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# Digital transformation in rural areas of Indonesia: Inspecting trust or hesitation

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## ABSTRACT

**Background:** The instability of digital transformation in rural communities of Indonesia stresses several critical aspects that reveal how national policy goals do not align with local realities. In this case, it raises the question of whether digital transformation fosters trust or raises hesitation about the SDGs concept. However, significant state-led initiatives have been ratified within the scope of the SDGs. Interestingly, the digitalisation of rural communities in Indonesia has been hampered by complex issues (e.g., legal ambiguity, institutional fragility, and low digital literacy) that need to be adequately addressed through the SDGs schemes. **Methods:** This study employed a qualitative descriptive approach with content analysis to explore digital transformation in rural communities in Indonesia, providing comprehensive insight into the tension between trust and hesitation. **Findings:** This study identified three primary barriers in the rural community of Indonesia regarding digital transformation practices and the effects that influence the community in reality, including legal ambiguity, institutional instability, and the disconnect between connectivity and digital literacy, and so on this correlation also scale down the purpose of SDG's in Indonesian context specifically in rural communities that must be accepted the benefits of digital transformations. **Conclusion:** The digital transformation must be people-centered, context-sensitive, and supported by strong institutions to ensure sustainable, inclusive outcomes for Indonesia's rural communities. **Novelty/Originality of this article:** This study contributes to a theoretical and practical framework of rural digitalisation as a socio-technical process, rather than a purely technological shift. Ultimately, the inspection offers actionable recommendations to eliminate key barriers and provides a new perspective on aligning digital policy with community participation and local capacities to ensure prospects' and compliance with the SDGs scheme.

**KEYWORDS:** digital transformation; Indonesia; rural community.

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## 1. Introduction

To start, the contradiction in global digital transformation reveals the promise of accelerating every ecosystem of human life, a promise also supported by the Sustainable Development Goals, scope "nine" (industry, innovation, and infrastructure) (United Nations, 2015). Moreover, if contemplated, the contradiction of digital transformation sounds like fussy ambiguity. However, the issue remains for humanity as to whether digital transformation fosters trust or instead increases hesitation toward the concept of the SDGs.

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This premise is grounded in the idea of informing all scholars passionate about exploring digital transformation globally, regardless of background or discipline. Hence, again, it depends on those interested in getting a more comprehensive understanding of digital transformation. Next, the digital transformation process currently focuses on the massive extended transformation for the community in rural areas of any country that wants to build a new grassroots development model with categories based on size, criteria, and outcomes from this concept (Gupta & Rhyner, 2022; Govigli et al., 2022; Li et al., 2022).

Interestingly, the special focus on Indonesia's rural communities remains paradoxical in achieving the goal of digital transformation. To confirm this justification, research by Werang et al. (2025a) tremendously reveals that the process of digital transformation does not capture the local preference as a baseline to escalate the core of digital transformation, but rather the reverse of this seems to be that the community becomes a passive group that does not get active participation in the process run by the local authorities.

Other supporting information confirmed by Werang (2025), particularly on the Indonesian government's adopted process benchmarks to accelerate rural community development linked to digital transformation (held by local government structures), admittedly left a collective recognition of how to adequately complement such comprehension and display performance based on scale, percentage, and note records (Werang et al., 2025b). The empirical evidence above states that digital transformation in rural Indonesia crumbled due to overlapping goal setting (central-regional), uncoordinated governance, poor institutional quality and capacity, and regulatory non-compliance (central-regional). Hence, we provide insights for all participants (government, researchers, academics, the private sector, and the community) on digital transformation in rural Indonesia, reflecting the tremendous uncertainty in building trust and the hesitancy we identified in our study.

In addition, let's go back to the special focus on digital transformation. Here, we highlight the essential insight to strengthen the rigorous comprehension of our study, which is divided into the theoretical approach and outcomes. Firstly, Kraus et al. (2021) examine theoretical aspects of digital transformation worldwide, asserting that institutions or organisations can drive the process effectively and efficiently by employing new tools or technologies for the community. Then, the approach based on their insight serves the needs adjustment to overcome limited resources, with components such as a multi-level perspective (the role of government and other parties involved in supporting the digital transformation) and management (how processes are managed, with special attention to specific functions). And so on, this delivered outcomes such as digital transformation with best practices that focus on actionable insights to improve infrastructure, literacy for the community, and better prospects (governance across all processes) to support the Sustainable Development Goals (SDGs).

In line with this, Rayapalli et al. (2025) and Salemink et al. (2017) conveyed with the comprehensive and adequate about the process of the digital transformation must compliance with better comprehension to set the plan, process and outcomes as the fundamental framework that will escalate the transformation as the theoretical concept, hence they also spotlight to adopt the position of this must be fit with better roadmap and of course contains effective model for the concretization as the outcomes dream to serve prospect of digital transformation for the community.

Nevertheless, the theoretical and empirical outcomes above suggest that the digital transformation has a significant impact on the community, particularly in rural areas. It must separate the bias of unnecessary projects (i.e., overlap regulation, weak governance, limited budget constraints, and ambitious goals that are unmeasured). So, from here, the study concludes that the hidden message of digital transformation remains a rift for the rural community of Indonesia, which brings trust or hesitation? Based on the theoretical and empirical evidence, the concept is operationalized and aligned with the Sustainable Development Goals (SDGs). Regardless, the study used this gap to conduct a careful inspection and simulate the uncertainty of digital transformation for Indonesia's rural

communities, offering a novel insight into how this issue has attracted rapid attention for resolution.

Henceforth, the study presents the research question (RQ): Does digital transformation engender trust or hesitation? The study also offers recommendations for the future to address the uncertainty surrounding digital transformation in Indonesia's rural communities. Furthermore, the study provides novel insights into digital transformation for a rural community that faces obstacles to trust and hesitancy by applying the theoretical framework and outcomes from the Sustainable Development Goals (SDGs) concept and scope nine (industry, innovation, and infrastructure). This study aims to examine the research problem by presenting the background, identifying the research gap, formulating the research questions, and highlighting the novelty of the study. Furthermore, the study explains the research methods employed, analyzes the findings through comprehensive results and discussions supported by relevant academic debates, and ultimately formulates the conclusions and implications of the research.

## 2. Methods

The study applied a qualitative descriptive approach with content analysis. Quoting Creswell & Clark (2017), qualitative descriptive and content analysis aim to confirm the phenomenon that attracted this study and to elucidate the specific issues actively. This flow allows this study to verify focus, objectivity, and coherence by providing comprehensive information. Next, the data of this study were collected from open, valid sources (e.g., government documents, scientific papers, and other relevant sources). All in all, this study also applied the data techniques with Creswell & Poth (2016) strategies, which are divided into five stages:



Fig. 1. Creswell analysis model

First, the background inspection identifies issues of trust and hesitation toward digital transformation in rural communities in Indonesia. Even though existing findings provide limited, sometimes inconclusive evidence, this study acknowledges that these results are insufficient to fully explain the extent and progress of digital transformation in rural contexts. This gap justifies the need for a more structured qualitative inquiry.

Second, this study conducts a structured review of relevant data sources, including peer-reviewed journal articles, policy documents, government reports, and credible institutional publications related to digital transformation in rural Indonesia. These sources are selected based on predefined inclusion criteria, such as relevance to rural digitalization, publication credibility, and alignment with the study's objectives. A transparent coding scheme is applied, consisting of thematic categories such as access, trust, infrastructure, digital literacy, and socio-economic impact, to ensure consistency and analytical coherence. This basis could lead researchers to confirm that the data is valid and reliable.

Third, regarding data collection, this study employs purposive sampling to choose documents and sources that directly address the research problem. This approach ensures that the collected data align with both the literature and the identified research gaps. Data are systematically extracted and organized using thematic coding, allowing this study to empirically ground the inspection and strengthen the validity of the findings.

Fourth, at the interpretation stage, the coded data are analyzed through critical engagement with existing academic debates on digital transformation and rural development. This stage integrates empirical evidence with theoretical perspectives to identify unresolved issues, explain observed patterns, and assess the implications of digitalization in rural Indonesian communities. The analysis also stresses areas requiring further policy intervention and scholarly attention.

Finally, the reporting stage synthesizes the findings into coherent conclusions and practical implications. This phase ensures that the results are consistently linked to the research problems, literature review, data analysis, and interpretation. Overall, the study provides a comprehensive recognition of the effects of digital transformation in rural communities in Indonesia and offers empirically grounded directions for future research and policy development.

### 3. Results and Discussion

#### 3.1 Digital transformation practice in the rural community of Indonesia

As a concept of digitalization practice in the low level of local government structure in Indonesia remark a shift paradigm to enhance the grassroots development through digitalization, this stage emphasized all the responsibility from central-local must intensify to accommodate the community preferences, so the result of this could be a foundation to provide the core of principle of digitalization in terms of open access to the public or community that have an access freely. In addition, this study will break down the pros and cons of the digitalisation practice to provide real facts from the field, adopted by local governments (rural) in Indonesia, at the policy, processes, outcomes, and lessons learned stages.

Research conducted by Ilham (2023) and Leviäkangas et al. (2025) firmly states, from a policy perspective, the practice of digitalisation reveals some influence, including gaining the obligation of SDGs throughout the village law as a fundamental instrument to back up the flow of responsibility by the local government (rural). Still, there's something that needs to be considered since the results of this study were run; it was found again that the existing law with the policy adopted does not capture the overall result of the community preferences, so their findings offer a way to resolve the issue by focusing on institutional barriers, funding, or literacy programmes that were assisted for rural digitalisation. From the first research here, this study acknowledges the pros of the rural digitalisation practice, which are explicitly justified, help in achieving the purpose of the SDGs, and are grounded in local government (rural) law as the instrument for running the digitalisation practice. On the other side, the cons reveal that the existing legal standpoint doesn't adequately capture community preferences, allowing a disconnect between policy and local needs, so this study underlines the key message of this: the local government (rural) needs to focus on the core aspect of digitalisation addressed through more inclusive, well-funded, and locally-responsive approaches. Next, this study also reflects that without these foundational changes, digitalisation risks widening existing inequalities rather than bridging them.

Moreover, the second empirical finding that researchers found relies on expanding (processes) the transformation by applying Information and Communication Technology (ICT), the purpose of this is to highlight the role of local government (rural in Indonesia) needs to serve the connectivity in every single stage of community services that was responsible in the terms of regulation (Saputra et al., 2023; Zhang et al., 2025). And so on, the quiet dream of these attempts empowers rural communities and accelerates economic growth by fostering collaboration with external partners to address socio-economic effects. Then, the hope of that swamps the digital divide. Hence, this study concludes that the pros of this approach strongly suggest that adopting ICT will significantly enhance digital transformation and close service inequality in the community's interest. But the cons of that are that the local government lacks a specific roadmap to achieve the massive transformation through ICT adoption, which underscores the contradiction above, and must calibrate the urgency of digital transformation with careful, selective consideration to capture the goal of community preference. Nevertheless, this study continues to explore the connectivity that links to the outcomes, which becomes a vital point in digitalisation practice. Regardless, the primary objective of the outcomes reveals some issues that this study confirmed with authority maps mentioned in "Indonesia Digital Industry Development Master Plan 2023-2045", which stipulate the specific action and comply with

the principle as follows: togetherness, fair efficiency, environmentally aware and sustainable, independence, and balance of progress and unity of the digital economy (Ministry of National Development Planning/National Development Planning Agency, 2022). This point confirms how this attempt delivers exceptional attention from the central government to the local government (rural) to be more adaptive, helping the grassroots development. It means that all these actions could serve as a basis for authority and must be applied consistently. On the other hand, this study underlines that the specific actions stipulated look debatable. This basis is split into pros and cons: for the cons, this study notes that the master plan will serve as the benchmark, demonstrating a commitment to advancing the digital development structure; if appropriately applied, it could build a strong digital ecosystem. The second point that researchers' inspections reveal is the holistic principles, which yield the value of an ethical foundation for growth. This attempt aims to inform that digital technology is not about putting technology into the process; it must also consider the socio-ecological effects. Third, focus on connectivity that ensures all processes are designed for underserved rural areas. This message emphasizes the need to focus on established, effective links to enhance the community's lives.

Fourth, yields on empower and drive the independence for the local government (rural), this point delivered the reflection about the role of local government to provide the access for all community lives in their territory, for the sack it illustrates how the goal of digital transformation tried to revamp the local government to be independent and applied the empowerment for local industry in the rural areas then will serve the market job for the community itself, for this point we acknowledge that will assist the national resilience or create the innovation from local preferences. The last point is that researchers focus on equitable development that promotes unity and avoids one-size-fits-all approaches, thereby addressing gaps in rural areas. This approach aims to mitigate the threats posed by the digital divide. Henceforth, this study also identifies the cons of this from a critical standpoint, which reveals some considerations: if the authority needs to optimise progress (digitalisation), this could differ, as the national-central goals seem ambiguous and have never been resolved through policy implementation. Interestingly, the outcomes consistently failed to capture local goals adequately. At this point, this study underlines the need to establish a clear, specific roadmap and a clear duty or function to drive progress.

The next point researchers highlight regarding potential conflicts arising from digitalisation is that the authority consistently runs campaigns to promote digitalisation's sustainability and to balance rights and privacy broadly. Still, one thing that needs to be overlooked is how to mitigate the potential conflict posed by digitalisation for communities that don't recognise their rights or privacy by adopting technologies or services that are part of digitalisation. In line with this, this study claims that it could reveal the gap between the purpose of digitalisation itself and its actual implementation. It will affect the community's interest. From this, this study suggests that the authority needs to collaborate and secure the community interest (by educating all marginalized groups or underserved groups that need to comprehend the impact of digitalisation), and in this way, could prevent this condition and retain the prospect of digitalisation for the community that lives in the rural area. In addition, this study continues to focus on what is called "risk concretisation", which means, in Indonesian rural regions, often stuck with political shifts, changes in leadership, and budget reallocation, why can this condition not be appropriately addressed? Of course, this study underscores that this reality lacks governance. Suppose the plan is executed by an authority that lacks a strong commitment to actualisation.

In that case, it is affected by some of the considerations above, which require greater attention to the community's legacy. From this, this study's assert that the crucial point is that the government must intensify its political commitment, leadership, and realistic budget to achieve the goal of the digitalisation pilot project. Notwithstanding, this study attention focus on what we called "connection risk", this basis illustrates even the connectivity was connected in the rural, the limited access remains, this conditions cannot overlooked by one lens but need sees from different side to secure the community interest, first and the most part in adopting digitalization, so the point that researcher must to inform

is the authority (central-local) should make extraordinary investment and objective regulation to mitigate this, because the disparities of digitalization always focus on infrastructure over than digital literacy coherency.

Lastly, this study focuses on the gap between local capacity and technology. This point shows that the authority promotes independence by supporting local talent, conducting research and development, and building strong infrastructure. From this, capacity building could be established as a primary driver to accelerate the progress of digitalisation. The findings of this demonstrate that rural digitalisation in Indonesia cannot be understood solely as a technological intervention but must be situated within broader socio-institutional and sustainability frameworks. While digitalisation is formally framed as a mechanism to enhance efficiency, transparency, and service delivery, its actualization reveals structural weaknesses that intersect with existing sustainability crises (e.g., social inequality, poverty, and uneven access to public services). When digital transformation proceeds without adequately capturing community preferences, strengthening digital literacy, or addressing institutional capacity gaps, it risks reinforcing exclusion rather than alleviating it. This outcome reflects a misalignment between policy intentions and lived realities, in which top-down digital mandates privilege infrastructure expansion over social inclusion, thereby deepening the digital divide. In this sense, digitalisation failure becomes symptomatic of a wider governance challenge, in which insufficient coordination between central and local authorities undermines the social dimension of sustainable development.

All in all, this study also reveals that contrasting these findings with established rural digitalisation models further clarifies this gap. Prevailing models in the literature emphasise participatory governance, locally embedded innovation, and capability-building as core principles of sustainable digital transformation. However, the Indonesian case illustrates a paradigm that remains largely compliance-driven and policy-centric, with limited adaptability to diverse rural contexts. Rather than enabling grassroots empowerment, digitalisation is often constrained by ambiguous roadmaps, institutional fragmentation, and uneven investment in human capacity. This divergence underscores the need to reconceptualise rural digitalisation as a socio-technical and socio-ecological process, integrating technology with inclusive governance, equitable access, and long-term sustainability. Only through such a shift can digitalisation move beyond symbolic modernisation and contribute meaningfully to resilient, people-centred rural development.

Overall, this study concludes that this characteristic could be a fundamental indicator of adequately and consistently preserving local preferences. Confessionally, the inspection above reveals some interpretations of rural digitalisation practices, especially among communities living in Indonesia's rural areas. This study underlines the key message that rural digitalisation must be people-centred, adaptive, and sustainably linked into local contexts to ensure it truly benefits the communities it aims to serve independently.

### *3.2 The effect of digital transformation: trust or hesitation?*

In the early stages, this study confirms that the practice of digitalization in rural communities in Indonesia poses a crucial problem that underscores the need for extraordinary effort to address it in various ways. Then, the authority must pay special attention to the key elements we suggested, namely, people-centred, adaptive, and sustainable retention that also adequately accommodates local preferences. In this context, this study hopes that the barriers that can be accurately and specifically eliminated will serve as a model for overcoming similar issues, such as digital transformation in rural areas, more broadly.

Formerly, one of the core issues, such as digital transformation, brings a range of outcomes. Still, in the case of Indonesia, the normative aspirations of digital transformation provoke not trust but hesitation. To this end, this study established the following reality: Firstly, from the above policy and legal ambiguity lens, this study underscores the critical debate known as "the root of mistrust". This premise underpins the analogy: even though digital transformation initiatives are often wrapped in progressive rhetoric and linked to

the rural law and the SDG commitments, the legal instruments fail to adequately capture grassroots needs. Then, the policies are often top-down, designed without meaningful consultation or co-creation with rural communities. At the same time, this gap fosters institutional hesitation of local governments (rural) to implement digital policies whose relevance and applicability they neither shaped nor fully comprehend. Another criticism of this was that mistrust of digitalization still doesn't connect with the fundamental role of the local authority to manage, operate, and deliver the goal consistently (Maurya et al., 2025; Rasi-Heikkinen, 2022; Salleh et al., 2024; Wang et al., 2025).

Furthermore, this confirmation suggests that rural actors are hesitant, as the regulations (laws) do not provide sufficient legal safeguards or clarity on responsibilities, funding mechanisms, or accountability. Then, this could be due to the lack of a clear operational roadmap, as highlighted in the ICT adoption analysis, which further fuels uncertainty. Finally, the message of the first point is that local governments (rural) are trapped in a digital mandate without a viable execution plan, and this aligns with our justification, "policy ambiguity breeds hesitation, not trust".

Secondly, this study focuses on the perspective of "weak institutional capacity and political volatility". These issues are emerging from conditions beyond the professional competence of rural actors. For instance, if digital transformation requires more than just internet cables and smartphones (technology adoption), it needs a strong governance capacity (within the body of the rural government, which requires professionalism). In rural Indonesia, institutional fragility is compounded by frequent political turnover, shifting leadership priorities, and budgetary reallocation. The phenomenon of "risk concretisation" occurred not alone; it reveals how the commitment of rural actors, where progress is hindered by political instability, illustrates that rural digital initiatives are often disrupted before reaching maturity. Then, without continuity, commitment, or capacity, hesitation becomes a rational survival strategy for local bureaucracies.

For this reason, this study acknowledges that local governments hesitate to invest in long-term digital infrastructure or training when the next election could bring a complete reversal of priorities. This uncertainty reveals the foundation for trust in any transformational agenda, and this connection is also linked to the prosperity of the digitalization effect (Aránega & Alcántara-Pilar, 2024; Bei et al., 2024; Feng et al., 2024; Sacavém et al., 2025). Specifically, it highlights the role of local government in maintaining institutional capacity and delivering local needs in various services, thereby providing access freely and equally.

Thirdly, some considerations that researchers need to address relate to "disconnected among connectivity and community literacy." From this point, this study emphasizes that although the state focuses heavily on infrastructure development, digital literacy and community readiness are chronically underprioritized. Consequently, the result of this analysis is termed the "connectivity illusion," in which technical infrastructure exists but actual usage, recognition, and empowerment remain absent. Eventually, disconnection drives hesitation at the grassroots level, particularly among marginalized or digitally illiterate populations (Chen et al., 2024; Musekiwa et al., 2025; Sharma & Swadimath, 2024). Unexpectedly, we also note that the fear of surveillance, loss of privacy, or exclusion from services due to a lack of digital skills deters participation.

In addition, when digital tools are promoted without sufficient education or engagement, communities tend to distrust the systems themselves and avoid them (Diepeveen & Pinet, 2022; Korostelina & Barrett, 2023; Wang et al., 2023). As the digital divide persists, digital transformation becomes a symbol of exclusion rather than inclusion, deepening hesitation. Next, this condition in line with some empirical cases that conveyed that disparity of the connection with community literacy becomes crucial factor to enhance the digitalization in rural areas, because by minority of literacy the community do not comprehend how to operate the outcomes of digitalization itself and expanding the hole of hopeless of the community by actualise the proportion to serve their services or utilise the access of digitalization (Hu et al., 2025; Meng & Li, 2025; Stojanova et al., 2022; Wagg & Simeonova, 2022).

So, the reflection of this, the authority (rural) needs to optimize connectivity and community literacy properly and retain sustainability for the mid-long-term agenda. After looking at the considerations of the scrutiny above, this study concludes that the effect of digital transformation in rural Indonesia (local government structure) currently manifests more clearly as hesitation rather than trust. This point highlights that the potential benefits of digitalization are widely acknowledged; however, systemic weaknesses, including legal ambiguity, institutional fragility, illiteracy, technocratic centralism, and ethical blind spots, render trust elusive. So, the evidence suggests that digital transformation in rural Indonesia currently manifests less as a pathway to sustainable development and more as a contributor to intersecting sustainability crises. From a theoretical lens, this aligns with digital divide theory and the capability approach, which emphasise that access to technology alone is insufficient to generate social inclusion or welfare gains. Instead, when institutional capacity, digital literacy, and participatory governance are weak, digitalisation can exacerbate structural inequalities, deepen poverty, and restrict access to essential public services. In this context, hesitation toward digitalisation among rural governments and communities is not a failure of adoption but a rational response to governance ambiguity, ethical uncertainty, and exclusionary implementation. Digitalisation failure thus reflects broader sustainability barriers, in which social, institutional, and political dimensions are insufficiently integrated into technological reform, thereby undermining progress toward inclusive and equitable development.

Contrasting these findings with established rural digitalisation models further highlights this gap. Prevailing models in the literature advocate participatory, bottom-up digitalisation that prioritises co-design, local capacity-building, and community empowerment as prerequisites for sustainable outcomes. Yet, the Indonesian case reveals a predominantly technocratic, top-down approach, in which infrastructure expansion and regulatory compliance overshadow social readiness and local agency. Rather than enabling grassroots resilience, digitalisation risks reinforcing exclusion when it is disconnected from community preferences and adaptive governance.

This divergence yields the need to reconceptualise rural digitalisation as a socio-technical process transformation embedded within sustainability transitions, balancing technological innovation with social justice, institutional trust, and long-term capability development. Without such a shift, digitalisation will remain a source of skepticism and uneven development rather than a catalyst for people-centred and sustainable rural transformation. Admittedly, to shift from hesitation to trust, digital transformation must become people-centred, transparent, and responsive to local contexts. It means the local government (in rural areas) needs to apply: co-designing policy with rural communities; building digital literacy alongside infrastructure; ensuring political continuity and budget stability; safeguarding privacy and rights through precise regulation; and empowering local leadership, rather than bypassing it. So with these foundations, digital transformation remains not a beacon of hope but a site of growing public skepticism, bureaucratic avoidance, and community hesitation.

### *3.3 Future recommendation*

In this section, this study visualizes the future recommendations in the tree maps to provide insight about the barriers of digital transformation in the rural community of Indonesia and offer the future direction based on the policy perspective, as follows Figure 2. This context stresses that the rural community of Indonesia lacks clarity and consistency in implementing digital governance effectively. Consequently, it exacerbates the rural community's perspective, as these cases have proven that it will hinder the adoption of digital platforms, delay actualisation, or eliminate private-sector collaboration in the process. So, to overcome, this study promote to the authority (central-local) government establish the inclusive policy design as a first step with the formulation that researchers offer concentrate on how to foster consultation with rural community in advocate to acknowledge their rights into participatory mechanism (e.g., conduct community digital

forum or digital town hall, utilise the local intermediaries to achieve the feedback, and develop the policy based on community needs and realities). This flow will enhance legitimacy, trust, and policy effectiveness, and will also escalate public ownership of digital platforms.

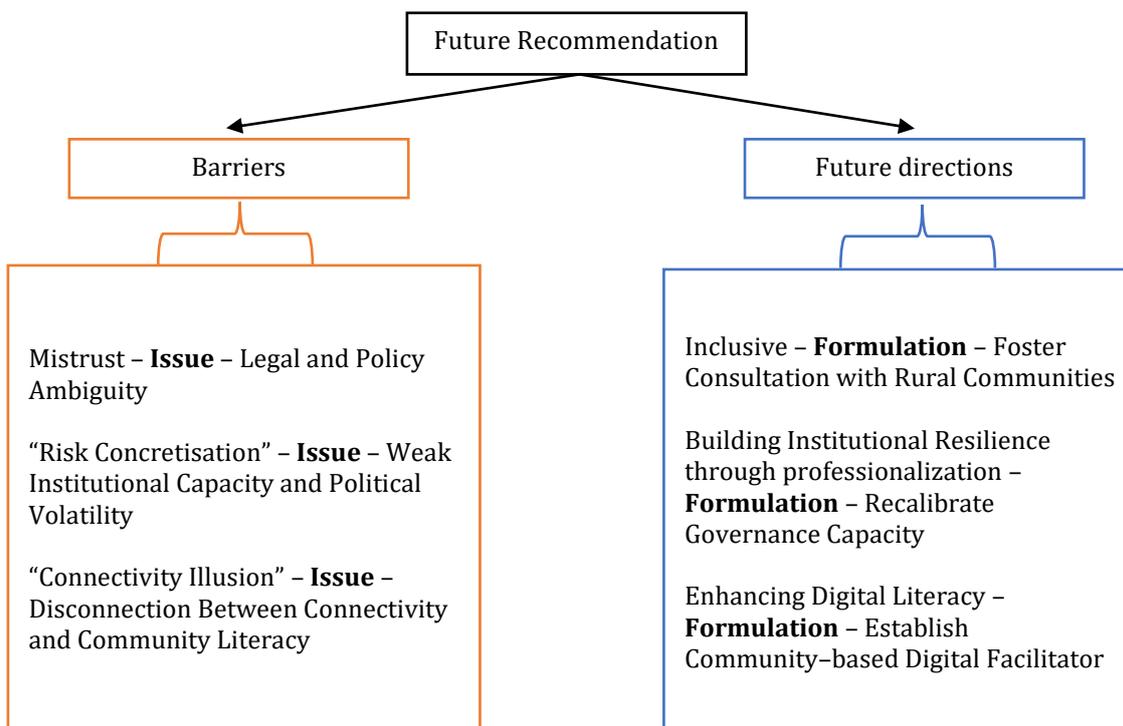


Fig. 2. Future recommendation

Second barriers, this study focus on “risk concretisation” as the crucial issues that spotlighted in weak institutional capacity and political volatility, from here this study identify from the side of rural community of Indonesia have a lack of institutional environment to robust or mitigate the risk of professionalism standard in rural officer with several indications such as limited skill personnel, poor inter-agency coordination, there’s no have policy shift and leadership change. Additionally, this condition also affects the effectiveness of executing digital projects or the stagnation of innovation. To eliminate this, researchers suggest that the authority (government) initiate building institutional resilience through professionalism by formulating recalibrated governance capacity. This foundation will shift from ad hoc digital governance to long-term institutional strengthening. Next, to simplify this process, the government could follow these steps: train and professionalise digital governance at the local level (particularly in rural areas), stabilise leadership’s role to mitigate volatility, and campaign for accountability and performance-tracking mechanisms. Overall, this studys believe this basis could ensure continuity of initiative, promote risk management, and create sustainable digital governance.

Third barrier, this studys concentrated on “connectivity illusion” as the problematic issue that is listed in disconnection between connectivity and community literacy, in line with that the rural community of Indonesia faces the stagnant progress of this issues, which means even the internet connectivity do not reflect to meaningful access for all groups that indicates: lack of digital skill and awareness of online services. Therefore, this condition actually exacerbates the digital divide, and the benefits of digital inclusion are not fully realised. Admittedly, to deconstruct this issues this studys recommend to enhancing the digital literacy massively with the formulation in establish community-based digital facilitator, which yields to create the local digital facilitator role (who can train, operate, and guide others), embedded partnerships with educational institutions or related agencies, and tailor the best programs to different groups specifically (elders, youth, men, and

women). With this flow, this study's aim to transition from passive connectivity to active participation, while also revealing the potential for economic opportunities.

To conclude, this study provides this recommendation as a critique and focus with the role of digital transformation and in line with the SDGs concept scope nine "industry, innovation and infrastructure", in rural community of Indonesia cases that was not consistently applied with local government authority and avoid the rural community preference and the most facts that researchers analyzed reveal the rural community only as passive actors not active actors to achieve the benefits of digital transformation as a truly dreamed by rural community and was formulated by SDGs concept broadly to run correctly. Last but not least, this study emphasizes the key message of this need: that this process does not focus solely on technology deployment but instead considers a socio-technical transition to serve the rural communities of Indonesia and other developing countries, thereby proactively maintaining the scope of the SDGs.

#### 4. Conclusions

To sum up, the central message of our research, based on a systematic analysis of digital transformation in Indonesia's rural communities, is that digital transformation must be people-centred, context-sensitive, and institutionally supported. In addition, even the Indonesian state has taken significant steps to promote digitalisation at the rural and local government levels, often under the banner of achieving the Sustainable Development Goals (SDGs). In contrast, the reality on the ground reveals a much more complex and hesitant process. For instance, trust in the digital transition remains elusive, primarily due to legal ambiguity, institutional fragility, a lack of community literacy, and the absence of a coherent policy framework that aligns national aspirations with local realities. In line with that, we confirm that these insights demonstrate that rural digitalisation is institutionally mandated and embedded in regulations (laws) and the SDG objectives; the process has largely been top-down, technocratic, and insufficiently inclusive.

These findings reveal that, despite ICT adoption laying the groundwork for innovation and external collaboration, significant barriers remain. Notably, local governments (rural) lack operational roadmaps, suffer from inconsistent leadership, and are frequently hampered by budget reallocation and political turnover referred to in this study as "risk concretisation." Further, while infrastructure investment is growing, digital literacy remains low, especially among marginalized populations, creating a "connectivity illusion" where access exists but is not meaningfully utilized. It leads to widespread hesitation and resistance among communities that do not feel ownership of, or are not adequately informed about, the digital tools imposed upon them.

Theoretically, the findings have implications for the dissemination of truthful information. As many developing countries aim to achieve the SDGs through rural digitalisation, the Indonesian case underscores the importance of aligning digital policy with community participation, institutional capacity, and socio-cultural contexts. That way, without these foundations, digital transformation risks exacerbating inequality rather than alleviating it. Moreover, the study also emphasised that the transition from "technology deployment" to "socio-technical transformation" is essential to prevent digital exclusion and ensure long-term sustainability. All in all, this research attempts to provide a significant contribution to both the academic and policy discourse by offering a multidimensional critique of rural digitalisation.

This research identifies three core systemic barriers: mistrust rooted in legal ambiguity, institutional volatility, and the disconnect between connectivity and literacy. Then, it provides structured, actionable recommendations to overcome these barriers. Specifically, it proposes inclusive policy design, institutional strengthening, and grassroots digital literacy programs as critical levers of change. By framing digital transformation as a socio-technical process rather than a purely technological shift, the research offers a conceptual foundation for rethinking rural digital policy.

Nevertheless, this study also emphasises the urgent need for the Indonesian government (both central and local) and similar governance systems in the Global South to move beyond infrastructure to adopt holistic, community-driven models of digital governance that truly reflect local preferences and capacities. In sum, the study emphasises that addressing foundational issues of trust, capacity, and inclusion is genuinely urgent, as if this is not addressed, digitalisation in rural governance will remain a symbolic gesture rather than a transformative force. To achieve meaningful digital transformation, demands not only technology but also political will, institutional integrity, and deep community engagement.

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### **Author Contribution**

NPLW contributed to the study's conceptualisation by suggesting the research design, methodology, and theoretical framework of a novel insight approach based on the research theme. MLFW helped in the literature review, data set, and scrutiny, and contributed to interpreting the data. MR contributed to the conclusion of the findings and elaborated on the recommendations based on the research's effect. All authors have reviewed or ratified the final manuscript.

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### **Informed Consent Statement**

The nature of the research did not necessitate informed consent.

### **Data Availability Statement**

Not available.

### **Conflicts of Interest**

The authors declare no conflict of interest.

### **Declaration of Generative AI Use**

During the preparation of this work, the authors used Grammarly to assist in improving grammar, clarity, and academic tone of the manuscript. After using this tool, the authors reviewed and edited the content as needed and took full responsibility for the content of the publication.

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