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Research Article

The Effectiveness of E-Government Implementation in Encouraging Community Participation in The Local Development Planning Process in Fef District, Tambrauw Regency

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Abstract, UMKMD igital transformation in local governance is an important instrument in realizing the principles of good governance, especially in regions with complex geographical challenges. This study aims to analyze the effectiveness of e-government implementation at the district level in encouraging community participation in the local development planning process, using a case study of the Fof District Office, Tambrauw Regency. The methods used were descriptive qualitative through field observations, in-depth interviews with district officials and community leaders, and analysis of development documents. The data was analyzed through the stages of reduction, presentation, and drawing conclusions. The results of the study show that the implementation of e-government in Fef District is in a transition phase. Bureaucratic digitization improves administrative efficiency and transparency of public information. However, its effectiveness in expanding community participation is still low. The main obstacles include limited telecommunications infrastructure in several villages and low community digital literacy. As a result, participation in Musrenbang remains dominated by conventional mechanisms, while digital platforms serve primarily as a means of one-way reporting. This study emphasizes that the success of digital transformation depends on the readiness of infrastructure and community capacity, so a hybrid approach that integrates technology with local wisdom is needed to strengthen participation in regional development.

Keywords: E-government, Community Participation, Digital Literacy, Local Development Planning, UMKMD.

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1. INTRODUCTION

Digital transformation in governance is an important part of Indonesia's national development strategy in facing the era of the industrial revolution 4.0 and digital society. The Government of Indonesia, through various national policies, has encouraged the use of information technology in government administration to increase transparency, accountability, and the effectiveness of public services, and to expand public participation in the public decision-making process. The implementation of e-government is one of the main instruments in efforts to reform bureaucracy and modernize public administration in Indonesia. This policy is strengthened through various regulations, such as Presidential Instruction Number 3 of 2003 concerning National Policies and Strategies for the Development of e-government, as well as strengthening the electronic-based government system (SPBE) regulated in Presidential Regulation Number 95 of 2018. The implementation of e-government is expected to create a more open, responsive, and participatory government by utilizing information technology to support interaction between the government and the community (Heeks, 2006; United Nations, 2022).

In the context of regional development, the implementation of e-government is also aimed at strengthening the participatory development planning process. Law Number 25 of 2004 concerning the National Development Planning System emphasizes that development planning must involve community participation as part of democratizing development. The use of digital technology allows local governments to provide a wider space for community participation through various digital platforms, such as e-planning, e-musrenbang, and regional development information systems. Thus, the community not only becomes an object of development, but also becomes an active subject in determining the direction of regional development. Community participation facilitated by digital technology can improve the quality of development planning by enabling the collection of people's aspirations in a more systematic and transparent manner (Bovaird & Löffler, 2012; Nam, 2018).

However, the implementation of e-government in encouraging community participation in the development planning process does not always operate optimally across Indonesia, especially in areas with limited infrastructure and human resource capacity. This gap phenomenon is also seen in the Fof District, Tambrauw Regency, Southwest Papua Province. Although local governments have begun adopting various digital systems in governance, community participation in the development planning process remains relatively limited. This can be caused by various factors, such as limited internet access, low community digital literacy, a lack of socialization with the government's digital system, and limited capacity of government apparatuses in managing the e-government system. This condition shows a gap between the goal of implementing e-government to increase community participation and the reality of community participation, which remains suboptimal in the local development planning process in Fef District, Tambrauw Regency.

Theoretically, the relationship between e-government, community participation, and local development planning can be explained through the perspective of digital and participatory governance. E-government is defined as the use of information and communication technology by the government to improve the efficiency, effectiveness, transparency, and quality of public services as well as strengthen interactions between the government, society, and the private sector (Heeks, 2006). In the context of digital democracy, e-government also serves as a means to increase public participation in government decision-making (e-participation). Community participation itself is the active involvement of residents in the process of planning, implementing, and evaluating development, which aims to ensure that development policies are in accordance with the needs and aspirations of the community (Arnstein, 1969; Chambers, 1994). Meanwhile, local development planning is the process of preparing regional development plans that consider the potential, needs, and aspirations of the local community to achieve sustainable development.

In its conceptual relationship, e-government implementation can serve as an instrument to strengthen community participation in local development planning by providing greater access to information, more open communication channels, and more effective digital participation mechanisms. However, the effectiveness of these relationships is also greatly influenced by the community's level of digital literacy. Digital literacy refers to individuals' ability to access, understand, evaluate, and use information effectively through digital technology (Gilster, 1997; van Dijk, 2020). Without adequate digital literacy, people will experience difficulties in utilizing the e-government platform provided by the government, so that the expected digital participation cannot be realized optimally.

A number of previous studies have examined the relationship between e-government and community participation in the context of digital governance. Research conducted by Nam (2018) shows that the implementation of e-government can increase government transparency and expand public participation in the public decision-making process. Another study by Susanto and Goodwin (2013) also found that the success of e-government implementation is strongly influenced by technology readiness, organizational support, and the community's ability to use digital technology. Meanwhile, research by Wahyudi (2020) across several regions in Indonesia shows that, even though the e-government system has been implemented, the level of community participation in the development planning process remains low due to limitations in digital literacy and the lack of socialization of the digital system to the community. However, most research focuses on urban areas or those with relatively better digital infrastructure, so there are still few studies that specifically examine the implementation of e-government in remote areas or those with limited digital infrastructure, such as in the Papua region.

Based on these conditions, Tambrauw Regency is interesting to be used as a research locus because it is one of the autonomous regions in the West Papua region that has challenging geographical characteristics, limited levels of accessibility, and diverse social conditions of the community. Fef District as the capital of Tambrauw Regency has a strategic role as the center of government and the center of regional administrative activities. The implementation of e-government in this region is important to study because it has the potential to be a means to strengthen more transparent and participatory governance. However, challenges in the form of limited digital infrastructure, low levels of digital literacy of the community, and institutional capacity of local governments are factors that can affect the effectiveness of e-government implementation in encouraging community participation in the local development planning process.

Based on this background description, the main problem in this study can be formulated in a major question, namely: How effective is the implementation of e-government in encouraging community participation in the local development planning process in Fef District, Tambrauw Regency? This research question is important to answer in order to understand the extent to which the use of digital technology in local governance can contribute to improving the quality of community participation in the regional development process. Based on the focus of these problems, this study is titled: "The Effectiveness of E-Government Implementation in Encouraging Community Participation in the Local Development Planning Process in Fef District, Tambrauw Regency."

2. LITERATURE REVIEW

E-Government Theory

The *e-government theory* put forward by Richard Heeks emphasizes that the use of information and communication technology by the government aims to improve the effectiveness, efficiency, transparency, and quality of public services. According to Heeks, *e-government* is a transformation of the government administration process through the use of digital technology to improve the relationship between the government, society, and the private sector (Heeks, 2006). In this perspective, *e-government* is not only understood as the digitization of public services, but also as an instrument of bureaucratic reform that is able to create more open and participatory governance. Heeks also introduced the concept of a "design–reality gap", which is the gap between the design of *the e-government* system planned by the government and the real conditions on the ground. This gap often arises due to differences in technology capacity, human resources, organizational culture, and the level of digital literacy of the community. If the gap is too large, the implementation of *e-government* has the potential to fail or not have a significant impact on the quality of governance (Heeks, 2003).

In the context of regional development, *e-government* theory explains that digital technology can be a means to increase public involvement in the public decision-making process through various digital platforms such as electronic-based development planning systems (*e-planning*) or online public consultation forums. Thus, the implementation of *e-government* can strengthen a more transparent, responsive, and participatory development planning process.

Community Participation Theory

The theory of community participation developed by Sherry R. Arnstein is one of the most widely used conceptual frameworks in development and public policy studies. Arnstein introduced the "Ladder of Citizen Participation" model which describes the level of community involvement in the government's decision-making process (Arnstein, 1969). The model consists of eight levels of participation grouped into three main categories. The first category is non-participation, which includes manipulation and therapy, where the community actually has no influence in decision-making. The second category is tokenism, which consists of *informing*, *consultation*, and *placation*, where people are given the opportunity to express their opinions but do not yet have real power in determining policy. The third category is citizen power, which includes *partnerships*, *delegated power*, and *citizen control*, where the community has a stronger role in the public decision-making process.

This theory emphasizes that community participation is not only about attendance in public consultation forums, but also the extent to which the community has power and influence in determining development policies. In the context of digital governance, information technology can be a means to improve the quality of public participation by providing access to information, dialogue spaces, and mechanisms for expressing aspirations more openly.

Concept Development

E-Government Concept

E-government is the use of information and communication technology by the government to improve the quality of public services, administrative efficiency, and transparency in the administration of government. According to Richard Heeks, *e-government* is the use of digital technology by government agencies to improve administrative processes, strengthen interaction between the government and the community, and increase the effectiveness of governance (Heeks, 2006). Meanwhile, the United Nations defines *e-government* as the use of digital technology to provide public services, increase public participation, and strengthen government transparency and accountability (United Nations, 2022).

In practice, *e-government* includes various digital systems such as *e-planning*, *e-budgeting*, regional development information systems, and various online public participation platforms. The implementation of the system allows the public to access development information more openly and provide input on government policies. Therefore, *e-government* has a close relationship with the concept of community participation because digital technology can expand the space for communication between the government and citizens. In addition, the success *of e-government* implementation is also greatly influenced by the level of digital literacy of the community. Without the ability of the community to access and utilize digital technology, various electronic-based government systems cannot be used optimally. Thus, *e-government* acts as an instrument that connects digital technology with a more participatory development planning process at the local level.

The Concept of Community Participation

Community participation is the active involvement of citizens in the public decision-making process, including in the planning, implementation, and evaluation of development. According to Sherry R. Arnstein, community participation is the level of power that citizens have in influencing government decisions (Arnstein, 1969). Effective participation allows the community not only to become beneficiaries of development, but also to become actors who help determine the direction of development policies. In the context of regional development, community participation has an important role in ensuring that development policies are in accordance with the needs and aspirations of local communities. According to Robert Chambers, community participation is a key element in sustainable development because communities have local knowledge that is important to formulate appropriate development policies (Chambers, 1994). Community participation has a close relationship with the implementation of *e-government*. Digital technology can provide a wider space for participation through online forums, public complaint systems, and digital public consultation platforms. In addition, community participation is also closely related to the local development planning process because community aspirations are one of the main sources in the preparation of regional development plans. However, the quality of community participation is also influenced by the level of digital literacy of the community in utilizing available technology.

The Concept of Local Development Planning

Local development planning is the process of preparing development plans at the regional level that take into account regional potential, community needs, and regional development priorities. According to Conyers Diana, development planning is a systematic process of determining development goals as well as the strategies needed to achieve those goals effectively (Conyers & Hills, 1984). In the local government system in Indonesia, local development planning is carried out through various participatory mechanisms such as Development Planning Deliberation (*Musrenbang*), which involves local governments, communities, and various other stakeholders. This process aims to gather the aspirations of the community as the basis for the preparation of regional development plans. Local development planning is closely related to community participation because the success of regional development is highly dependent on the extent to which the community is involved

in the planning process. In addition, the implementation of *e-government* can also support the local development planning process through digital systems such as *e-planning* and *e-musrenbang* which allow the public to submit development proposals in a more transparent and structured manner. However, the effectiveness of digital-based development planning is also greatly influenced by people's digital literacy. Without the ability of the community to utilize digital technology, the process of participation in electronic-based development planning cannot run optimally.

Digital Literacy Concept

Digital literacy refers to the ability of individuals to access, understand, evaluate, and utilize information through digital technology effectively. According to Paul Gilster, digital literacy is the ability to understand and use information from various digital sources critically and effectively (Gilster, 1997). This concept includes not only technical skills in using digital devices, but also critical thinking skills in processing information obtained through digital technology. In the context of digital governance, digital literacy is an important factor that affects the success of *e-government* implementation. People who have a high level of digital literacy will have an easier time accessing public information, using government digital services, and participating in various technology-based public participation platforms. Digital literacy also has a close relationship with community participation in the local development planning process. Without adequate digital capabilities, it will be difficult for people to take advantage of *e-government systems* such as *e-planning* or digital public consultation platforms provided by the government. Therefore, increasing people's digital literacy is one of the important prerequisites to ensure that the implementation of *e-government* can truly increase community participation in the regional development process.

3. RESEARCH METHODS

This study uses a qualitative approach with a descriptive method to gain a deep understanding of the phenomenon of *e-government implementation* in Fof District. The qualitative approach was chosen because the researcher wanted to explore the social reality and dynamics of interaction between district government officials and the community in a relatively new digital space. The location of the research was deliberately set at the Fof District Office, Tambrauw Regency, given its strategic position as an administrative center, but it has geographical and infrastructure challenges that are representative of the underdeveloped areas of Southwest Papua.

The data in this study is sourced from primary data and secondary data. Primary data was obtained through an *in-depth interview* technique with key informants selected using *the purposive sampling* technique, which included district heads, *e-government system* operators, community leaders, and representatives of residents involved in the development planning process. In addition, participatory observations were carried out to see firsthand how digital platforms are operated and how the community responds when interacting with the system. Secondary data was obtained through documentation studies in the form of annual district reports, Musrenbang results documents, and regional regulations related to digital transformation.

The data analysis technique follows an interactive model consisting of data reduction, data presentation, and conclusion drawing or verification. The researcher sorts out relevant data with a focus on system effectiveness and participation rates, then presents them in the form of a logical narrative to describe the patterns found in the field. To ensure the validity of the data, this study applied source triangulation techniques and triangulation techniques, namely comparing information from various informants and testing the suitability between interview results and facts found in official documents and field observations. Through this procedure, the research is expected to be able to produce objective and credible conclusions about the effectiveness of *e-government* in Fof District, Tambrauw Regency.

4. RESEARCH RESULTS

The results of the study show that the implementation *of e-government* at the Fof District Office, Tambrauw Regency, is currently still at the information publication stage and has not fully reached the ideal transaction or interactive participation stage. Administratively,

district officials have begun to adopt digital tools in documenting development proposals from the village level. The use of web-based applications and platforms began to be introduced to integrate data on the results of local development planning deliberations into regional development information systems. This has a positive impact on document transparency, where the track record of community proposals becomes more organized and there is less risk of loss compared to the conventional archival system used previously.

However, the effectiveness of the use of this platform in encouraging the active participation of the community directly still faces significant structural and cultural barriers. Based on observations and interviews, community involvement in the development planning process through digital channels is still very limited. The public still relies on physical presence at meetings at district offices to convey their aspirations. One-way communication patterns still dominate, where district governments use more technology to disseminate information on development decisions, while the space for the community to provide *real-time* feedback through *the e-government* system has not been optimal.

Telecommunication infrastructure factors are key findings that hinder digital participation. The instability of the internet network in the Fef District area has caused the accessibility of *e-government* platforms to be very volatile, so that people in the surrounding villages feel more effective in conveying their aspirations orally than through the online system. In addition, there is a digital competency gap between the productive age group and traditional leaders or community leaders who have a great influence on local decision-making. This low level of digital literacy causes the platform provided by the government to only be operated by a handful of operators at the district level, so that public participation that is expected to be inclusive tends to be centered on those who have access and technology capabilities only.

Overall, although the Fef District government has shown a political commitment to implement digital transformation, the results of the study indicate that this implementation has not been able to change the culture of community participation from the conventional model to the digital model on a massive scale. The presence *of e-government* in this region functions more as a tool for internal bureaucratic efficiency for the district government than as a channel for public participation for citizens. Without strengthening community capacity and improving infrastructure evenly, the effectiveness of *e-government* in encouraging local participation in Tambrauw Regency is still symbolic and requires more contextual strategic adjustments.

Table 1 : Research Instruments.

Yes	Research Variables	Indicator	Target Respondents	Focus Question/Observation
1	Implementation of e-Government	Infrastructure Availability	District Apparatus & Researcher	Hardware availability, internet network stability, and electrical carrying capacity at the Fof District Office.
		Usability	Apparatus & Society	The extent to which digital platforms are easy to learn and use by operators and local residents.
		Socialization & Regulation	District Apparatus	The government's efforts to introduce digital systems and supporting rules for their implementation at the local level.
2	Community Participation	Information Accessibility	Society	Convenience for residents to get information on development plans through digital channels independently.
		Digital Engagement (*e-Engagement*)	Community & Traditional Leaders	The frequency of residents in submitting proposals or providing comments through the platform provided.
		Government Response	Community Leaders	The speed and accuracy of the government in responding to incoming aspirations through the e-government system.

3	Process Effectiveness	Data Transparency	Apparatus & Researcher	Security and disclosure of community proposed data so that it is not lost or manipulated during the planning process.
		Time Efficiency	District Apparatus	Comparison of the duration of proposal collection between conventional methods (face-to-face) and digital methods.
4	Inhibiting Factors	Digital *Divide*	Society	Technical constraints (signals) and capacity constraints (digital literacy/ability to operate gadgets).
		Cultural Constraints	Community Leaders	People's preference in communicating verbally/physically compared to through digital screens.

Implementation of e-Government (Technical & Regulatory Aspects)

1. Availability of Infrastructure

Information technology infrastructure is the main foundation in the effective implementation of e-Government. Analysis at the Fef District Office identified critical obstacles in the form of internet network instability and limited electricity carrying capacity. This condition directly hinders the accessibility of real-time development information systems by the community. According to Heeks (2003), the failure of e-Government in developing countries is largely due to the infrastructure gap between system design and the reality of the field—a phenomenon he calls the "design-reality gap." In line with that, Bappenas (2018) emphasized that uneven connectivity in remote areas of Indonesia is a significant obstacle to the digital transformation of the government. UNDP (2016) also noted that consistent availability of electricity is a minimum prerequisite for government digital services. Without strengthening this basic infrastructure, all investments in information system software will be suboptimal and will not be able to provide real benefits to public services at the district level.

2. Usability

Usability is a crucial dimension that determines the level of adoption of digital systems by end users. In the Fof District, the platform's high difficulty level causes its operations to be centralized to district operators, not to residents independently. Nielsen (1994) defines usability through five components: learnability, efficiency, memorability, errors, and satisfaction—all of which appear to have not been met in today's platforms. Alotaibi and Regan (2016) found that the low usability of the e-Government system is the main cause of low adoption among rural communities who are unfamiliar with digital interfaces. Carter and Belanger (2005) also prove that the perception of ease of use significantly affects citizens' intention to adopt e-Government services. Interface design that is not responsive to local contexts—including users' digital literacy levels and device availability—is at the root of operational centralization that does not reflect the principles of government digital inclusivity.

3. Socialization & Regulation

Political commitment without systematic socialization to the grassroots will result in ineffective regulations. In Fof District, the unevenness of the socialization of digitalization rules to the village level encourages people to continue to choose conventional routes. Dwiyanto (2011) stated that the success of digital bureaucratic reform in Indonesia is highly dependent on the extent to which regulatory information is passed on to the lowest levels of government. Kominfo (2021) in the Roadmap of the Electronic-Based Government System (SPBE) emphasizes that socialization is a mandatory component in every phase of e-Government implementation to ensure public acceptance. Bannister and Connolly (2012) also argue that the success of digital governance is not only determined by a formal legal framework, but also by effective regulatory communication to all stakeholders. This socialization gap creates a gap between policies on paper and real practices on the ground, especially in remote communities.

Community Participation (Involvement Aspect)

1. Information Accessibility

Information accessibility is a fundamental prerequisite for meaningful democratic participation in governance. In Fof District, people still face difficulties in obtaining information on development plans independently through digital channels, with information flows that tend to be one-way from the government to residents. Linders (2012) argues that transformative e-Government must be able to shift the paradigm from one-way information delivery to dialogical and participatory knowledge exchange. Bertot, Jaeger, and Grimes (2010) emphasized that web 2.0 technology should allow the government to proactively open access to information to the public. However, Warschauer (2003) reminds that physical access to technology alone is not enough—it requires social and cultural capacity to use it meaningfully. The conditions in Fef District reflect the perception of digital government as a documentation tool, not as a real community empowerment instrument.

2. Digital Engagement (e-Engagement)

Digital engagement or e-engagement refers to the extent to which citizens actively interact with the government through digital platforms to convey aspirations and participate in decision-making. In Fof District, the frequency of submission of proposals through digital platforms is still very low, with the aspirations of the community more channeled through physical presence at the district office. Macintosh (2004) classified e-participation into three levels: e-enabling, e-engaging, and e-empowering—and the condition of the Fef District is still well below the first level. Arnstein (1969) in his participation ladder assessed that pseudo-participation (tokenism) is more dangerous than no participation, because it gives the illusion of involvement without substance. Fung (2006) also emphasizes that participatory space design should consider who is involved, how communication takes place, and whether there is a real influence on policy. The low e-engagement in Fef District indicates the need for a fundamental redesign of participation platforms that are oriented to the local context.

3. Government Response

The government's responsiveness to the aspirations of citizens is the main indicator of the quality of participatory governance. The system running in the Fef District currently serves more as an administrative documentation tool than as an interactive dialogue space that provides quick feedback. Mergel (2013) stated that a digitally responsive government must be able to close the communication cycle by providing concrete answers to every aspiration that comes in. The OECD (2003) defines responsiveness as one of the eight principles of good governance that require governments to respond to stakeholders within a reasonable time frame. Fountain (2001) also argues that technology alone is not capable of changing bureaucratic behavior—organizational culture reform is needed that leads to the orientation of public services. Without systematic and scheduled feedback mechanisms, digital platforms will lose their legitimacy in the eyes of citizens and fail to build the public trust necessary to encourage wider participation.

Process Effectiveness (Output Aspect)

1. Data Transparency

Data transparency is one of the main advantages of the e-Government system compared to the conventional manual archiving system. The digital implementation in the Fef District has improved document security and prevented manipulation of proposed data—a significant advance in administrative integrity. Meijer (2009) defines transparency in the context of e-Government as the ability of systems to make government information accessible, understandable, and verifiable by the public. Hood (2006) differentiates transparency into two dimensions: nominal transparency (the availability of data) and substantive transparency (the usefulness of data to the public). Bertot et al. (2010) found that digital platforms significantly reduce data corruption due to the automatically created audit trails. However, the benefits of this transparency have only been felt internally by the bureaucracy, and have not yet been fully realized as information disclosure that can be accessed and utilized directly by citizens in supervising the development process in their area.

2. Time Efficiency

Time efficiency is an output dimension that shows two different realities in the Fof District: the acceleration of data integration on the bureaucratic side, but the efficiency is not felt by residents who are still constrained by signals and have to travel a physical distance to the district center. Yildiz (2007) stated that the efficiency of e-Government must be measured from two perspectives: back-office (internal bureaucratic efficiency) and front-office (ease of access to services). Dada (2006) criticized that many e-Government projects in developing countries have succeeded in automating internal processes but fail to provide direct benefits to citizens as end-users. Gronlund and Horan (2004) emphasized the importance of evaluating e-Government from the perspective of users, not just from internal technical indicators. The efficiency gap that occurs in Fef District emphasizes that the success of e-Government cannot only be measured by the speed of internal data processing, but must include the real experience of citizens in accessing public services.

Inhibiting Factors (Constraint Aspects)

1. Digital Divide

The digital divide is a structural barrier that goes beyond just differences in device ownership, it also includes the gap in competence, literacy, and motivation in the use of technology. In Fof District, this gap seems to be striking between the older generation—especially traditional leaders and community leaders—and the existing digital system. Van Dijk (2006) identified four dimensions of the digital divide: motivational access, material access, skills access, and usage access—and the Fef District data shows deficits in almost all of these dimensions. Norris (2001) distinguishes between the global divide, the social divide, and the democratic divide, where the context of the Fef District represents the confluence of the three simultaneously. Warschauer (2003) warns that the provision of devices without human capacity development will only create new, more complex gaps. Solving this problem requires cross-sectoral interventions that include community-based digital training, intergenerational mentoring, and interface design that takes into account the diversity of users' literacy levels.

2. Cultural Constraints (High-Context Culture)

The cultural dimension is an inhibiting factor that is often overlooked in the design of an e-Government system, even though it has a profound influence on people's communication behavior and decision-making. In Fof District, a strong preference for verbal and face-to-face communication—which reflects a high-context culture—makes interaction through a screen feel unsatisfying and less trustworthy. Hall (1976) first introduced the concept of high-context culture to describe a society that relies on implicit context, personal relationships, and non-verbal communication in interacting. Hofstede (2001) added that the dimension of individualism versus collectivism also influences the tendency to adopt technology—collective society prefers face-to-face interactions that strengthen social bonds. Alshehri and Drew (2010) found that local cultural values significantly moderate the relationship between the quality of e-Government services and the level of satisfaction of its users. The implementation of e-Government that does not consider the local cultural dimension will eventually encounter resistance that cannot be resolved through technical solutions alone.

Discussion

Digital Leadership and District Apparatus Commitment

The success of the implementation of *e-government* in Fef District is highly dependent on the quality of leadership and commitment of the apparatus in the district office. The results of the study show that digital transformation is not just a matter of hardware procurement, but a matter of changing the *mindset* of the bureaucracy. In Fof District, the role of the District Head as an agent of change is crucial in moving staff to move from manual recording to data-driven systems. However, challenges arise when the administrative workload is not proportional to the number of operators who have technical qualifications in the field of information technology. Digital leadership in this region is required to not only be able to operate the system, but also be able to provide a vision that digitalization will make public services easier for the people of Tambrauw. The effectiveness of this system is often hampered if leaders do not make digitalization a top priority, so that the platform that has been built tends to be abandoned. Therefore, strengthening the capacity of human resources within the

district through continuous training is an absolute requirement so that *e-government* does not only become a momentary administrative project, but also becomes a new work culture that improves the quality of service and coordination between the district government and the district government in development planning.

Data-Driven Accountability and Aspiration Monitoring

The implementation of *e-government* in Fef District provides a great opportunity for increased accountability in the local development planning process. With the existence of a digital system, every aspiration included in the Musrenbang has a clear digital footprint, making it difficult to manipulate or eliminate in the bureaucratic journey to the district level. This thematic discussion highlights that digitalization serves as a supervisory instrument for the public to monitor whether their proposals are accommodated in the APBD or not. However, the reality on the ground shows that this supervisory function has not been running optimally because the public has not been given full access to monitor the status of proposals openly. The accountability expected to emerge from *e-government* is still internal in the government environment. In fact, the essence of the effectiveness of *e-government* is the existence of two-way transparency that allows citizens to feel that they own the development process. If this digital system is developed to be more open, then the potential for deviations in determining development priorities can be minimized. This data-driven transparency is key to rebuilding public trust in local government, while ensuring that every cent of the development budget is truly allocated to the urgent needs of the people in Fef District and beyond.

Adaptation of Technology to the Social Structure of Society

The socio-cultural context in Tambrauw Regency, which is still thick with kinship and customary systems, requires a non-rigid technological adaptation. This discussion found that the effectiveness of *e-government* in Fef District is greatly influenced by the extent to which the technology is able to integrate with the existing social structure. Local people tend to rely more on personal and verbal communication than on computer screens. Therefore, the implementation of *technocratically imposed e-government* without considering local values often comes to a dead end. A more effective approach is to make the digital operator in the district office a "cultural interpreter" who bridges the language of technology with the language of indigenous aspirations. Technology should function to strengthen the voice of the community, not replace existing customary forums. The effectiveness of digital implementation in this region will be achieved if the government is able to create a user-friendly platform that supports local content. Thus, digitalization will not be considered as a threat to local wisdom, but rather as a modern tool to preserve and fight for the development rights of local communities at a broader level, so that technology is truly present to serve humans, not the other way around.

Program Sustainability and Regional Digital Independence

The issue of sustainability is a central theme in evaluating the effectiveness of *e-government* in Fef District in the long term. Many digital initiatives in remote areas often stop halfway through the project period or there is a change of leadership. In Fof District, the sustainability of *e-government* faces threats from reliance on third-party vendors and a lack of budget for maintaining technological infrastructure. This discussion emphasized the importance of regional digital independence through the development of local technical capacity and consistent budget allocation. Sustainability is also closely related to the maintenance of physical devices amid challenging climatic and environmental conditions in Southwest Papua. In addition, the government needs to think about a long-term strategy to integrate the *district e-government* system with the needs of other sectors such as education and health, so that the benefits of technology are felt across sectors. Without a clear *roadmap* on infrastructure and human resource sustainability, the effectiveness of *e-government* in development planning will only be a temporary success that does not have a permanent impact on changing people's welfare. Digital independence is a future investment that must be prepared early so that Fef District does not continue to be left behind in the flow of global transformation that is accelerating.

5 CONCLUSION

Based on the results of the analysis and discussion on the effectiveness of the implementation *of e-government* in Fof District, Tambrauw Regency, it can be concluded that digital transformation in this region is still at the pioneering stage that faces significant structural challenges. Administratively, the implementation of an electronic-based government system has succeeded in increasing the internal efficiency of the bureaucracy, especially in terms of archiving and integrating development proposal data from the village level to the district level. However, when measured from the perspective of community participation, the effectiveness of this system has not achieved optimal results. Digitalization has not been able to shift the dominance of the conventional face-to-face participation pattern, due to fundamental obstacles in the form of limited telecommunication infrastructure and low digital literacy of local communities.

The study found that although digital apps and platforms are available, their use is still limited to district government operators and a handful of community groups with access to technology. This triggers the phenomenon of participation elitism, where the voices of the people who need development the most, especially in remote areas, are at risk of being ignored if the government only relies on digital channels without assistance. The gap between the modern digital policy design and the sociological reality of the Tamrauw community shows that technology cannot stand alone without being supported by the readiness of an equitable social and infrastructure ecosystem.

Furthermore, public trust is a determining factor for the success of this transition. Public participation will increase significantly if the *e-government system* is able to provide transparent feedback on the proposals given. However, as long as digital systems only function as one-way reporting in the absence of interactive dialogue, their effectiveness in encouraging active participation will remain pseudo. The implementation of *e-government* in Fef District is currently more of an administrative tool for the government than an empowerment tool for citizens. Therefore, a hybrid model is needed that combines the advantages of digital technology with local wisdom of face-to-face deliberations to ensure that development planning remains inclusive and accommodating to the aspirations of all levels of society in Tambrauw Regency.

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