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Social Inclusion-Based E-Library Service Innovation in Taliabu Island Regency

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ABSTRACT

This study analyzes the problems of social inclusion-based *e-library service innovation* in Taliabu Island Regency through *The Ninth Interactive approach*. Using a qualitative case study method, this study dissects the manifestation of digital literacy in the 3T island region. The results of the study indicate that digital library transformation is hampered by three main factors: (1) Social barriers, in the form of low participation and resistance to community digital culture; (2) Financial barriers, related to limited regional budgets and high operational costs in island regions; and (3) Technical barriers, namely network infrastructure instability and minimal IT competency of librarians. These problems cause *e-library* services to not reach the stage of transformative social inclusion. A cross-sectoral collaborative strategy is needed to strengthen the digital ecosystem in order to improve the welfare of local communities

INTRODUCTION

In today's era of information disruption, literacy is no longer merely the ability to spell letters, but rather the ability to navigate the digital ocean. The manifestation of digital literacy has become a key pillar in the transformation of public services, where regional libraries are transforming into centers of gravity for technology-based knowledge. This is in line with the theory of *Support, Capacity, and Value* in digital public services proposed by Indrajit, where the success of library digitization depends on the commitment of government support, infrastructure and human resource capacity, and the perceived value of benefits for the public (Aditya et al. 2025) . Through *e-library services* , access to knowledge should be able to transcend geographical barriers and conventional bureaucracy.

However, along the way, this manifestation often clashes with the reality on the ground, especially in areas with unique characteristics such as Taliabo Island Regency. As a developing archipelago, Taliabo faces a dilemma between digitalization ambitions and the limitations of fundamental infrastructure. Previous research in (Maulidia and Mutia 2025) emphasized that the main challenges to digital transformation of libraries in Indonesia are the lack of equitable digital infrastructure and limited skilled human resources in remote areas. Innovation in *e-library services* , which were expected to be a bridge for inclusive public interaction, instead encountered various complex contemporary problems.

Several paradoxes emerge in this innovation effort. First, there is a significant digital infrastructure gap, where network stability is often a major obstacle. Research in (Sefa, Fidyono, and Marintan 2025) recommends the need to collect empirical data from remote areas to assess the community's actual level of readiness for digital library implementation. Second, there is rigidity in public interactions; even though digital platforms are available, interaction patterns are often one-way. This overlaps with Sarafino and Smith's Social Support Theory, which emphasizes the importance of informational and instrumental support in encouraging individuals to feel empowered to adopt new technologies.

This problem is contemporary because it occurs amidst the government's strong push for national digitalization. Research by (S. Rahayu and Pd 2025) shows that the low intensity of digital library use is often caused by a lack of innovation, which makes services seem monotonous. If not immediately resolved, this innovation barrier in Taliabo Regency will not only hamper the effectiveness of public services but also widen the knowledge gap between the central and frontier regions. Therefore, it is crucial to dissect the factors inhibiting innovation in public interaction in more depth in order to formulate adaptive strategies relevant to the Taliabo community.

The manifestation of digital literacy in the era of information disruption is an absolute prerequisite for realizing social inclusion through public services such as *e-libraries*. However, in Taliabu Island Regency, this innovation faces significant challenges rooted in social barriers in the form of cultural resistance and low digital skills. According to Paul Gilster (Amelia and Herlina 2017) , digital literacy is not merely technical skills, but the ability to critically understand information from various digital sources. Conditions in Taliabu indicate a competency gap that hinders user interaction with the system. This is in line with research (YP Rahayu 2023) in the Instructional Development Journal (IDJ) , which emphasizes that the success of digitalization is highly dependent on the cultural and literacy readiness of its community; without adequate skills, digital service innovations actually create alienation for certain community groups.

In addition to social aspects, financial barriers are a crucial determinant in the sustainability of public service innovation in island regions. From the perspective of Publin and Interact (in Thenint, 2010), interactive innovation requires consistent investment in both infrastructure and system maintenance to remain inclusive. At the Taliabu Island Regency Library Service, limited regional budgets have direct implications for high access costs and the difficulty of obtaining funding for updating digital collections. This issue is supported by findings (Rahma and Wardani 2023) in the Gadjah Mada University Library Journal, which states that fiscal constraints are the main obstacle for regional libraries in providing equitable technology-based services, so that the vision of social inclusion often stops at the conceptual level due to the lack of strong financial support.

Technically, contemporary challenges facing *e-library innovation* in Taliabu are also driven by technological complexity and limitations in basic infrastructure such as electricity and internet networks. *The N-Int Factors approach* highlights the importance of interconnectivity and system compatibility for innovation to be widely accessible. In island regions, these technical barriers often act as a barrier separating remote communities from access to information. Research in the *Blantika Journal: Multidisciplinary Journal, Analysis of Challenges and Opportunities Facing Libraries in the Digital Era* (Ferina and Assabilla 2024) reinforces the argument that without stable ICT infrastructure in remote areas, library digitization will actually widen *the digital divide*. Therefore, synchronizing adaptive technology with local geographic conditions is key to ensuring that digital literacy in Taliabu Island Regency becomes more than just an administrative innovation, but a tangible instrument for achieving inclusive social inclusion.

The use of the approach (Thenint 2010) in this article is based on the need to dissect innovation not as a static entity, but as an interactive process involving various complex variables. Thenint, through the *Publin and Interact framework*, emphasizes that public service innovation often fails not because of the technology, but because of the failure to manage interconnectivity and integration factors between actors. In Taliabu Island Regency, this approach allows researchers to see how technical, financial, and social barriers interlock (*interlock*), thus creating service stagnation. As explained in the research (Alhasbi, Kom, and Kom 2023) in the book *Introduction to Communication Science*, the success of innovation in remote areas is highly dependent on policy integration that focuses not only on equipment procurement, but also on the interaction ecosystem between the government and citizens.

Furthermore, the rationale for selecting Thenint's theory is to evaluate the extent to which this *e-library innovation is capable of achieving the Inclusion stage*. In the context of 3T regions, interactive innovations often fall into the "cosmetic innovation" phenomenon, which only appears advanced on the surface but is functionally empty. This aligns with Everett Rogers' *Diffusion of Innovations theory*, which states that the speed of innovation adoption is influenced by the relative advantages and compatibility of the system with local values. Previous research by (Scientific 2025) *The Implementation of the Social Inclusion-Based Library Transformation Program Based on Key Performance*

Indicators (KPI) at the Mutiara Langit Biru Literacy Terrace Library in the Scientific Library Journal confirms that without a match between the digital system and the real needs of the island community, the interaction expected in theory (Thenint 2010) will not be formed, and the digital library will only be a symbol of non-inclusive modernity.

The N-Int factors. The approach (Thenint 2010) provides a sharp analytical tool to prove that financial and technical barriers occurring in the Taliabu Library Service have a systemic impact on social exclusion. Theoretical support from (Venkatesh et al. 2019) regarding *the Unified Theory of Acceptance and Use of Technology* (UTAUT) also emphasizes that the condition of facilities and social influences are the main determinants in technology acceptance. Therefore, this study uses Thenint's framework to formulate a more adaptive innovation model, capable of transcending infrastructure and social barriers to create a manifestation of digital literacy that truly empowers communities in the island region.

METHODS

Research on the manifestation of digital literacy and the problems of *e-library innovation* in Taliabu Island Regency uses a descriptive qualitative design with the researcher as the key instrument to capture the dual reality in the field naturally. Referring to the framework of thought (Miles Hubermen 2014), data was collected through triangulation techniques that include direct observation of the condition of library infrastructure and services, in-depth interviews with key informants (Head of Library, Head of Division, staff, and the community), and documentation studies such as the Strategic Plan and regional innovation documents. Through this approach, the researcher systematically and factually describes the obstacles and processes of public service innovation based on social inclusion, emphasizing the analysis of the meaning of the words and actions of the actors involved without giving special treatment to the research object.

RESULTS AND DISCUSSION

Describe your research findings according to the research problem and purpose of the study. Discuss your findings according to the perspective of theory, concept or previous findings. Should describe this section in a comprehensive, simple and detailed manner. The author can make subchapters in this section.

CONCLUSION

The findings of this study reveal that social barriers to innovation in social inclusion-based public services in Taliabu Island Regency are rooted in mental resistance and the second-level *digital divide phenomenon*, where the community still has a very strong emotional attachment to conventional literacy patterns and face-to-face interactions. Although the Library Service has made proactive efforts through "jemput bola" services and collaborations with communities such as TBM Pesisir Pancoran, this innovation still clashes with the community's mindset that positions themselves as passive objects awaiting bureaucratic instructions, rather than as active subjects with a sense of *ownership* of digital services. This condition is in line with the findings (Almasari Aksenta, S.Kom. et al. 2023), Yanto et al. (2023) on the challenges of digital productivity in remote areas, and Sari & Winoto (2022) who emphasized the dominance of a culture of direct interaction in rural communities. The failure of the role transition from aid recipient to independent driver—as highlighted by Pradoko et al. (2024)—shows that without breaking through the psychological walls and social structures of *the status quo* described by (Fianisya Widyarini 2025), *e-library* innovation in Taliabu will continue to be stuck in superficial physical participation without touching the essence of transforming people's lives at the grassroots. findings indicate that financial constraints are a determining factor causing stagnation in *e-library innovation* in Taliabu Island Regency, where regional fiscal limitations directly impact low budget allocations for system maintenance and procurement of up-to-date digital collections. Secondary data support from the 2024 Taliabu Island Regency Government Performance Report. revealed that as a newly established region, its fiscal capacity is still heavily dependent on central transfer funds, while regional original revenue (PAD) as of October 2025 was recorded as very low, reaching only 11.09% of the target, or around IDR 4.35 billion. The reduction in the 2025 Revised Regional Budget to IDR 633.9 billion from the original IDR 699.8 billion reflects adjustments in spending priorities that narrow the scope for non-physical innovations such as digital libraries.

This condition is in line with the findings (Moh Ilham A Hamudy1, M Saidi Rifki2 2026) in the UGM Library Journal which states that fiscal constraints in island regions often cause the vision of social inclusion to stop at the conceptual level without operational sustainability. Furthermore, the high cost of technological infrastructure in the 3T region where Taliabu is included in the list of

underdeveloped regions 2020-2024 according to Presidential Decree No. 63 of 2020 makes interactive services difficult to access equally by the wider community. This is in accordance with Thenint's (2010) view in the *Publin and Interact framework* regarding the failure of financial support as an obstacle to the inclusiveness of public services. However, this finding has been criticized by the theory of Indrajit (2025) in Aditya et al., which emphasizes that financial barriers can be mitigated if the local government is able to optimize the value of benefits (*public value*) to attract strategic partnerships, such as the use of Village Funds or collaboration with the dominant mining private sector (CSR) in Taliabu.

Research findings on the technical barriers dimension reveal that *e-library innovation* in Taliabu Island Regency is hampered by limited basic infrastructure in the form of electricity networks and internet stability that have not consistently reached all remote areas. Secondary data from the report of the Central Statistics Agency (BPS) of Taliabu Island Regency noted that although the electrification ratio continues to increase, power stability outside the capital city of Bobong is still fluctuating, and according to data (Komunikasi dan Informatika 2020) regarding Indonesia's digital roadmap, North Maluku is an area with extreme island topographic challenges that cause high network *jitter* and *latency*. This condition is validated by research by Ferina & Assabilla (2024) in the Blantika Journal which confirms that without stable ICT infrastructure in remote areas, library digitization efforts will actually widen the *digital divide*.

This condition aligns with Thenint's (2010) framework regarding interconnectivity factors in Innovation in Public Services, where technological complexity that is incompatible with local geographic conditions makes the system difficult to access for communities in remote areas. However, this finding gets a critical perspective from (Sefa, Fidyono, and Marintan 2025) in Empirical Research on Digital Libraries who argue that technical failures are often caused by forcing too heavy digital platforms (based on online applications), instead of using adaptive solutions such as local network-based *e-libraries (intranets)* or *offline server devices* such as KIPIN which are more relevant to the characteristics of island regions. Thus, the technical obstacles in Taliabu are not simply a matter of tool availability, but rather a lack of synchronization between innovation design and the reality of infrastructure on the ground.

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