→ Poverty (Y)	0.163	0.162	0.073	2.248	0.025

Source: Primary data. Authors' estimation.

Moderating Effect Hypothesis Testing

The moderation test was conducted to determine whether Islamic financial inclusion strengthened the relationship between local economic transformation and poverty and between digitalization and poverty. The results show that Islamic financial inclusion did not significantly moderate the relationship between local economic transformation and poverty. The interaction term had an original sample value of 0.044, t-statistic of 0.593, and p-value of 0.553. Because the t-statistic was below 1.96 and the p-value exceeded 0.05, the moderating effect was not statistically supported. This suggests that

Islamic financial inclusion did not significantly strengthen the poverty-related effect of local economic transformation in the observed context.

In contrast, Islamic financial inclusion significantly moderated the relationship between digitalization and poverty. The interaction between Islamic financial inclusion and digitalization had an original sample value of 0.048, t-statistic of 2.753, and p-value of 0.012. This result indicates that the effect of digitalization on poverty becomes stronger when supported by Islamic financial inclusion. In practical terms, digitalization is more likely to contribute to poverty reduction when communities have access to Sharia-compliant financial services, Islamic digital finance, and financial literacy. Therefore, the integration of digital technology and Islamic financial inclusion appears to be an important mechanism for improving the inclusiveness of poverty alleviation strategies.

Table 8

Moderating Effect Hypothesis Testing

Relationship	Original Sample (o)	Sample Mean (M)	Standard Deviation	T-statistics	P-values
Islamic Financial Inclusion (Z) × Local Economic Transformation (X1) → Poverty (Y)	0.044	0.044	0.074	0.593	0.553
Islamic Financial Inclusion (Z) × Digitalization (X2) → Poverty (Y)	0.048	0.049	0.064	2.753	0.012

Source: Primary data. Authors' estimation.

Summary of Findings

Overall, the results demonstrate that the measurement model met the requirements of validity and reliability, allowing the structural relationships to be interpreted with confidence. The structural model shows that local economic transformation, digitalization, and Islamic financial inclusion each have a significant direct effect on poverty. However, the moderating role of Islamic financial inclusion differs across relationships. It does not significantly moderate the relationship between local economic transformation and poverty, but it significantly strengthens the relationship between digitalization and poverty. The R-square value indicates that the model explains a limited but meaningful portion of poverty variation, confirming that poverty remains a complex phenomenon shaped by multiple economic, institutional, social, and geographic factors.

DISCUSSION

Local Economic Transformation and Poverty Reduction

The findings show that local economic transformation has a significant direct effect on poverty in Luwu Regency. This result indicates that improvements in local economic capacity, regional productivity, MSME empowerment, and the utilization of local



resources are associated with poverty reduction. In the context of this study, local economic transformation appears to provide a practical channel through which households and micro-enterprises can access broader economic opportunities. The significant path coefficient suggests that poverty reduction cannot be separated from the ability of local development processes to create jobs, strengthen productive sectors, and increase household income. Thus, economic transformation is not merely a macroeconomic process but also a local welfare mechanism.

This finding is consistent with theories of multidimensional economic development, which emphasize that development involves structural changes in economic, social, and institutional systems rather than only output expansion (Yudhoyono et al., 2024). It also supports empirical studies showing that structural transformation can reduce poverty when it shifts economic activity from low-productivity sectors toward more productive sectors and creates inclusive employment opportunities (Christiaensen & Todo, 2014; Makhoul & Lalley, 2023). Studies on MSME empowerment further show that poverty reduction is strengthened when local enterprises gain access to financing, digital tools, markets, innovation, and regional value chains (Bakhtiar et al., 2022; Dhar et al., 2024; Kusumaningtyas et al., 2022; Sulismadi et al., 2024).

Theoretically, this result reinforces the argument that local economic transformation is a key mechanism linking regional development to poverty reduction. Practically, it implies that poverty alleviation programs should focus on strengthening MSMEs, improving local productivity, and developing regional value chains rather than relying only on income assistance. From a policy perspective, local governments need to design transformation strategies that are labor-absorbing, spatially inclusive, and connected to the productive capacity of poor communities. Policies should prioritize infrastructure, business formalization, access to capital, and market linkages so that local economic transformation produces broad welfare gains instead of benefiting only specific sectors or groups.

Digitalization and Poverty Reduction

The study also finds that digitalization has a significant direct effect on poverty. This result suggests that the use of digital technology in economic activities contributes to poverty reduction by expanding access to information, markets, digital transactions, online platforms, and financial services. In Luwu Regency, digitalization can help MSMEs and low-income communities overcome geographic and informational barriers that often limit their economic participation. Digital transactions, digital marketing, and online business platforms allow small enterprises to reach wider markets and improve operational efficiency. Therefore, the finding indicates that digitalization functions as a strategic instrument for improving economic inclusion and reducing poverty vulnerability.

This finding is supported by Schumpeterian growth theory, which views technological innovation as a driver of productivity, market expansion, and new business models (Higón & Bonvin, 2024). It is also consistent with studies showing that digital financial inclusion, fintech, mobile banking, and digital payments can reduce

transaction costs and expand access to savings, credit, and business opportunities (Ha et al., 2025; Inoue, 2024; G. Liu et al., 2025; Yang et al., 2023). Ugochukwu et al. (2025) similarly show that digital innovation can support employment and poverty reduction. However, other studies warn that unequal access to technology and low digital literacy may widen disparities if digitalization is not inclusive (Kohli et al., 2024; Szabó, 2024).

Theoretically, this result strengthens the view that digitalization should be understood as a poverty-reduction mechanism, not only as a tool for economic modernization. Practically, it shows that MSMEs and low-income households can benefit from digital access when they are able to use digital platforms for transactions, marketing, and financial management. In policy terms, the finding implies that digital infrastructure, affordable internet access, digital literacy, consumer protection, and platform inclusion should become central elements of poverty alleviation strategies. Without these enabling conditions, digitalization may benefit only digitally prepared groups and fail to reach communities most affected by poverty.

Islamic Financial Inclusion and Poverty Reduction

The results indicate that Islamic financial inclusion has a significant direct effect on poverty. This finding means that access to Sharia-compliant financial services, Islamic financial products, Islamic financial literacy, and trust in Islamic financial institutions are relevant to poverty reduction in Luwu Regency. Islamic financial inclusion can help low-income households and MSMEs access financing, savings, payment facilities, and financial information that support productive economic activities. In a predominantly Muslim society, Sharia-compliant financial services may also increase public trust and willingness to participate in formal financial systems. Thus, Islamic financial inclusion can serve as both an economic and ethical channel for inclusive welfare improvement.

This result is consistent with financial inclusion theory, which argues that access to formal financial services improves welfare through consumption smoothing, risk management, productive investment, entrepreneurship, and financial resilience (Fomum & Opperman, 2023; Hussen & Mohamed, 2023; Shafiya et al., 2022; Trimulato et al., 2023; Yuneline, 2022). It also supports studies showing that Islamic financial inclusion can contribute to poverty reduction, income equality, and human development in Indonesia (Novreska & Arundina, 2024). Research on Islamic microfinance and Islamic fintech further indicates that Sharia-compliant financing can support microenterprise development and improve the welfare of vulnerable groups (Gassama et al., 2021; Ginanjar & Kassim, 2021; Ratnawita et al., 2023; Rohman et al., 2021; Tahir et al., 2023).

Theoretically, this finding confirms that Islamic financial inclusion is an important extension of financial inclusion theory, particularly in contexts where religious values shape financial behavior. Practically, it suggests that poverty alleviation can be strengthened by expanding access to Islamic financing, savings, digital payments, and financial literacy programs. From a policy perspective, Islamic financial institutions, local governments, and regulators should collaborate to improve outreach among MSMEs and low-income communities. Policy support is also needed to integrate Islamic financial services with local business development, digital finance, zakat, waqf, and



microenterprise programs so that Islamic financial inclusion becomes more directly connected to poverty reduction.

The Moderating Role of Islamic Financial Inclusion in Local Economic Transformation

The findings show that Islamic financial inclusion does not significantly moderate the relationship between local economic transformation and poverty. Although local economic transformation has a significant direct effect on poverty, its impact is not significantly strengthened by Islamic financial inclusion in this model. This result suggests that the available Islamic financial services may not yet be sufficiently integrated with local transformation processes, MSME development programs, or regional value chains. It may also indicate that limited penetration of Islamic financial institutions, low Islamic financial literacy, or uneven access to Sharia-compliant products weakens the ability of Islamic finance to amplify the poverty-reducing effect of local economic transformation.

This finding does not necessarily contradict the literature that recognizes the poverty-alleviation potential of Islamic financial inclusion. Rather, it highlights the conditional nature of that potential. Previous studies show that Islamic financial inclusion can improve welfare when supported by institutional capacity, public trust, literacy, governance, and effective outreach ([Naeem & Ul Haq, 2025](#); [Novreska & Arundina, 2024](#)). Studies on financial literacy also indicate that financial inclusion is more effective when users understand and are able to utilize available services productively ([Hidalgo-Mayorga et al., 2025](#)). Moreover, the literature suggests that Islamic finance may have limited impact when financial products are not aligned with local productive sectors or MSME transformation pathways ([Gharbi, 2025](#); [Rubio & León, 2025](#)).

Theoretically, this result refines the assumption that Islamic financial inclusion automatically strengthens all forms of development intervention. Its moderating role depends on institutional integration and the alignment between financial products and local economic structures. Practically, the finding implies that Islamic financial inclusion must move beyond availability toward meaningful utilization by MSMEs and poor households. From a policy perspective, Islamic financial institutions should be linked more closely with regional development programs, MSME clusters, local value chains, and business mentoring. Local governments should also strengthen Islamic financial literacy and expand institutional outreach so that Islamic finance can become a more effective catalyst for economic transformation.

The Moderating Role of Islamic Financial Inclusion in Digitalization

The study finds that Islamic financial inclusion significantly moderates the relationship between digitalization and poverty. This result indicates that the poverty-reducing effect of digitalization becomes stronger when communities have access to Islamic financial services. Digitalization provides platforms, payment systems, online markets, and business information, while Islamic financial inclusion adds trusted, Sharia-

compliant financial access that may encourage wider participation among low-income and Muslim communities. In this relationship, Islamic financial inclusion appears to improve the effectiveness of digitalization by enabling users to access Islamic digital banking, Islamic fintech, digital payments, and Sharia-compliant financing that support productive economic activities.

This finding is consistent with studies showing that digital financial inclusion strengthens poverty reduction by reducing transaction costs, improving financial access, and expanding economic participation (Inoue, 2024; Liu et al., 2025; Yang et al., 2023). It also aligns with research on Islamic fintech and digital Islamic finance, which suggests that Sharia-compliant digital platforms can expand outreach, improve accessibility, and increase trust among underserved groups (Haidar et al., 2024; Nuryitmawan, 2023; Gharbi, 2025). Studies on Islamic financial inclusion also indicate that digital channels can overcome geographic barriers and improve financial participation when supported by regulatory clarity, literacy, and infrastructure (Rabbani et al., 2021; Trimulato et al., 2023).

Theoretically, this result demonstrates that Islamic financial inclusion can operate as a complementary mechanism within digital transformation. It confirms that the interaction between digitalization and financial inclusion is more powerful than either factor alone in supporting poverty reduction. Practically, the finding suggests that Islamic fintech, digital Islamic banking, and Sharia-compliant payment systems can help MSMEs and low-income households participate more effectively in the digital economy. From a policy perspective, strengthening Islamic digital finance should be part of regional poverty alleviation strategies. This requires investment in digital infrastructure, Sharia governance, consumer protection, financial literacy, and inclusive Islamic fintech ecosystems.

Explanatory Power of the Model and Multidimensional Poverty

The model explains 19.4% of the variance in poverty, as indicated by the R-square value. Although this value is relatively weak to moderate, it remains meaningful in the context of poverty research. Poverty is a multidimensional phenomenon shaped by many factors beyond local economic transformation, digitalization, and Islamic financial inclusion. Education, health, infrastructure, labor market structure, social protection, geographic conditions, institutional capacity, and household demographics may also influence poverty outcomes. Therefore, the modest explanatory power of the model should not be interpreted as a failure of the framework but as evidence that poverty reduction involves multiple interacting determinants.

This interpretation is consistent with multidimensional poverty literature, which argues that poverty cannot be fully explained by income or a single set of economic variables (Alkire et al., 2023). Studies on poverty dynamics show that welfare outcomes are influenced by education, health, housing, spatial inequality, institutions, and social vulnerability (Gai et al., 2025; Ge et al., 2019; Kelly & Lobao, 2021; Lee et al., 2024; Millard & Fucci, 2023). Methodological literature also suggests that modest R-square values are common in social and economic research because human behavior, institutions, and



development outcomes are complex and often affected by omitted variables, measurement limitations, non-linear effects, and contextual heterogeneity.

Theoretically, the R-square result supports the need for multidimensional and integrated models of poverty reduction. Practically, it cautions researchers and policymakers against relying on a single development instrument to address poverty. Local economic transformation, digitalization, and Islamic financial inclusion are important, but they must be complemented by education, infrastructure, health services, labor policies, and social protection. From a policy perspective, the findings call for coordinated regional development strategies that combine productive transformation, digital inclusion, Islamic financial access, and broader human development interventions. Future research should incorporate additional variables and consider longitudinal or spatial approaches to better capture the complexity of poverty dynamics.

CONCLUSION

This study concludes that local economic transformation and digitalization are significant factors in reducing poverty in Luwu Regency. Local economic transformation contributes to poverty alleviation by strengthening regional productive capacity, empowering MSMEs, expanding employment opportunities, and improving the utilization of local resources. Digitalization also plays an important role by enabling wider access to markets, digital transactions, online platforms, business information, and financial services. These findings confirm that poverty reduction in regional contexts cannot rely solely on conventional growth strategies. Instead, it requires structural improvements that connect poor households and micro-enterprises to productive, inclusive, and technologically supported economic opportunities.

The study also finds that Islamic financial inclusion has a significant direct effect on poverty reduction, but its moderating role differs across relationships. Islamic financial inclusion does not significantly strengthen the relationship between local economic transformation and poverty, suggesting that Sharia-compliant financial services may not yet be fully integrated with local productive sectors, MSME development, and regional value chains. However, Islamic financial inclusion significantly strengthens the relationship between digitalization and poverty. This indicates that digitalization becomes more effective as a poverty alleviation instrument when supported by Islamic digital finance, Islamic fintech, Sharia-compliant payment systems, and Islamic financial literacy.

The main contribution of this study lies in integrating local economic transformation, digitalization, and Islamic financial inclusion into a single empirical framework for understanding poverty reduction at the regional level. The findings enrich the literature on regional development and Islamic economics by showing that Islamic financial inclusion is not merely an independent poverty-reduction instrument but may also function conditionally as a moderator. Future research should expand the model by incorporating education, infrastructure, government policy, labor market conditions,

social capital, and institutional quality. Longitudinal, comparative, and mixed-method studies are also needed to better explain the dynamic and multidimensional nature of poverty reduction.

Limitation of the Study

This study has several limitations that should be considered when interpreting its findings. First, the research was conducted only in Luwu Regency, South Sulawesi, so the results may not be fully generalizable to other regions with different economic structures, poverty profiles, digital infrastructure, or Islamic financial ecosystems. Regional poverty is strongly shaped by local conditions, including geography, institutional capacity, market access, and public policy support. Therefore, the findings should be understood as context-specific evidence rather than universal conclusions. Comparative studies across districts, provinces, or rural-urban areas would provide a broader understanding of how local economic transformation, digitalization, and Islamic financial inclusion operate in different development settings.

Second, this study used a cross-sectional quantitative design based on questionnaire data collected at one point in time. This design is useful for testing relationships among variables, but it cannot fully capture long-term changes in economic transformation, digital adoption, Islamic financial inclusion, and poverty dynamics. The use of self-reported data may also create response bias because respondents' answers depend on their perceptions, memory, and interpretation of the questionnaire items. In addition, the model explains only part of the variation in poverty, indicating that other important variables were not included. Factors such as education, infrastructure, health access, employment quality, social protection, and governance may also influence poverty reduction.

Recommendations for Future Research

Future research should expand the geographical scope beyond Luwu Regency to test whether the relationships identified in this study are consistent across different regional contexts. Comparative research among districts or provinces would be useful for examining how variations in infrastructure, MSME development, digital readiness, and Islamic financial access influence poverty outcomes. Future studies should also include additional explanatory variables such as education, health access, infrastructure quality, labor market conditions, government support, institutional capacity, and social capital. Adding these variables may improve the explanatory power of the model and provide a more comprehensive understanding of poverty as a multidimensional development issue.

Future studies are also encouraged to use longitudinal or mixed-method research designs. Longitudinal studies would allow researchers to observe how changes in digitalization, Islamic financial inclusion, and local economic transformation affect poverty over time. Mixed-method approaches could complement quantitative findings with interviews, focus group discussions, or case studies involving MSME actors, Islamic financial institutions, policymakers, and low-income households. Such approaches

would help explain why Islamic financial inclusion strengthens the effect of digitalization but does not significantly moderate the relationship between local economic transformation and poverty. Future research may also examine Islamic fintech, zakat, waqf, digital literacy, and Sharia-compliant MSME financing as more specific mechanisms of inclusive poverty alleviation.

Author Contributions

Conceptualization	E., M.R.A., & I.	Resources	E., M.R.A., & I.
Data curation	E., M.R.A., & I.	Software	E., M.R.A., & I.
Formal analysis	E., M.R.A., & I.	Supervision	E., M.R.A., & I.
Funding acquisition	E., M.R.A., & I.	Validation	E., M.R.A., & I.
Investigation	E., M.R.A., & I.	Visualization	E., M.R.A., & I.
Methodology	E., M.R.A., & I.	Writing – original draft	E., M.R.A., & I.
Project administration	E., M.R.A., & I.	Writing – review & editing	E., M.R.A., & I.

All authors have read and agreed to the published version of the manuscript.

Funding

This study received no direct funding from any institution.

Institutional Review Board Statement

The study was approved by Program Studi Ekonomi Syariah (S2), IAIN Palopo, Kota Palopo, Indonesia.

Informed Consent Statement

Informed consent was obtained before respondents filled out the questionnaire for this study.

Data Availability Statement

The data presented in this study are available on request from the corresponding author.

Acknowledgments

The authors thank Program Studi Ekonomi Syariah (S2), IAIN Palopo, Kota Palopo, Indonesia for administrative support for this study.

Conflicts of Interest

The authors declare no conflicts of interest.

Declaration of Generative AI and AI-Assisted Technologies in the Writing Process

During the preparation of this work the authors used ChatGPT, Grammarly, and PaperPal in order to translate from Bahasa Indonesia into American English, and to improve clarity of the language and readability of the article. After using these tools, the authors reviewed and edited the content as needed and take full responsibility for the content of the published article.

REFERENCES

- Adeleye, B. N., Gershon, O., Ogundipe, A., Owolabi, O., Ogunrinola, I., & Adediran, O. (2020). Comparative investigation of the growth-poverty-inequality trilemma in Sub-Saharan Africa and Latin American and Caribbean Countries. *Heliyon*, 6(12), e05631. <https://doi.org/10.1016/j.heliyon.2020.e05631>



- Alkire, S., Kövesdi, F., Scheja, E., & Vollmer, F. (2023). Moderate multidimensional poverty index: Paving the way out of poverty. *Social Indicators Research*, 168(1–3), 409–445. <https://doi.org/10.1007/s11205-023-03134-5>
- Almekinders, G., Mourmouras, A., Zhou, J.-P., Fukuda, S., & SFukuda@imf.org. (2015). ASEAN financial integration. *IMF Working Papers*, 15(34), 1–2. <https://doi.org/10.5089/9781484386491.001>
- Alsaghir, M. (2025). Digital risks and Islamic FinTech: A road map to social justice and financial inclusion. *Journal of Islamic Accounting and Business Research*, 16(7), 1265–1282. <https://doi.org/10.1108/JIABR-10-2022-0262>
- Avordeh, T. K., Salifu, A., Quaidoo, C., & Opare-Boateng, R. (2024). Impact of power outages: Unveiling their influence on micro, small, and medium-sized enterprises and poverty in Sub-Saharan Africa – An in-depth literature review. *Heliyon*, 10(13), e33782. <https://doi.org/10.1016/j.heliyon.2024.e33782>
- Bakhtiar, S., Ramlan, P., Saleh, W., Andreani, A. R., & Herman, B. (2022). The role of governments in developing MSMEs in line with social changes due to the COVID-19 pandemic. *KnE Social Sciences*, (2021 Annual Conference of Indonesian Association for Public Administration), 289–295. <https://doi.org/10.18502/kss.v7i5.10556>
- Barajas, A., Beck, T., Belhaj, M., & Ben Naceur, S. (2020). Financial inclusion: What have we learned so far? What do we have to learn? *IMF Working Papers*, 2020(157), 1–52. <https://doi.org/10.5089/9781513553009.001>
- Bongomin, G. O. C., Ntayi, J. M., & Malinga, C. A. (2020). Analyzing the relationship between financial literacy and financial inclusion by microfinance banks in developing countries: Social network theoretical approach. *International Journal of Sociology and Social Policy*, 40(11/12), 1257–1277. <https://doi.org/10.1108/IJSSP-12-2019-0262>
- Chatra, A., Budaya, I., Saprudin, S., & Judijanto, L. (2023). Dynamic of product innovation, community involvement, and regulatory policy: Case study of MSME entrepreneurship in Indonesia. *International Journal of Business, Law, and Education*, 5(1), 105–118. <https://doi.org/10.56442/ijble.v5i1.356>
- Chen, S., Liang, M., & Yang, W. (2022). Does digital financial inclusion reduce China's rural household vulnerability to poverty: An empirical analysis from the perspective of household entrepreneurship. *Sage Open*, 12(2), 21582440221102423. <https://doi.org/10.1177/21582440221102423>
- Christiaensen, L., & Todo, Y. (2014). Poverty reduction during the rural–urban transformation – The role of the missing middle. *World Development*, 63, 43–58. <https://doi.org/10.1016/j.worlddev.2013.10.002>
- Darmawan, A. D. (2025, September 26). Jumlah penduduk dan persentase kemiskinan di Kabupaten Luwu Periode 2004–2024 [Population and percentage of poverty in Luwu Regency for the period 2004–2024] [HTML]. *Databoks*. <https://databoks.katadata.co.id/demografi/statistik/73cf7217f56199e/jumlah-penduduk-dan-persentase-kemiskinan-di-kabupaten-luwu-2004-2024>
- Das, S. (2024). Financial literacy and education in enhancing financial inclusion and poverty alleviation. In N. Mansour, S. Baral, & V. Garg (Eds.), *E-financial strategies for advancing sustainable development: Fostering financial inclusion and alleviating poverty* (pp. 127–144). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-67523-2_8



- Dela Cruz, N. A. O., Villanueva, A. C. B., Tolin, L., Disse, S., Lensink, R., & White, H. (2025). Effects of interventions to improve access to financial services for micro, small, and medium-sized enterprises in low- and middle-income countries: An evidence and gap map. *Campbell Systematic Reviews*, 21(3), e70061. <https://doi.org/10.1002/cl2.70061>
- Dela Cruz, N. A., Villanueva, A. C. B., Tolin, L. A., Disse, S., Lensink, R., & White, H. (2023). PROTOCOL: Effects of interventions to improve access to financial services for micro-, small- and medium-sized enterprises in low- and middle-income countries: An evidence and gap map. *Campbell Systematic Reviews*, 19(3), e1341. <https://doi.org/10.1002/cl2.1341>
- Dhar, S., Zaman, K. A. U., & Dhar, B. K. (2024). MSMEs and economic growth: Fostering an entrepreneurial ecosystem in Bangladesh for sustainable development. *Business Strategy & Development*, 7(3), e423. <https://doi.org/10.1002/bsd2.423>
- Dos Santos, P. L., & Harvold Kvangraven, I. (2017). Better than cash, but beware the costs: Electronic payments systems and financial inclusion in developing economies. *Development and Change*, 48(2), 205–227. <https://doi.org/10.1111/dech.12296>
- Erlando, A., Riyanto, F. D., & Masakazu, S. (2020). Financial inclusion, economic growth, and poverty alleviation: Evidence from eastern Indonesia. *Heliyon*, 6(10), e05235. <https://doi.org/10.1016/j.heliyon.2020.e05235>
- Evangelista, R. (2018). Technology and economic development: The Schumpeterian legacy. *Review of Radical Political Economics*, 50(1), 136–153. <https://doi.org/10.1177/0486613416666565>
- Farah, A. A., Nor, B. A., & Musse, O. S. H. (2026). Financial inclusion and green economic growth a systematic review of Scopus indexed studies from 2015 to 2025. *Discover Environment*, 4(1), 37. <https://doi.org/10.1007/s44274-026-00550-5>
- Fomum, T. A., & Opperman, P. (2023). Financial inclusion and performance of MSMEs in Eswatini. *International Journal of Social Economics*, 50(11), 1551–1567. <https://doi.org/10.1108/IJSE-10-2020-0689>
- Fosu, A. K. (2017). Growth, inequality, and poverty reduction in developing countries: Recent global evidence. *Research in Economics*, 71(2), 306–336. <https://doi.org/10.1016/j.rie.2016.05.005>
- Gai, A., Ernan, R., Fauzi, A., Barus, B., & Putra, D. (2025). Poverty reduction through adaptive social protection and spatial poverty model in Labuan Bajo, Indonesia's national strategic tourism areas. *Sustainability*, 17(2), 555. <https://doi.org/10.3390/su17020555>
- Gassama, S., Hamidah, & Sudaryati, E. (2021). The need for introduction of Sharia microfinance program in the Gambia. *Economit Journal: Scientific Journal of Accountancy, Management and Finance*, 1(3), 153–164. <https://doi.org/10.33258/economit.v1i3.483>
- Ge, Y., Yang, G., Chen, Y., & Dou, W. (2019). Examining social vulnerability and inequality: A joint analysis through a connectivity lens in the urban agglomerations of China. *Sustainability*, 11(4), 1042. <https://doi.org/10.3390/su11041042>
- Gharbi, H. B. (2025). Digital Islamic finance in Indonesia: Challenges and opportunities from a public policy perspective. *International Journal of Islamic Economics and Finance Research*, 8(2 December), 212–227. <https://doi.org/10.53840/ijiefer237>
- Ginanjar, A., & Kassim, S. H. (2021). Roles of Islamic microfinance institutions in improving financial inclusion in Indonesia: Empirical evidence from baitulmaal wa tamwil. *Al-Iqtishad: Jurnal Ilmu Ekonomi Syariah*, 13(1), 87–108. <https://doi.org/10.15408/aiq.v13i1.19842>
- Grohmann, A., Klühs, T., & Menkhoff, L. (2018). Does financial literacy improve financial inclusion? Cross country evidence. *World Development*, 111, 84–96. <https://doi.org/10.1016/j.worlddev.2018.06.020>

- Gunawan, A., Jufrizen, & Pulungan, D. R. (2023). Improving MSME performance through financial literacy, financial technology, and financial inclusion. *International Journal of Applied Economics, Finance and Accounting*, 15(1), 39–52. <https://doi.org/10.33094/ijaefa.v15i1.761>
- Gupta, M., Gupta, D., & Rai, P. (2024). Digital payment systems and financial inclusion: Examine how digital payment systems, such as mobile wallets and digital currencies, can improve financial inclusion by providing access to banking services for the unbanked and underbanked population. In G. Fortino, A. Kumar, A. Swaroop, & P. Shukla (Eds.), *Proceedings of Third International Conference on Computing and Communication Networks* (pp. 725–737). Springer Nature. https://doi.org/10.1007/978-981-97-0892-5_57
- Ha, D., Le, P., & Nguyen, D. K. (2025). Financial inclusion and fintech: A state-of-the-art systematic literature review. *Financial Innovation*, 11(1), 69. <https://doi.org/10.1186/s40854-024-00741-0>
- Haidar, A. (2024). Decoding sentiments: Exploring Islamic fintech discourse on Twitter in the post-pandemic. *Perbanas Journal of Islamic Economics and Business*, 4(1), 46. <https://doi.org/10.56174/pjieb.v4i1.244>
- Haidar, A., Hendrasto, N., Herindar, E., & Chairiyati, F. (2024). Cash waqf intention among Indonesian Muslim youth: The role of banking digitalization. *Ekonomi Islam Indonesia*, 6(2). <https://doi.org/10.58968/eii.v6i2.568>
- Hanandita, W., & Tampubolon, G. (2016). Multidimensional poverty in Indonesia: Trend over the last decade (2003–2013). *Social Indicators Research*, 128(2), 559–587. <https://doi.org/10.1007/s11205-015-1044-0>
- Hartika, N., Suwatno, S., & Mulyadi, H. (2023). The contribution of small and medium enterprises (UMKM) to economic growth in Banten Province. *Proceedings of the 1st International Conference on Social Science (ICSS)*, 2(1), 224–229. <https://doi.org/10.59188/icss.v2i1.118>
- Hidalgo-Mayorga, M. D. L. Á., Puente-Riofrio, M. I., Pérez-Salas, F. P., Guerrero-Arrieta, K. G., & López-Naranjo, A. L. (2025). Financial literacy as a tool for social inclusion and reduction of inequalities: A systematic review. *Social Sciences*, 14(11), 658. <https://doi.org/10.3390/socsci14110658>
- Higón, D. A., & Bonvin, D. (2024). Digitalization and trade participation of SMEs. *Small Business Economics*, 62(3), 857–877. <https://doi.org/10.1007/s11187-023-00799-7>
- Hussen, M. S., & Mohamed, M. A. (2023). Impact of financial inclusion on household welfare in Ethiopia. *Future Business Journal*, 9(1), 67. <https://doi.org/10.1186/s43093-023-00243-y>
- Inoue, T. (2024). Digital financial inclusion, international remittances, and poverty reduction. *Journal of Economic Structures*, 13(1), 8. <https://doi.org/10.1186/s40008-024-00328-z>
- International Monetary Fund. (2024). Indonesia: Selected issues. *IMF Staff Country Reports*, 2024(271), 1–53. <https://doi.org/10.5089/9798400284663.002>
- Irfan, M. (2020). A meta-analysis of Islamic microfinance: Case based evidence from India. *Journal of Islamic Monetary Economics and Finance*, 6(1), 21–50. <https://doi.org/10.21098/jimf.v6i1.1202>
- Jiang, X., Wang, X., Ren, J., & Xie, Z. (2021). The nexus between digital finance and economic development: Evidence from china. *Sustainability*, 13(13), 7289. <https://doi.org/10.3390/su13137289>
- Kaur, J. (2023). COVID-19 and MSMes in India: An analysis of pandemic shock and policy response. *International Journal For Multidisciplinary Research*, 5(6), 8855. <https://doi.org/10.36948/ijfmr.2023.v05i06.8855>



- Kelly, P., & Lobao, L. (2021). Whose need matters?: The local welfare state, poverty, and variation in US counties' social service provisioning. *Social Currents*, 8(6), 566–590. <https://doi.org/10.1177/23294965211047886>
- Khan, F., Siddiqui, M. A., & Imtiaz, S. (2022). Role of financial literacy in achieving financial inclusion: A review, synthesis and research agenda. *Cogent Business & Management*, 9(1), 2034236. <https://doi.org/10.1080/23311975.2022.2034236>
- Khoiri, I., Mahfuzah, A., & Noval, M. (2024). The urgency of free trade agreements (FTA) and digital platforms for MSMEs in realizing a sustainable digital economy. *Proceeding of The International Seminar on Business, Economics, Social Science and Technology (ISBEST)*, 4(1). <https://doi.org/10.33830/isbest.v4i1.3247>
- Kling, G., Pesqué-Cela, V., Tian, L., & Luo, D. (2022). A theory of financial inclusion and income inequality. *The European Journal of Finance*, 28(1), 137–157. <https://doi.org/10.1080/1351847X.2020.1792960>
- Kohli, K., Jain, B., Patel, T. A., Eken, H. N., Dee, E. C., & Torous, J. (2024). The digital divide in access to broadband internet and mental healthcare. *Nature Mental Health*, 2(1), 88–95. <https://doi.org/10.1038/s44220-023-00176-z>
- Konstantakis, K. N., & Michaelides, P. G. (2017). Does technology cause business cycles in the USA? A Schumpeter-inspired approach. *Structural Change and Economic Dynamics*, 43, 15–26. <https://doi.org/10.1016/j.strueco.2017.05.005>
- Kusumaningtyas, R. O., Subekti, R., Jaelani, A. K., Orsantinutsakul, A., & Mishra, U. K. (2022). Reduction of digitalization policy in Indonesian MSMEs and implications for Sharia economic development. *JURIS (Jurnal Ilmiah Syariah)*, 21(2), 157–171. <https://doi.org/10.31958/juris.v21i2.6855>
- Lee, E., Ong, T. S., & Lee, Y. (2024). Evaluating household consumption patterns: Comparative analysis using ordinary least squares and random forest regression models. *HighTech and Innovation Journal*, 5(2), 489–507. <https://doi.org/10.28991/HIJ-2024-05-02-019>
- Li, Z., Lunku, H. S., & Yang, S. (2025). Financial inclusion in the digital era: A key driver for reducing income inequality. *Technological and Economic Development of Economy*, 31(3), 706–731. <https://doi.org/10.3846/tede.2025.23068>
- Liu, G., Gong, X., & Wang, G. (2025). Financial inclusion and farmers' income increase: Effects and realization mechanism. *PLOS One*, 20(6), e0324815. <https://doi.org/10.1371/journal.pone.0324815>
- Liu, L., & Guo, L. (2023). Digital financial inclusion, income inequality, and vulnerability to relative poverty. *Social Indicators Research*, 170(3), 1155–1181. <https://doi.org/10.1007/s11205-023-03245-z>
- Liu, M., Ge, Y., Hu, S., & Hao, H. (2023). The spatial effects of regional poverty: Spatial dependence, spatial heterogeneity and scale effects. *ISPRS International Journal of Geo-Information*, 12(12), 501. <https://doi.org/10.3390/ijgi12120501>
- Liu, Q., Wang, M., Wang, Q., & Wei, D. (2025). Mitigating rural multidimensional poverty through digital inclusive finance: Real improvement and psychological empowerment. *Agriculture*, 15(9), 954. <https://doi.org/10.3390/agriculture15090954>
- Lusardi, A., Michaud, P.-C., & Mitchell, O. S. (2017). Optimal financial knowledge and wealth inequality. *Journal of Political Economy*, 125(2), 431–477. <https://doi.org/10.1086/690950>
- Makhlouf, Y., & Lalley, C. (2023). Education expansion, income inequality and structural transformation: Evidence from OECD countries. *Social Indicators Research*, 169(1–2), 255–281. <https://doi.org/10.1007/s11205-023-03161-2>

- Maouloud, V. M. (2023). The impact of islamic microfinance upon poverty alleviation by the development of microenterprises in Mauritania. *Online Jurnal of Islamic Management and Finance*, 3(1), 55–74. <https://doi.org/10.22452/ojimf.vol3no1.4>
- Masnila, N., Febriantoko, J., Mayasari, R., & Ariyanti, I. (2024). Unlocking economic landscape: Understanding the dynamics of financial challenges, business traits, financial resources, growth phases, financial accessibility, and MSME performance. *Atestasi: Jurnal Ilmiah Akuntansi*, 7(1), 317–339. <https://doi.org/10.57178/atestasi.v7i1.749>
- Millard, J., & Fucci, V. (2023). The role of social innovation in tackling global poverty and vulnerability. *Frontiers in Sociology*, 8, 966918. <https://doi.org/10.3389/fsoc.2023.966918>
- Mkrtchyan, T., Khachatryan, A., & Ratner, S. (2025). Measuring inclusive growth in developing countries: Composite index approach and sectoral transformation analysis. *Journal of Risk and Financial Management*, 18(6), 336. <https://doi.org/10.3390/jrfm18060336>
- Mulbah, F. F. B., Olumeh, D. E., Mantey, V., & Ipara, B. O. (2025). Impact of financial inclusion on household welfare in Liberia: A gendered perspective. *Review of Development Economics*, 29(1), 145–165. <https://doi.org/10.1111/rode.13057>
- Naeem, A., & Ul Haq, A. (2025). Comparative analysis of islamic and conventional economic, banking and microfinance system. *Journal of Asian Development Studies*, 14(2), 1244–1256. <https://doi.org/10.62345/jads.2025.14.2.98>
- Novreska, S., & Arundina, T. (2024). The role of Islamic financial inclusion in poverty, income inequality, and human development in Indonesia. *Journal of Islamic Monetary Economics and Finance*, 10(1), 135–154. <https://doi.org/10.21098/jimf.v10i1.1973>
- Nurfika, & Maswana, J.-C. (2021). The role of the secondary sector in poverty alleviation in Indonesia. *The Journal of Indonesia Sustainable Development Planning*, 2(2), 111–128. <https://doi.org/10.46456/jisdep.v2i2.113>
- Nuryitmawan, T. R. (2023). The impact of Islamic fintech on poverty alleviation in Indonesia: A socio-economic implications. *Airlangga Journal of Innovation Management*, 4(2), 136–146. <https://doi.org/10.20473/ajim.v4i2.49478>
- Omar, M. A., & Inaba, K. (2020). Does financial inclusion reduce poverty and income inequality in developing countries? A panel data analysis. *Journal of Economic Structures*, 9(1), 37. <https://doi.org/10.1186/s40008-020-00214-4>
- Ozili, P. K. (2018). Impact of digital finance on financial inclusion and stability. *Borsa Istanbul Review*, 18(4), 329–340. <https://doi.org/10.1016/j.bir.2017.12.003>
- Pomeroy, R., Arango, C., Lomboy, C. G., & Box, S. (2020). Financial inclusion to build economic resilience in small-scale fisheries. *Marine Policy*, 118, 103982. <https://doi.org/10.1016/j.marpol.2020.103982>
- Prakoso, J. A., Giovanni, A., & Panjawa, J. L. (2021). Spatial patterns, opportunities and determinants of MSMEs employment in township. *JEJAK*, 14(1), 77–92. <https://doi.org/10.15294/jejak.v14i1.26406>
- Putra, F. M. A., Pangestu, A. H. R., Al-Anshari, & Aulia, F. (2024). Comparative analysis the role of Islamic and conventional microfinance institutions in supporting the welfare of economically vulnerable communities. *Journal of Management and Islamic Finance*, 4(2), 280–294. <https://doi.org/10.22515/jmif.v4i2.10407>
- Rabbani, M. R., Bashar, A., Nawaz, N., Karim, S., Ali, M. A. Mohd., Rahiman, H. U., & Alam, Md. S. (2021). Exploring the role of Islamic fintech in combating the aftershocks of COVID-19: The open social innovation of the Islamic financial system. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(2), 136. <https://doi.org/10.3390/joitmc7020136>



- Rahayuningsih, S., Darmawan, I. A., Pangesti, S. Y., Fuad, A., Wardana, L. W., & Narmaditya, B. S. (2024). Literature review: Strategies for using digital marketing to improve MSME performance in supporting SDGs programs. *International Journal of Economics, Management and Accounting*, 1(2), 201–220. <https://doi.org/10.61132/ijema.v1i2.62>
- Ratnawati, K. (2020). The influence of financial inclusion on MSMEs' performance through financial intermediation and access to capital. *The Journal of Asian Finance, Economics and Business*, 7(11), 205–218. <https://doi.org/10.13106/jafeb.2020.vol7.no11.205>
- Ratnawita, R., Nurdiani, T. W., Judijanto, L., & Fali, I. M. (2023). Development of Sharia-based financial products and microfinance in Islamic economy. *West Science Journal Economic and Entrepreneurship*, 1(2), 72–80. <https://doi.org/10.58812/wsjee.v1i02.265>
- Ringle, C. M., Wende, S., & Becker, J.-M. (2024). *SmartPLS* (Version 4) [Computer software]. SmartPLS GmbH. <https://www.smartpls.com>
- Rohman, P. S., Fianto, B. A., Ali Shah, S. A., Kayani, U. N., Suprayogi, N., & Supriani, I. (2021). A review on literature of Islamic microfinance from 2010–2020: Lesson for practitioners and future directions. *Heliyon*, 7(12), e08549. <https://doi.org/10.1016/j.heliyon.2021.e08549>
- Rubio, J., & León, M. (2025). Financial inclusion as a pathway to poverty alleviation and equality in Latin America: An empirical analysis. *Journal of Risk and Financial Management*, 18(7), 392. <https://doi.org/10.3390/jrfm18070392>
- Sakyi-Nyarko, C., Ahmad, A. H., & Green, C. J. (2022). The role of financial inclusion in improving household well-being. *Journal of International Development*, 34(8), 1606–1632. <https://doi.org/10.1002/jid.3661>
- Schipke, A., & Pillai, J. (2015). Frontier and developing Asia: The next generation of emerging markets. *Southeast Asian Economies*, 32(3), 417–418. <https://doi.org/10.1355/ae32-3I>
- Septya, M., Kamarni, N., & Devianto, D. (2024). A portrait of multidimensional poverty of Indonesian agricultural households. *Daengku: Journal of Humanities and Social Sciences Innovation*, 4(4), 638–646. <https://doi.org/10.35877/454RI.daengku2541>
- Shafiya, S., Ahmad, A., & Sohail, A. (2022). Investigating the role of financial innovation on Islamic financial institutions performance during COVID-19. *Gomal University Journal of Research*, 38(2), 171–179. <https://doi.org/10.51380/gujr-38-02-04>
- Shaikh, S. A. (2021). Using Fintech in scaling up Islamic microfinance. *Journal of Islamic Accounting and Business Research*, 12(2), 186–203. <https://doi.org/10.1108/JIABR-10-2019-0198>
- Sudarmanto, E., Aulia, T. Z., Putri, R. L., & Wulandjani, H. (2023). Urgency of tax incentives in indonesia for research, development, and internationalization of MSMEs. *International Journal of Multidisciplinary Approach Research and Science*, 2(1), 69–82. <https://doi.org/10.59653/ijmars.v2i01.339>
- Sulismadi, Safri, & Sofwani, A. (2024). The role of MSMEs in community empowerment: A study in Malang Regency, East Java, Indonesia. *International Journal For Multidisciplinary Research*, 6(1), 13486. <https://doi.org/10.36948/ijfmr.2024.v06i01.13486>
- Sun, Y. (2025). A study of the impact of digital finance on the economic development of Latin American countries. *International Review of Financial Analysis*, 107, 104587. <https://doi.org/10.1016/j.irfa.2025.104587>
- Syahputra, A., Kaswinata, K., Tanjung, H., Rahmani, N. A. B., & Dzuljastri, D. (2023). Globalization & development of Sharia financial technology in Indonesia. *Jurnal Ilmu Keuangan Dan Perbankan (JIKA)*, 13(1), 103–114. <https://doi.org/10.34010/jika.v13i1.11288>



- Szabó, R. Z. (2024). Overcoming the digital divide: A conceptual framework. *Journal of Infrastructure Policy and Development*, 8(16), 10082. <https://doi.org/10.24294/jipd10082>
- Tahir, M., Wasim, M. H., Qadri, H. M. U. D., Furqan, M., Jafar, A., & Ali, H. (2023). Current discussions in Islamic microfinance research and future agendas: A bibliometric study based on Scopus database. *Islam Ekonomisi ve Finansı Dergisi (IEFD)*, 9(2), 125–160. <https://doi.org/10.54863/jief.1166049>
- Tang, X., Ding, S., Gao, X., & Zhao, T. (2022). Can digital finance help increase the value of strategic emerging enterprises? *Sustainable Cities and Society*, 81, 103829. <https://doi.org/10.1016/j.scs.2022.103829>
- Todaro, M., & Smith, S. (2020). *Economic development* (13th ed.). Pearson.
- Trimulato, T., Mustamin, A., & Syarifuddin, S. (2023). Linkage of Sharia banking and Sharia fintech to support the sustainable development goals program. *Imara: Jurnal Riset Ekonomi Islam*, 7(2), 104. <https://doi.org/10.31958/imara.v7i2.10849>
- Turégano, D. M., & Herrero, A. G. (2018). Financial inclusion, rather than size, is the key to tackling income inequality. *The Singapore Economic Review*, 63(1), 167–184. <https://doi.org/10.1142/S0217590818410047>
- Uddin, Md. N., Bt. Saad, N., Bin Ismail, Y., & Nahar, L. (2024). Comparative analysis of microfinance governance: Implications for impact of social inequality and poverty reduction. In A. Klimczuk & D. A. Dovie (Eds.), *Bridging social inequality gaps—Concepts, theories, methods, and tools* (Vol. 21). IntechOpen. <https://doi.org/10.5772/intechopen.1004336>
- Ugochukwu, E., Ijeoma, U., & Amechi, N. (2025). Digital innovation, employment and poverty reduction in Nigeria. *Journal of Policy and Development Studies*, 18(2), 138–157. <https://doi.org/10.4314/jpds.v18i2.10>
- Utomo, B. (2024). The effect of financial support, creativity, and regulatory environment on the growth of MSMEs. *International Journal of Integrative Sciences*, 3(9), 1007–1018. <https://doi.org/10.55927/ijis.v3i9.11643>
- Wang, X., & Fu, Y. (2022). Digital financial inclusion and vulnerability to poverty: Evidence from Chinese rural households. *China Agricultural Economic Review*, 14(1), 64–83. <https://doi.org/10.1108/CAER-08-2020-0189>
- Wang, X., & He, G. (2020). Digital financial inclusion and farmers' vulnerability to poverty: Evidence from rural China. *Sustainability*, 12(4), 1668. <https://doi.org/10.3390/su12041668>
- Xu, G., Feng, L., Wang, W., & Liang, Q. (2024). Digital financial literacy and rural income inequality. *Sage Open*, 14(3), 21582440241275642. <https://doi.org/10.1177/21582440241275642>
- Yang, B., Wang, X., Wu, T., & Deng, W. (2023). Reducing farmers' poverty vulnerability in China: The role of digital financial inclusion. *Review of Development Economics*, 27(3), 1445–1480. <https://doi.org/10.1111/rode.12991>
- Yudhoyono, A. H., Suhariadi, F., Supriharyanti, E., & Haqq, Z. N. (2024). Economic transformation: A systematic literature review. *Sustainability*, 16(24), 11189. <https://doi.org/10.3390/su162411189>
- Yuneline, M. H. (2022). Implications of Shariah financial technology in increasing financial inclusion to micro, small, and medium enterprises. *Islamiyyat*, 44(1), 89–99. <https://doi.org/10.17576/islamiyyat-2022-4401-8>
- Zhang, L., Qi, Y., & Deng, X. (2024). Byte-sized finance, bushel-sized benefits: Unraveling digital financial inclusion impact on China's agricultural green development. *Frontiers in Environmental Science*, 12, 1411866. <https://doi.org/10.3389/fenvs.2024.1411866>



Zhang, L., Zhu, Y., & Wei, L. (2024). Digital financial inclusion and multidimensional poverty—evidence from China. *Proceedings of the 5th Management Science Informatization and Economic Innovation Development Conference, MSIEID 2023, December 8–10, 2023, Guangzhou, China*. Proceedings of the 5th Management Science Informatization and Economic Innovation Development Conference, MSIEID 2023, December 8–10, 2023, Guangzhou, China. <https://doi.org/10.4108/eai.8-12-2023.2344736>