



Strategy for Utilizing the Digital Infrastructure of the Talaud Islands Regency General Election Commission to Increase Voter Participation in the 2024 Simultaneous Regional Head Elections

Hilda Jein Palandung¹; Donald K. Monintja¹; Michael Mamentu¹; Daud Markus Liando¹; Johny Lengkong¹

¹Master of Government Science, Postgraduate Program, Sam Ratulangi University, Manado, Indonesia

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* Corresponding author;
jhpalandung@gmail.com

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ABSTRACT

The 2024 Simultaneous Regional Election (Pilkada) in Talaud Islands Regency, an outermost archipelagic area bordering the Philippines, was held with intensified digitalization of electoral services. However, voter turnout fell from 84.15% in 2018 to 79.16% in 2024, even though the number of registered voters increased from 69,564 to 73,479. This study analyzes the strategy of the Talaud Islands General Elections Commission (KPU) in utilizing digital infrastructure to increase voter participation. A descriptive-qualitative approach was used, framed by Hunger and Wheelen's (2007) strategic management model combined with e-government theory (Heeks, 2006; Huang et al., 2005) and political participation theory (Milbrath & Goel, 1977). Data were collected through interviews, observation, and document study, and analyzed using Miles and Huberman's interactive model. Findings show that (1) the archipelagic geography creates infrastructure barriers that make KPU's digital services meaningless on outer islands; (2) KPU has no independent digitalization roadmap, so its strategy is reactive and tends to be symbolic; (3) implementation, which features a good practice in the Singgawe Tarlih application used by the Voting Committees (PPS) for public outreach, is still hindered by the digital divide and one-way communication on social media; and (4) turnout remained high at 79.16%, above the 70% national target, although 4.99 percentage points lower than in 2018, leaving room to widen inclusive digital outreach. It is concluded that electoral digitalization in outermost archipelagic regions is effective only when it is designed inclusively, grounded in local planning, and combined with face-to-face approaches

INTRODUCTION

The 2024 Simultaneous Regional Head Elections (Pilkada) represent a strategic moment for consolidating local democracy in Indonesia. These elections are not merely an electoral process but serve as a platform for articulating the public's interests and establishing a social contract between voters and aspiring regional leaders; consequently, voter participation serves as a crucial benchmark for the quality of democracy. However, participation levels vary across Indonesia, particularly in outlying regions such as the Talaud Islands Regency in North Sulawesi Province.

The Talaud Islands Regency comprises islands scattered along Indonesia's northern border, sharing a direct maritime boundary with

the Philippines. Inter-island connectivity relies on weather conditions and maritime transport which is not always available while access to communication networks, electricity, and road infrastructure remains limited. These conditions hinder the conventional dissemination of election-related information, making the utilization of digital infrastructure a relevant strategy to reach voters more broadly, rapidly, and efficiently.

Data from the Talaud Islands Regency General Election Commission (KPU) (2024) indicates that voter participation in the 2018 regional election stood at 84.15% of 69,564 eligible voters, whereas in the 2024 election, it was 79.16% of 73,479 eligible voters. While both figures exceeded the national participation target of 70%, the 2024 participation rate was lower than that of 2018—despite the fact that the digitalization of services was a key priority for the



KPU during the 2024 election, encompassing everything from the dissemination of information on election stages, political education, and candidate outreach to voter services.

Existing literature generally takes an optimistic view of the role of technology. Cahyaningsih et al. (2019) state that the use of information technology in elections has the potential to enhance transparency, efficiency, and public participation. Waruwu et al. (2024) and Fauziah et al. (2023) found that digital applications assist election organizers in working more effectively and efficiently across various tasks, ranging from data collection to public outreach. Conversely, Rahmatullah and Umarama (2024) highlight that archipelagic regions face challenges such as infrastructure gaps, limited internet access, and low digital literacy. As these studies are either national in scope or normative-juridical in nature, there has been limited empirical research into the strategies employed by election organizers to leverage digital infrastructure in outermost archipelagic regencies.

This study employs the strategic management theory of Hunger and Wheelen (2007) as its grand theory, utilizing a four-stage cyclical framework: environmental scanning, strategy formulation, strategy implementation, and evaluation and control. This theory is complemented by Heeks's (2006) e-government concept regarding Government-to-Citizen (G2C) relationships and the theory of successful e-government adoption proposed by Huang et al. ... (2005), which requires infrastructure and technological literacy, as well as the political participation theory of Milbrath and Goel (1977) regarding political stimuli and political alienation. This study aims to analyze the strategies employed by the General Elections Commission (KPU) of Talaud Islands Regency to utilize digital infrastructure in boosting voter participation during the 2024 Simultaneous

Regional Elections, including the inhibiting factors involved.

METHOD

This study employs a descriptive-qualitative approach to gain an in-depth understanding of the phenomenon of technology governance in a border region, aligning with the perspectives of Moleong (2017) and Sugiyono (2013) that qualitative research emphasizes the depth of analysis regarding events and subjects' experiences rather than the volume of data. The research was conducted in the Talaud Islands Regency, North Sulawesi Province, focusing on the Talaud Islands Regency General Election Commission (KPU) during the 2024 Simultaneous Regional Head Elections. The data collection and analysis process was guided by the four-stage strategic management model proposed by Hunger and Wheelen (2007).

Informants were selected based on their competence and direct involvement in utilizing the KPU's digital infrastructure; these included the Chairperson and members of the Talaud Islands Regency KPU, the Head of the Sub-division for Socialization, Voter Education, Public Participation, and Human Resources, as well as relevant stakeholders. Primary data were obtained through interviews and direct observation, while secondary data were gathered via literature reviews and documentation—including historical data on vote counts and voter participation from the 2018 and 2024 regional elections managed by the Talaud Islands Regency KPU. Data analysis followed the interactive model developed by Miles and Huberman (1992), comprising data reduction, data display, and verification/conclusion drawing.

RESULTS AND DISCUSSION

The research findings are presented according to the four stages of strategic management outlined by Hunger and Wheelen (2007). Overall, the strategy employed by the Talaud Islands Regency General Election Commission (KPU) regarding



digital infrastructure utilization for the 2024 regional elections succeeded in maintaining high levels of voter participation, though it has not yet optimized efforts to increase it. Opportunities for strengthening the strategy lie in aligning the strategic design with the geographical, infrastructural, and social realities of the archipelago.

1. Environmental Scanning: Archipelagic Geographical Characteristics and Their Implications

Talaud Islands Regency is a northern border region of Indonesia, consisting of a cluster of islands situated in the Pacific Ocean. Spatial distances and a reliance on maritime transport present unique challenges for the KPU. Conventional information distribution is frequently hindered by extreme weather, high waves, and limited inter-island shipping schedules, necessitating a shift toward the digitalization of election administration.

Theoretically, the utilization of ICT is projected to overcome spatial and temporal barriers, and Heeks' (2006) G2C concept advocates for information access free from regional discrimination. However, field findings reveal a different reality. The archipelagic nature of the region creates not only logistical hurdles but also disparities in supporting infrastructure, such as unstable electricity supplies and extensive areas lacking signal coverage ("blank spots"). In the northern part of Karakelang Island, as well as on Salibabu and Kabaruan Islands, the absence of adequate Base Transceiver Stations (BTS) renders the KPU's digital services ineffective. Technology intended to foster inclusivity instead clashes with an unprepared foundational digital ecosystem. These findings align with Rahmatullah and Umarama (2024) regarding the digital infrastructure gap in archipelagic regions, and with Huang et al. (2005), who note that e-

government adoption requires reliable telecommunications infrastructure.

2. Strategy Formulation: Absence of a Roadmap and Reactive Strategies

According to Hunger and Wheelen (2007), the success of public sector organizations relies heavily on strategy formulation embodied in long-term planning documents (blueprints). These documents must outline the vision, mission, budget allocation, priority scales, and success benchmarks that are adaptable to local conditions. This study found that the Talaud Islands Regency General Election Commission (KPU) lacks a clear, independent roadmap for election digitalization regarding the 2024 Simultaneous Regional Head Elections. The utilization of cyber tools proceeds without integrated planning due to three factors.

First, policies are reactive and top-down. The use of digital applications and platforms merely follows instructions cascaded down from the Central and Provincial KPU levels, without contextualization for the needs of the island communities. Second, there is an absence of local planning documents such as specific Standard Operating Procedures (SOPs) or technical roadmaps to govern the production of outreach content, digital dissemination schedules, and the division of labor across secretariat sub-divisions. Third, multi-sector cooperation is weak. Collaboration with the local government (specifically the Communication and Informatics Agency) and telecommunications service providers operates informally, lacking robust Memoranda of Understanding (MoUs); consequently, the KPU operates in a siloed manner without guarantees of network stability from infrastructure stakeholders.

The absence of a roadmap transforms the use of technology from a potentially transformative force into a "symbolic policy." Election digitalization in Talaud appears forced—designed to satisfy the appearance of modernity on paper—



yet it lacks real impact because it is not grounded in solid local strategic planning.

3. Strategy Implementation: The Digital Divide and One-Way Communication

At the implementation stage, two obstacles converge in the field: structural constraints in the form of the digital divide, and communication constraints characterized by linear, one-way patterns.

3.1 Good practice: the Singgawe Tarlih application for public outreach

Amidst these limitations, the research identified a notable good practice: the use of the Singgawe Tarlih application by the Voting Committee (PPS) to conduct public outreach. The existence of this application demonstrates that the use of digital infrastructure for the 2024 regional elections extends beyond district-level publicity, reaching the village- and urban-village-level organizers who interact directly with voters. Within Heeks' (2006) G2C framework, the PPS serves as the frontline connecting the KPU's digital channels with citizens; thus, the application merits appreciation as an adaptive measure taken by election organizers.

The application also represents a valuable asset for strengthening future strategies. Provided there is adequate support regarding network connectivity, electricity, devices, and digital literacy among both officials and the public (Huang et al., 2005), the functionality of Singgawe Tarlih could be expanded for instance, to serve as a two-way communication channel with voters and integrated with face-to-face outreach by the PPS in areas with no network coverage ("blank spots") and on outermost islands.

3.2 Manifestations of the digital divide in border regions

Drawing on Huang et al. (2005), the effectiveness of digital innovation requires equitable infrastructure and technological literacy. A sharp socio-spatial divide exists in Talaud. Regarding

access, residents in administrative centers (Melonguane and Lirung) can access the KPU's digital platforms relatively smoothly, whereas voters in coastal villages and small islands are cut off from the flow of information due to poor internet signals and rolling blackouts. In terms of capability, the majority of elderly voters and traditional fishermen lack the digital literacy to operate smartphones or critically evaluate election-related information on social media.

3.3 Failure of the deliberative democratic space

Contemporary theories of political participation emphasize that digital spaces should foster interactive, two-way communication between the state and citizens. However, the KPU Talaud social media channels (Facebook and Instagram) function merely as one-way digital bulletin boards, as summarized in Table 1. When the public asks about the status of the Final Voters List (DPT) or the track records of candidate pairs in the comments section, there is no adequate response from the administrators. This indicates a failure by KPU officials to transform technology into an inclusive space for dialogue; yet, according to Heeks (2006), Government-to-Citizen (G2C) interaction demands a fundamental shift in how the government engages with citizens, rather than mere computerization.

Table 1. KPU Talaud's Digital Communication: Ideal Conditions and Practices in the 2024 Regional Election

Aspect	Ideal reality (digital democracy)	Practices of the Talaud KPU (2024 Regional Election)
Interaction pattern	Two-way, interactive, dialogic.	One-way, rigid, a monologue.
User response	Direct feedback from voters is accommodated.	The comments section is rarely responded to or left empty.
Platform functions	Space for citizen discussion and reporting.	Simply a platform for publishing documentation of the KPU's formal activities.



4. Evaluation and Control: Sustained High Participation and Opportunities to Enhance Inclusivity

This evaluation involves an analysis of the correlation between the effectiveness of the KPU's digital infrastructure and the organization's primary objective: voter participation in the 2024 regional head elections. The results indicate that voter participation remains high. The number of registered voters (DPT) rose from 69,564 (in 2018) to 73,479 (in 2024), while voter turnout at polling stations (TPS) was recorded at 84.15% in 2018 and 79.16% in 2024 a difference of 4.99 percentage points (Figure 1). Both figures exceeded the national participation target of 70%, and the absolute number of voters exercising their right to vote remained relatively stable at approximately 58,000 across both elections, despite the increase in the total number of registered voters. While this achievement represents a significant asset for KPU Talaud, opportunities remain to boost participation rates by strengthening digital strategies to foster greater inclusivity. Two factors requiring attention have been identified.

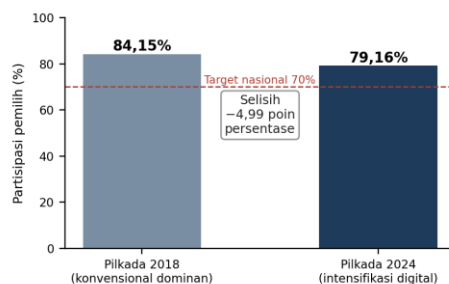


Figure 1. Voter participation trends in the Talaud Islands Regency regional head elections, 2018 and 2024 (Source: KPU Talaud Islands Regency, 2024)

4.1 Opportunities to expand the reach of digital information

The Talaud KPU (General Elections Commission) has enriched the digital space with outreach

content aimed at raising public political awareness. To ensure equitable benefits, the reach of digital information needs to be strengthened for communities in "blank spot" areas and outermost islands that remain underserved due to limited access. Digital political stimuli (Milbrath & Goel, 1977) offer an opportunity to reach these groups more broadly through network expansion and supplementary face-to-face outreach, thereby fostering a more uniform understanding of the importance of the regional elections (Pilkada).

4.2 Social capital and commitment to public participation

Consistently high voter turnout reflects the commitment of island communities to exercising their right to vote, even though digital infrastructure has not yet reached all segments of society. To ensure residents of remote islands perceive election digitalization as a shared agenda, future strategies must be tailored to their actual conditions—for instance, by combining digital channels with face-to-face outreach conducted by the PPS (Polling Station Committee). This inclusive approach has the potential to strengthen the bond between the KPU and voters, whether in urban centers or on the outermost islands.

5. Synthesis of Findings

The findings across the four stages are interconnected, forming a chain of cause and effect. Weak environmental scanning leads to the formulation of strategies lacking contextual relevance; these manifest as exclusive implementation, ultimately resulting in declining participation. A summary of the findings is presented in Table 2. These findings diverge from the general conclusions drawn by Waruwu et al. (2024) and Fauziah et al. (2023), which suggest that digital technology boosts participation. In outermost island regions, such benefits can only be realized if the prerequisites regarding infrastructure, literacy, and local planning are met,



as highlighted by Rahmatullah and Umarama (2024).

Table 2. Summary of Findings by Strategic Management Stage

Stage	Key findings	Impact
Environmental observation	Signal dead zones in northern Karakelang, Salibabu, and Kabaruan; unstable electricity; and weather and shipping conditions limiting information distribution.	Digital services are meaningless on the outer islands.
Strategy formulation	There is no local roadmap or SOP; policies are top-down; and there are no MoUs with the Ministry of Communication and Informatics (Kominfo) or service providers.	Digitalization has become a symbolic policy.
Strategy implementation	Good practice: the Singgawe Tarlih application is used by the PPS for public outreach; however, a digital divide regarding access and literacy persists; social media usage remains one-way; and resident comments go unanswered.	The application has potential for further development; voters on remote islands and the elderly remain excluded.
Evaluation and control	Participation remained high at 79.16%	Strong foundation of participation;

(above the national target of 70%); a difference of -4.99 points from the 84.15% recorded in 2018, amidst an increase in the final voters list (DPT).

scope for strengthening inclusive digital reach.

Based on these findings, several policy implications may be considered: (1) developing a roadmap and Standard Operating Procedures (SOPs) for the digitalization of district-level elections, mapped according to areas with no signal coverage ("blank spots"); (2) formalizing cooperation with the Communication and Informatics Agency and telecommunications service providers through Memoranda of Understanding (MoUs); (3) combining digital channels with face-to-face outreach and offline media in outermost islands; and (4) establishing response protocols for social media administrators to ensure two-way communication. These implications are derived from the findings and require further testing.

CONCLUSION

The strategy employed by the Talaud Islands Regency General Election Commission (KPU) regarding digital infrastructure for the 2024 Simultaneous Regional Elections succeeded in maintaining high voter participation, though it fell short of boosting it further. During the environmental scanning phase, the archipelago's geography and infrastructure limitations rendered digital services ineffective on outlying islands. At the formulation stage, the absence of a local roadmap, reliance on directives from the central office, and weak multi-sectoral cooperation resulted in a strategy that was reactive and symbolic. During implementation, the KPU and the Voting Committee (PPS) utilized social media and the *Singgawe Tarlih* application as effective outreach tools; however,



the digital divide and the one-way nature of social media communication limited reach and interaction. At the evaluation stage, participation remained high at 79.16% surpassing the national target of 70% despite a 4.99 percentage-point drop from the 84.15% recorded in 2018 amidst an expanding Final Voters List (DPT); this indicates significant room for expanding inclusive digital outreach.

Theoretically, this study demonstrates that Hunger and Wheelen's (2007) strategic management model is useful for tracing election digitalization failures from upstream to downstream processes, and that the assumption that technology inevitably boosts participation requires re-evaluation in regions with unevenly distributed basic digital ecosystems. Practically, election digitalization in outermost island regions must be designed inclusively, grounded in local planning, and combined with face-to-face approaches. Leveraging assets such as the *Singgawe Tarlih* initiative, the KPU's commitment to digitalization, and the role of the PPS at the village level, there remains ample opportunity to refine strategies and increase participation in future elections. Future research could incorporate the perspectives of voters on outlying islands and quantitatively analyze the relationship between digital access and participation.

CONFESSION

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