

The Role of Digitalization in Increasing Economic and Financial Inclusion in South Papuan Communities

Ni Luh Putu Nita Yulianti¹, Adi Maulana Rachman², Apolinaris S Awotkay³, Gusti Putu Eka Kusuma⁴, Soleha⁵

^{1,2,3,5}Universitas Musamus, Merauke

⁴Sekolah Tinggi Ilmu Ekonomi Satya Dharma

E-mail Correspondensi: yuliantinita@unmus.ac.id, niluhputunita26@gmail.com

Article History:

Received: 18 Februari 2026

Revised: 22 Februari 2026

Accepted: 06 Maret 2026

Keywords: Digitalization, Increasing Economic, Financial Inclusion, South Papua

Abstract: This study analyzes the role of digitalization in enhancing economic and financial inclusion in South Papua by examining digital infrastructure conditions, the utilization of technology-based financial services, impacts on local businesses, socio-cultural influences, and links to regional socioeconomic indicators. A descriptive qualitative approach was employed, using in-depth interviews with policymakers, financial service providers, community leaders, business actors, and both users and non-users of digital services. Secondary data from the 2025 South Papua Statistics Agency (BPS) supported the analysis. Findings reveal uneven telecommunications infrastructure, with only 6.96% of villages having very strong signals and 13.77% lacking signal access. Adoption of digital financial services, including mobile banking and e-wallets, remains limited in rural areas due to poor connectivity, low device ownership, and inadequate digital literacy. However, businesses adopting digital platforms reported revenue increases of 20–30% through market expansion. Socio-cultural factors influence technology acceptance, with younger generations adapting more readily. The study concludes that improved connectivity positively correlates with financial inclusion and human development, recommending infrastructure expansion, internet subsidies, community-based digital literacy programs, and multi-stakeholder collaboration.

INTRODUCTION

The development of digital technology has fundamentally changed the global economic landscape, creating new opportunities to expand financial access and increase people's productivity (Pilishvili, 2020). Digital transformation, which includes electronic banking services, digital payments, and *e-commerce platforms*, is recognized as a key driver of sustainable economic and financial inclusion (Chu et al., 2023). In Indonesia, Bank Indonesia noted that the

value of digital economic transactions continues to increase rapidly, with a projection of reaching USD 421 billion by 2025, along with increasing internet penetration and technology adoption across various sectors (Fitri Kumala Sari et al., 2022).

Digital transformation has become a crucial catalyst for expanding public access and participation in economic and financial services. Digitalization, through the use of information and communication technology (ICT), enables faster, cheaper, and more efficient financial transactions, while also addressing geographic barriers that have been a major challenge in remote areas (Revak & Gren, 2022). In line with *the National Strategy for Financial Inclusion* (SNKI), which targets Indonesia's financial inclusion rate to reach 90% by 2025, digitalization is a key pillar for reaching segments of society previously excluded from the formal financial system (Mavlutova et al., 2023).

In eastern Indonesia, including South Papua, digitalization plays a strategic role in promoting economic equality. South Papua Province, comprising the regencies of Merauke, Mappi, Boven Digoel, and Asmat, has complex geographic characteristics, with vast landscapes, limited transportation access, and uneven population distribution (Suhendra & Santiko, 2023). These conditions often hinder financial service providers from opening physical offices. Therefore, the existence of digital infrastructure, such as telecommunications and internet networks, is a crucial solution for connecting the community to the formal financial ecosystem (Curry et al., 2016). Digitalization can increase public access to financial services, thereby encouraging more inclusive economic growth in remote areas like South Papua (Deshanta Ibnugraha & Fahrudin, 2014).

South Papua, as a newly established province, has abundant natural resource potential, such as the agricultural sector, which in 2024 produced 217,789 tons of dry milled grain, equivalent to 124,355 tons of rice. However, this economic potential has not been fully optimized through digital technology (Chulwa et al., 2022). Data from the Central Statistics Agency (BPS) of South Papua as of March 2025 shows that the distribution of digital infrastructure remains a major challenge. Of the 690 villages/sub-districts, 95 (13.77%) still lack cellular signal, while 174 villages (25.22%) have weak signal. This means that approximately 39% of villages face significant barriers in accessing digital-based services. Furthermore, the availability of formal financial facilities at the village level is also relatively limited. Only 112 villages (16.23%) have access to People's Business Credit (KUR), while other credit facilities such as KUK, KKP-E, and KUBE have coverage in less than 4% of villages (N. L. P. N. Yulianti et al., 2025).

This digital infrastructure gap directly impacts financial inclusion (Kanungo & Gupta, 2021). People in areas with poor signal quality tend to have limited access to *mobile banking*, digital wallets, QRIS payments, or e-commerce platforms. These limitations have the potential to widen the economic gap between areas with adequate infrastructure and those lacking (Gregory, 2021). This is also reflected in the Human Development Index (HDI), with Merauke Regency having the highest (74.53) and Asmat Regency having the lowest (57.63).

Various previous studies Research (Suri & Jack, 2016) Research (Tay et al., 2022) shows that digital financial services such as *mobile money* can improve household economic resilience in Kenya, but require adequate communications infrastructure. Research has found that developing countries, particularly Asian countries, are embracing and enhancing digital financial inclusion to help reduce poverty. Other research confirms that digitalization has significant potential to increase financial inclusion and drive local economic growth (Demirgüç-Kunt et al., 2021). This potential can only be realized if basic infrastructure, such as internet networks and access to digital devices, is widely available. In South Papua, these challenges remain significant,

necessitating data-driven intervention strategies to accelerate inclusive digital transformation. (Munyoka, 2022).

Research by the Financial Services Authority (OJK) (2023) in Papua identified that despite increasing financial inclusion, financial literacy remains lagging, leaving the public vulnerable to illegal financial products. A limitation of these studies is their macro-focus and the lack of a specific examination of the context of South Papua, a new province with unique characteristics. Against this backdrop, this study attempts to analyze the state of digital infrastructure and financial inclusion in South Papua using the latest BPS data and identify challenges and opportunities for accelerating digitalization as a means of increasing economic and financial inclusion. This research is expected to provide a comprehensive overview of the role of digitalization and appropriate policy recommendations to support economic and financial inclusion. Based on this background, the research questions in this study focus on two main issues. First, how does the current state of digitalization in South Papua support economic and financial inclusion in the community? Second, what strategies can be implemented to increase economic and financial inclusion through digitalization in South Papua?

LITERATURE REVIEW

Technology Acceptance Model (Davis, 1989)

The Technology Acceptance Model (Davis, 1989) explains that technology adoption is influenced by *perceived usefulness* and *perceived ease of use* (Nita Yulianti & Kuntag, 2023). South Papuans will use digital financial services if they feel they are easily accessible and truly beneficial to their economic activities (Putu et al., 2023).

Digitalization and Financial Inclusion

Digitalization in the economic and financial sectors has been widely studied as an effort to increase financial inclusion in various regions. Digitalization opens wider financial access and lowers transaction costs, thereby increasing public participation in the formal financial system (Demirgüç-Kunt A, 2018). Digitalization has proven to be a key driver of financial inclusion, especially in areas where conventional banking infrastructure is difficult to reach. (Sastiono & Nuryakin, 2019) stated that *Laku Pandai* and digital financial services have successfully expanded rural communities' access to formal banking through bank agents and digital technology. Digital financial inclusion refers to the possibility of broad access to financial services for the general public through the application of the principles of digitalization of financial services.

Financial Technology

The use of financial technology (*fintech*) can help people in remote areas gain access to financial services that were previously difficult to access. However, digital literacy is key to the successful adoption of this technology (Setiawan et al., 2021). Digital economic transformation, through fintech and e-commerce, directly contributes to financial inclusion in developing regions (Muhammad Fauzan Pratama et al., 2025).

Digital Infrastructure

The importance of adequate digital infrastructure as a foundation for developing digital financial inclusion. Research (Niu et al., 2022) Data from the National Institute of *Technology (NII)* shows that broadband infrastructure contributes significantly to digital financial inclusion. The distribution of telecommunications services in Papua Province remains uneven. This is reflected in the percentage of telecommunications services and infrastructure concentrated in certain areas, such as Jayapura (Deshanta Ibnugraha & Fahrudin, 2014). Sociocultural aspects and community habits also significantly influence the adoption rate of digital technology. Papuans tend to prefer

traditional methods, requiring a specific approach to ensure the well-received digitalization (Agustina Anisah & Setiadi, 2024).

Economic and Financial Inclusion Literacy

The literature on economic and financial inclusion underscores the close relationship between financial access and improved well-being. Financial access, along with financial development, contributes to poverty reduction by increasing the money supply or credit and improving the well-being of the poor (Ouechtati, 2020). Digitalization also presents challenges related to security and consumer protection. Digital security education is crucial for the public to avoid the risks of fraud and data misuse. Despite all precautions, security remains a key concern in digital transformation, as digitalization is often misunderstood and raises significant security issues. The digitization of manual goods, processes, and services, as well as their use, has led to various security issues across organizations (Stewart, 2023). Implementing digitalization requires an integrated approach, involving the government, the private sector, and local communities. This collaboration is a key factor in creating sustainable financial inclusion (Tay et al., 2022).

METHOD

This research uses a qualitative approach. This approach was chosen because it allows researchers to explore the experiences, perceptions, and obstacles faced by the community in detail (Moniaga, Hidayati, et al., 2024). Data were collected through in-depth interviews with various parties, including users of digital financial services, fintech service providers, local government, and traditional leaders. These interviews aimed to explore views and experiences related to digitalization and its implications for daily life. Field observations were also conducted to directly observe the condition of digital infrastructure and patterns of digital financial service usage in several areas in South Papua. These observations provided a contextual overview that supported the data analysis. Related documents such as government reports, digitalization policies, and statistical data were also reviewed to complement the primary data and provide a stronger background (Moniaga, Fhitri, et al., 2024). Data analysis was conducted using thematic analysis, where the collected data were identified, coded, and grouped into main themes according to the research problem formulation. This process was repeated to ensure the validity and accuracy of the results (Moniaga, Hidayati, et al., 2024). Finally, the research results are presented in narrative form that describes the real conditions and strategic recommendations for stakeholders to increase the role of digitalization in the economic and financial inclusion of the South Papuan community (Abdussamad, 2021).

RESULT AND DISCUSSION

Table 1. Findings

No	Field Findings (Interview & BPS 2025)	Analysis / Interpretation	Data source
1	Signal infrastructure is uneven: only 6.96% of villages/sub-districts have a very strong signal, while 13.77% have no signal. Asmat has up to 50% of villages without a signal.	Limited telecommunications infrastructure is a major obstacle to digital financial inclusion, supporting (Curry et al., 2016) that connectivity is a prerequisite for digital services.	BPS South Papua 2025, Communication and Information Service Interview

2	Mobile banking penetration is only 35% of active customers; e-wallets are more prevalent in the city (Merauke) than in other districts.	Low adoption in rural areas indicates a digital divide; literacy and identity regulation factors influence adoption (Demirguc-Kunt et al., 2018).	Bank Papua & BRI Interview
3	Business owners (farmers/fishermen) who use social media/marketplaces obtain 20–30% higher selling prices; however, internet costs are high and the signal is unstable.	Access to digital markets increases incomes (Suri & Jack, 2016) , but the benefits are not evenly distributed due to cost and connection barriers.	Interviews with business actors, field observations
4	Some people are reluctant to use digital services due to fear of fraud or lack of understanding of how to use them; younger generations are more adaptable than older generations.	Socio-cultural factors influence technology acceptance (Agustina Anisah & Setiadi, 2024). Community-based education is needed.	Interview with traditional figures/village heads
5	Digital service users experience the convenience of fast money transfers; non-users face challenges such as smartphones, trust, and training.	First experiences influence continued use; it is important to create positive initial experiences.	Interviews with users and non-users
6	The district with a strong signal (Merauke) has a high HDI (74.53) and lower poverty; conversely, Asmat has a low HDI (57.63) and higher poverty.	There is a positive correlation between digital connectivity, financial inclusion, and socio-economic indicators (HDI, poverty).	BPS South Papua 2025, triangulation analysis
7	Digital literacy programs have been implemented, but there is rarely ongoing support.	Literacy success requires program continuity, not a single training session.	Interview with Diskominfo, village figures

Source: Data Processed in 2025

1. Digital Infrastructure Conditions

Interviews with the South Papua Communications and Information Agency (Kominfo) indicate that signal quality distribution is a major obstacle to digitalization. Data from the South Papua Statistics Agency (BPS) for 2025 confirms that only 6.96% of villages/sub-districts have a very strong signal, while 13.77% have no signal at all. The area with the lowest signal coverage is Asmat Regency, where most villages must find a specific location to get an internet connection. This hinders public access to digital financial services, e-commerce, and market information. The following table shows the percentage of signal categories by number of villages in South Papua:

Table 2 Percentage of Signal Categories

Signal Category	Number of Villages	Percentage
Very strong	48	6.96%
Strong	373	54.06%
Weak	174	25.22%
There isn't any	95	13.77%
Total	690	100%

Source: Data Processed in 2025

Overall, this data indicates that nearly 39% of villages in South Papua face significant challenges, including weak or no signal. This situation highlights a significant digital divide between villages with adequate digital infrastructure and those that are underdeveloped (N. L. P. N. Yulianti et al., 2025). This gap is a major factor hindering equitable digital financial inclusion in South Papua, ultimately contributing to disparities in economic and social development across regions within the province.

The results of this analysis support research (Deshanta Ibnugraha & Fahrudin, 2014) that suggests telecommunications infrastructure is a key prerequisite for digital financial inclusion. Telecommunications and internet networks are crucial for connecting communities to the formal financial ecosystem (Curry et al., 2016). Without stable internet access, digital service penetration is difficult to develop, even if there is public interest.

2. Utilization of Digital Financial Services

Interviews with financial service providers such as Bank Papua and BRI reported that mobile banking penetration in the region has only reached around 35% of active customers. E-wallet use is more prevalent in urban areas like Merauke, while adoption is low in other regencies. Fintech players acknowledge that low digital literacy and limited access to official identity documents (e-KTP, NPWP) hinder the registration process.

The results of this analysis align with findings (Demirgüç-Kunt A, 2018) that identity regulations and technical capabilities influence the adoption of digital services. Furthermore, low adoption in rural areas indicates a digital divide *between* urban and rural areas.

Digitalization opens broader financial access and lowers transaction costs, thereby increasing public participation in the formal financial system (Demirgüç-Kunt A, 2018). The Technology Acceptance Model (Davis, 1989) explains that technology adoption is influenced by *perceived usefulness* and *perceived ease of use* (Nita Yulianti & Kuntag, 2023). South Papuans will use digital financial services if they feel easily accessible and genuinely beneficial to their economic activities (N. Yulianti & Ardani, 2023).

3. Impact on Local Business Actors

Interviews with business owners, such as farmers and fishermen, who have used digital platforms (WhatsApp, Facebook, and marketplaces) report better selling prices because they can reach buyers directly without intermediaries. A concrete example is fishermen in Merauke who successfully sell fresh fish to urban buyers at a 20–30% higher price. However, these business owners also complain about high data costs and signal instability, which often disrupt transactions.

These findings reinforce the research's argument (Suri & Jack, 2016) that inclusive financial access can increase the income and bargaining power of small businesses. However, without interventions related to internet costs and signal quality, these benefits

are not evenly felt. (Suri & Jack, 2016) Research (Tay et al., 2022) shows that digital financial services such as *mobile money* can improve household economic resilience in Kenya, but require adequate communications infrastructure. found that developing countries, especially Asian countries, are embracing and increasing digital financial inclusion to help reduce poverty.

4. Socio-Cultural and Belief Challenges

Interviews with traditional leaders and village heads revealed that some residents remain reluctant to use digital services due to concerns about fraud or losing their balances due to incorrect application usage. Younger generations are more open to technology, while older generations tend to maintain cash transaction habits. Furthermore, low digital literacy rates make one-time training programs ineffective without ongoing support.

The results of this Condition Analysis support the view (Agustina Anisah & Setiadi, 2024) that socio-cultural factors significantly influence technology acceptance in Papua. Digitalization programs must be designed in accordance with local values and communication patterns, for example, involving traditional leaders as educational agents. Socio-cultural aspects and community customs also significantly influence the adoption rate of digital technology. Papuans tend to prefer traditional methods, so a special approach is needed to ensure good acceptance of digitalization (Agustina Anisah & Setiadi, 2024).

5. Public Perception and Experience

Results of the interview with Digital service users report convenience in receiving remittances from relatives outside the region, with transfer times much faster than conventional methods. Meanwhile, non-users cite obstacles such as not having a smartphone, a lack of trust in transaction security, and a lack of practical training.

The results of this analysis of differences in perceptions indicate that the success of digitalization is determined not only by infrastructure, but also by people's first-hand experiences with these services. Positive experiences tend to encourage adoption, while negative experiences or lack of knowledge reinforce resistance.

6. The Relationship between Digitalization and Socio-Economic Indicators

Triangulation analysis with BPS data shows a correlation between areas with strong signal quality, higher financial service penetration, and better socioeconomic indicators. Merauke Regency has the highest HDI (74.53), a higher percentage of villages with very strong signal quality (85% have strong/very strong signal quality), and a lower poverty rate than Asmat. Conversely, Asmat has the lowest HDI (57.63), a 50% share of villages without signal quality, and relatively higher poverty rates. These are presented in the table below:

Table 3 Relationship between HDI and signal access

Regency	HDI	Percentage of Villages with Signal
Merauke	74.53	85%
Mappi	68.16	70%
Boven Digoel	61.66	60%
Asmat	57.63	50%

Source: Data Processed in 2025

The HDI data analysis results show significant variation across districts in South Papua. Merauke Regency has the highest HDI score, at 74.53, indicating a relatively better level of human development compared to other districts in the region. A high HDI typically

reflects better achievements in three key dimensions: health, education, and purchasing power. Mappi Regency is in second place with an HDI of 68.16, still above the provincial average of 68.86. This indicates that, despite still facing various challenges, Mappi is relatively better in terms of human development compared to other districts with lower HDI scores. Boven Digoel and Asmat show lower HDI scores, at 61.66 and 57.63, respectively, which are far below average. Asmat Regency is the region with the lowest HDI, indicating serious challenges in terms of access to health, education, and the economic well-being of its people. This condition reflects a clear gap in human development between districts. This difference in the HDI not only reflects disparities in the quality of life of the population but is also closely related to the availability of infrastructure and access to basic services, including telecommunications and financial services. Merauke Regency, with the highest HDI, also has a better cellular signal network, allowing its residents easier access to digital and financial services. Conversely, Asmat Regency, with a low HDI, tends to experience limited access to infrastructure and facilities that support human development.

This underscores the importance of policies focused on equitable distribution of infrastructure and public services across districts, particularly in areas with a low HDI, to reduce disparities and promote greater economic and social inclusion in South Papua. This fact is consistent with the financial inclusion theory that digital connectivity contributes to improved quality of life (HDI) through increased income and access to public services.

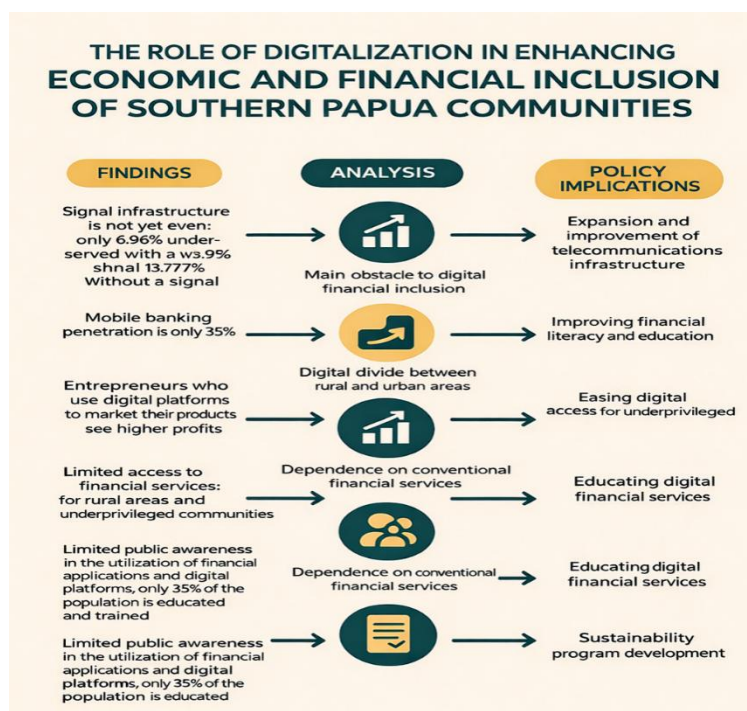


Figure 1. Findings

Strategy and Policy Recommendations

Based on the findings and discussions, several strategic steps that can be taken are:

1. Strengthening Digital Infrastructure

It is necessary to accelerate the development of telecommunications infrastructure by

adding Base Transceiver Stations (BTS) and satellite transmitters in villages that do not yet have signal access, especially in Asmat and Mappi Regencies. Encourage the use of satellites (*high-throughput satellites*) for remote areas, with government subsidies. Based on data from the Central Statistics Agency of South Papua 2025, as many as 13.77% of villages/sub-districts in this region do not have any signal at all, and most of them are in these two regencies. With collaboration between the Ministry of Communication and Information Technology, the Provincial Communication and Information Service, and cellular operators, the target is to reduce the percentage of villages without signal to a maximum of 5% in the next two years.

2. Internet Subsidies and Accessibility

The Productive Economy Internet Package, subsidized by the regional government in collaboration with local telecommunications operators and banks such as Bank Papua and BRI, needs to be launched. This package is specifically designed for MSMEs, farmers, and fishermen at an affordable cost, for example, IDR 20,000 per month for digital transaction quota. This step is expected to register at least 70% of small businesses as users of the subsidized package, thereby increasing digital transaction volume by at least 30% annually.

3. Improving Digital and Financial Literacy

Village-based digital and financial literacy training programs must be implemented sustainably, not just one-off training. This program will involve traditional leaders, religious leaders, and local youth as facilitators, making it more easily accepted by the community. Six months of mentoring will ensure participants not only understand but also apply digital skills in their daily economic activities. The policy includes a Village Digital School based on traditional communities with a simple curriculum (how to use mobile banking, QRIS, and digital security) (N. Yulianti & Ardani, 2023). The target is for at least 60% of participants to actively use digital services after training and a 20% increase in digital literacy scores within one year.

4. Multi-Party Collaboration

Integrating the QRIS payment system in traditional markets must be a priority to encourage cashless transactions. Bank Indonesia, Bank Papua, and BRI, along with merchant associations, can conduct outreach and provide free or subsidized QRIS scanners. With this strategy, it is hoped that 80% of merchants in major markets in Merauke, Mappi, Boven Digoel, and Asmat will accept QRIS payments within 18 months.

5. government , in collaboration with the local startup community, can develop the "Papua Selatan Mart" e-commerce platform, designed with *low-bandwidth technology* for access even on unstable internet connections. This platform will facilitate the marketing of local products, from agricultural and fishery products to handicrafts. The target is to attract at least 500 MSMEs in the first two years and increase local product transaction volume by 30% annually.

6. Developing Local Digital Business Models

The unsecured fintech micro-lending program needs to be expanded to reach small businesses that don't yet have access to bank credit services. The Financial Services Authority (OJK) can collaborate with fintech P2P lenders and Bank Papua to distribute digital financing with simplified procedures. The initial target is to distribute digital micro-loans of at least IDR 10 billion in the first year of the program.

The *South Papua Digital Micro-Lending Scheme* offers app-based loans of IDR 1–5 million without collateral, low interest rates ($\leq 6\%$ per year), and flexible installments.

7. *dashboard* is necessary . This dashboard will contain data on signal coverage developments, the number of digital financial service users, digital literacy rates, and socioeconomic indicators such as the Human Development Index (HDI) and poverty rates. This routine monitoring will serve as a reference for policy improvements and ensure the achievement of targets in the South Papua Medium-Term Regional Development Plan (RPJMD).

The following Policy Recommendations are presented in the table below:

Table 4 Policy Recommendations

No	Specific Recommendations	Main Responsible Person	Target Time	Success Indicators
1	Construction of BTS and satellite transmitters in 50% of villages without signal in Asmat & Mappi	Ministry of Communication and Information, Provincial Communication and Information Service, cellular operators (Telkomsel, Indosat, XL)	2 years	- The number of villages with strong signals increased by $\geq 80\%$ - The number of villages without signals decreased from 13.77% to $\leq 5\%$
2	Productive Economy Internet Package: Rp. 20,000/month data package for MSMEs, farmers, fishermen with digital transaction quota	Local government, telecommunications operators, Bank Papua, BRI	1 year	- 70% of small business owners registered for subsidy packages - Digital transactions increased by $\geq 30\%$
3	Village-Based Digital & Financial Literacy Training: 6-month mentoring with local traditional leaders and youth facilitators	Cooperatives & MSMEs Service, OJK, Bank Indonesia	1 year (first wave)	- $\geq 60\%$ of participants actively use digital services - Digital literacy scores increase by $\geq 20\%$

4	Traditional Market QRIS Integration: All kiosks in the main markets of Merauke, Mappi, Boven Digoel, Asmat use QRIS	Bank Indonesia, Bank Papua, BRI, Market Traders Association	18 months	- 80% of major market traders accept QRIS payments
5	Local E-Commerce Platform “Papua Selatan Mart” with low-bandwidth features	South Papua Provincial Government, local startups, MSME Community	2 years	- ≥ 500 registered MSMEs in 2 years - Local product transaction volume increases $\geq 30\%$ per year
6	Micro Fintech Lending Program for MSMEs Without Collateral	OJK, P2P Fintech, Bank Papua	1 year	- Disbursement of digital micro credit of at least IDR 10 billion in the first year
7	Annual Monitoring & Evaluation of Digital Inclusion with online dashboard	South Papua Provincial Government, BPS, OJK	Annual	- Annual digital inclusion report published - Improvement of HDI & poverty indicators according to RPJMD targets

Source: Data Processed in 2025

CONCLUSION

This study shows that the role of digitalization in increasing the economic and financial inclusion of the people of South Papua is largely determined by the integration between infrastructure, digital literacy, and socio-cultural support. Telecommunications infrastructure in South Papua remains uneven. Only 6.96% of villages/sub-districts have very strong signal coverage, while 13.77% have no signal at all. This limitation is a major obstacle to the expansion of digital financial services and the use of information technology for economic activities. Utilization of digital financial services such as mobile banking and e-wallets remains low, especially in rural areas. Contributing factors include limited internet access, low smartphone ownership, and identity administration challenges.

Local businesses that adopt digital technology are able to increase revenue and expand their markets, but they are still burdened by high internet costs and unstable connectivity. Socio-cultural factors influence public acceptance of digital services. Younger generations are more

adaptable, while older generations tend to maintain cash transaction patterns. A lack of post-training mentoring also limits the sustainability of technology use. Good digital connectivity is positively correlated with socio-economic indicators such as the Human Development Index (HDI) and poverty levels. Areas with strong signal strength, such as Merauke, have a higher HDI and lower poverty rates than areas with poor connectivity, such as Asmat.

Suggestion

Based on the research implications, several strategic recommendations can be made by stakeholders. For the government, it is necessary to expand telecommunications networks, provide subsidized satellite internet in villages with no access to financial resources, and develop a Digital South Papua Dashboard to monitor the development of digital inclusion. For the banking and fintech sectors, it is important to develop low-interest digital microcredit for farmers, fishermen, and MSMEs, and expand the use of QRIS in traditional markets. From the local community perspective, traditional leaders, churches, and youth need to be involved as facilitators of digital literacy based on local culture to increase public trust. Furthermore, ongoing multi-stakeholder collaboration is needed between the government, the private sector, academics, and communities so that digitalization not only increases transactions but also encourages inclusive and sustainable socio-economic development. In this context, Bank Indonesia, as the payment system authority, has a strategic role to expand digital financial inclusion in South Papua by accelerating the digitalization of traditional markets through the One Merchant One QRIS program, providing education on digital transaction security, and strengthening cooperation with local banks and other stakeholders in building an inclusive and sustainable non-cash payment ecosystem.

REFERENCES

- Abdussamad, Z. (2021). *Buku-Metode-Penelitian-Kualitatif*. Syakir Media Press.
- Agustina Anisah, & Setiadi. (2024). Adopsi Teknologi Informasi dalam Kegiatan Ekonomi Masyarakat Baduy Luar di Kanekes Banten. *Institute of Culture, University of Muhammadiyah Malang, Indonesi*. <https://doi.org/10.22219/satwika.v8i1.32425>
- Chu, Y., Ye, S., Li, H., Strauss, J., & Zhao, C. (2023). Can Digitalization Foster Sustainable Financial Inclusion? Opportunities for Both Banks and Vulnerable Groups. *Sustainability (Switzerland)*, 15(8). <https://doi.org/10.3390/su15086727>
- Chulwa, A. Z., Ibad, M. Z., & Tanjung, A. S. (2022). Dampak Digitalisasi Pertanian Terhadap Tingkat Ekonomi Masyarakat Petani Di Kecamatan Adiluwih dan Gadingrejo Prinsewu. *Jurnal Perencanaan Dan Pengembangan Kebijakan*, 2(3), 176. <https://doi.org/10.35472/jppk.v2i3.845>
- Curry, G. N., Dumu, E., & Koczberski, G. (2016). *Bridging the Digital Divide: Everyday Use of Mobile Phones Among Market Sellers in Papua New Guinea* (pp. 39–52). https://doi.org/10.1007/978-3-319-45471-9_5
- Demirgüç-Kunt A. (2018). *The Global Findex Database 2017: Measuring financial inclusion and the fintech revolution*.
- Demirgüç-Kunt, A., Klapper, L., Singer, D., & Ansar, S. (2021). *Financial Inclusion, Digital Payments, and Resilience in the Age of COVID-19*.
- Deshanta Ibnugraha, P., & Fahrudin, T. (2014). Persebaran Layanan dan Infrastruktur Telekomunikasi Provinsi Papua. In *Jurnal Infotel* (Vol. 6, Number 1).

- Fitri Kumala Sari, Yossy Fadly, & Puja Rizqy Ramadhan. (2022). The Effect of Changes in the Value of Conventional Interbank Transfers and Digital Banks in Technological Development. *Britain International of Humanities and Social Sciences (BioHS) Journal*, 4(2), 246–257. <https://doi.org/10.33258/biohs.v4i2.653>
- Gregory, M. A. (2021). Regional mobile telecommunications performance. *Journal of Telecommunications and the Digital Economy*, 9(3), 170–185. <https://doi.org/10.18080/jtde.v9n3.444>
- Kanungo, R. P., & Gupta, S. (2021). Financial inclusion through digitalisation of services for well-being. *Technological Forecasting and Social Change*, 167, 120721. <https://doi.org/10.1016/J.TECHFORE.2021.120721>
- Mavlutova, I., Spilbergs, A., Verdenhofs, A., Natrins, A., Arefjevs, I., & Volkova, T. (2023). Digital Transformation as a Driver of the Financial Sector Sustainable Development: An Impact on Financial Inclusion and Operational Efficiency. *Sustainability (Switzerland)*, 15(1). <https://doi.org/10.3390/su15010207>
- Moniaga, F., Fhitri, W., handam Dewi, S., Yuliana, A., Yulianti, N. L. P. N., Susanto, D. A., Yanto, N., Choerudin, A., & Wenno, I. H. (2024). *Pengantar Metodologi Penelitian Kualitatif*. CV. Gita Lentera.
- Moniaga, F., Hidayati, F., Fhitri, W., Dewi, S. H., Yuliana, A., Yulianti, N. L. P. N., Susanto, D. A., Yanto, N., Misnawati, D., Choerudin, A., Resiana, A., & Wenno. (2024). *Pengantar Metodologi Penelitian Kualitatif*. <https://gitalentera.com>
- Muhammad Fauzan Pratama, Bakhtiar Efendi, & Lia Nazliana Nasution. (2025). Transformasi Digital Ekonomi dalam Mendukung Inklusi Keuangan di Indonesia. *MUQADDIMAH: Jurnal Ekonomi, Manajemen, Akuntansi Dan Bisnis*, 3(1), 65–85. <https://doi.org/10.59246/muqaddimah.v3i1.1184>
- Munyoka, W. (2022). Inclusive Digital Innovation in South Africa: Perspectives from Disadvantaged and Marginalized Communities. *Sustainability (Switzerland)*, 14(9). <https://doi.org/10.3390/su14095372>
- Nita Yulianti, N. L. P., & Kuntag, J. R. (2023). Persepsi Kemudahan, Kebermanfaatan, Sikap Penggunaan, Dan Minat Perilaku Penggunaan Billing System di KPP Pratama Denpasar Timur. *Jurnal Multidisiplin Indonesia*, 2(1), 105–116. <https://doi.org/10.58344/jmi.v2i1.148>
- Niu, G., Jin, X. S., Wang, Q., & Zhou, Y. (2022). Broadband infrastructure and digital financial inclusion in rural China. *China Economic Review*, 76, 101853. <https://doi.org/10.1016/J.CHIECO.2022.101853>
- Ouechtati, I. (2020). The contribution of financial inclusion in reducing poverty and income inequality in developing countries. *Asian Economic and Financial Review*, 10(9), 1051–1061. <https://doi.org/10.18488/JOURNAL.AEFR.2020.109.1051.1061>
- Pilishvili, A. S. (2020). *The Impact of Digital Technology on the Development Strategy of a Financial Corporation*.
- Revak, I. O., & Gren, R. T. (2022). Digital Transformation: Background, Trends, Risks, and Threats. *Social and Legal Studios*, 5(2), 61–67. <https://doi.org/10.32518/2617-4162-2022-5-2-61-67>
- Sastiono, P., & Nuryakin, C. (2019). Inklusi Keuangan Melalui Program Layanan Keuangan Digital dan Laku Pandai. *Jurnal Ekonomi Dan Pembangunan Indonesia*, 19(2), 242–262. <https://doi.org/10.21002/jepi.2019.15>
- Setiawan, B., Nugraha, D. P., Irawan, A., Nathan, R. J., & Zoltan, Z. (2021). User innovativeness

- and fintech adoption in indonesia. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(3). <https://doi.org/10.3390/joitmc7030188>
- Stewart, H. (2023). Digital Transformation Security Challenges. *Journal of Computer Information Systems*, 63(4), 919–936. <https://doi.org/10.1080/08874417.2022.2115953>
- Suhendra, A., & Santiko, A. (2023). Governance Through Electronic-based Information System by Papua Provincial Government. *International Journal of Regional Innovation*, 2(4), 43–50. <https://doi.org/10.52000/ijori.v2i3.65>
- Suri, T., & Jack, W. (2016). The long-run poverty and gender impacts of mobile money. *Science*, 354(6317), 1288–1292. <https://doi.org/10.1126/science.aah5309>
- Tay, L. Y., Tai, H. T., & Tan, G. S. (2022). Digital financial inclusion: A gateway to sustainable development. In *Heliyon* (Vol. 8, Number 6). Elsevier Ltd. <https://doi.org/10.1016/j.heliyon.2022.e09766>
- Yulianti, N., & Ardani, L. N. R. (2023). Perceived Enjoyment dan Kepercayaan Terhadap Minat Perilaku Penggunaan Mobile Banking PT. Bank BPD. *Musamus Journal of Business & Management*, 5(2), 123–135.
- Yulianti, N. L. P. N., Ismail, I., & Kadir, S. (2025). How is communication effective in control of inflation in Merauke regency? *Journal of Economics Research and Policy Studies*, 5(1), 217–230.