



E-Government Policy through the Nelayan Pintar Application Trust and Community Engagement among Fisherfolk in Banjar Kemuning Village, Sidoarjo

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ABSTRACT

This study analyzes the implementation of the *e-Government* policy through the Nelayan Pintar (Nelpin) Application, focusing on fisherfolk trust and engagement in Banjar Kemuning Village, Sidoarjo. Using a qualitative case study approach, data were collected through interviews, observations, and documentation and analyzed interactively. Data validity was assessed through credibility, transferability, dependability, and confirmability. The analysis employed Edwards III's framework, covering communication, resources, disposition, and bureaucratic structure. The findings indicate that Nelpin implementation remains suboptimal due to uneven socialization, limited digital literacy, network constraints, and inadequate training and assistance. Doubts about the usefulness and reliability of information have encouraged some fisherfolk to rely on traditional knowledge and experience. Strengthening coordination, task distribution, procedures, and continuous assistance is therefore essential to improve implementation.

INTRODUCTION

The development of information and communication technology has driven fundamental changes in government administration and public service delivery. Digital transformation is no longer limited to the use of technological devices in government administration; rather, it has evolved into an essential component of efforts to establish public services that are more effective, efficient, transparent, accountable, and responsive to societal needs (Natika, L. 2024). In this context, *e-Government* policy has emerged as an important instrument of governmental transformation through the use of information and communication technology in public service delivery. *E-Government* enables governments to provide information and services more accessibly while creating greater opportunities for interaction between government institutions and citizens (Isma et al., 2025). The implementation of *e-Government* involves more than simply developing digital applications; it constitutes a policy process that connects technology, government institutions, implementers, and communities. Its success depends on whether services are understood, accepted, trusted, and utilized, while taking into account the social characteristics, resource capacities, and infrastructure conditions of coastal communities.

The implementation of *e-Government* policy has become increasingly important in empowering fishing communities, as their livelihoods and occupational activities depend heavily on timely, accurate, and relevant information. Fisherfolk require information on weather conditions, sea waves, potential fishing grounds, fish catch prices, access to government assistance, and other information related to fisheries activities (Verawati et al., 2025). These needs have encouraged governments to develop various digital service innovations aimed at strengthening the capacity and welfare of coastal communities (Hutajulu et al., 2025).

The development of digital services for fisherfolk is also supported by Law No. 7 of 2016 on the Protection and Empowerment of Fisherfolk, Fish Farmers, and Salt Farmers, which emphasizes the importance of strengthening human resource capacity, utilizing science and technology, improving access to information, providing education and training, and strengthening institutional capacity. One concrete form of technological utilization is the Nelayan Pintar (Nelpin) application, which was developed by the government in 2015 as an information platform to support fisherfolk in carrying out their activities. Nelpin is designed to provide information on weather conditions, potential fishing grounds, fish prices, and other marine-related information. From a public administration perspective, Nelpin can be viewed as a form of *e-Government* policy implementation that seeks to connect the government with fishing communities through digital services.

This phenomenon can be observed in Banjar Kemuning Village, Sedati District, Sidoarjo Regency, a coastal area where a large proportion of the population depends on capture fisheries for their livelihoods. According to data from the Sari Laut Joint Business Group (KUB) in Banjar Kemuning Village in 2026, 140 active fisherfolk are members of the group. Although the government has provided the Nelayan Pintar application as a digital service to support fishing activities, its utilization at the community level remains relatively low. Initial observations conducted in May 2026 found that only 34 fisherfolk (24.29%) actively used Nelpin, while 106 (75.71%) had not utilized it. Among them, 88 were unaware of the application, 18 knew about it but had not used it, 28 experienced difficulties operating it, 24 faced network constraints, and 19 did not understand its benefits. These conditions indicate implementation challenges involving socialization, community capacity, assistance, infrastructure, and the government's ability to reach its target population.

The low utilization of Nelpin indicates a policy implementation issue that needs to be understood from the perspective of fisherfolk. Interviews with 40 fisherfolk revealed that 28 (70%) experienced difficulties operating the application, 24 (60%) faced network constraints, and 19 (47.5%) did not yet understand its benefits. Limited technological skills, inadequate continuous training, and perceptions that the application is complicated suggest that the success of *e-Government* is influenced by implementation capacity, policy communication, infrastructure, target-group characteristics, and ongoing assistance. Public trust is a crucial aspect of *e-Government* implementation, particularly regarding the accuracy, relevance, and reliability of digital information. Fisherfolk tend to place greater trust in their own experience and traditional knowledge than in information provided by the application. This condition indicates a trust gap that warrants further examination through community experiences and interpretations of the credibility of government digital services, including their acceptance or rejection.

Theoretically, this study is expected to contribute to the development of public administration scholarship, particularly theories and practices concerning *e-Government* policy implementation in coastal communities. It provides a deeper understanding of how government digital services interact with social conditions, community capacity, trust, and fisherfolk engagement as a target group. Practically, the study provides an evaluation basis for the government to improve the implementation of the Nelayan Pintar application by strengthening socialization, assistance, digital capacity, infrastructure, information quality, and strategies for building public trust. It also helps explain the low utilization of Nelpin and supports the formulation of policies that are more responsive to fisherfolk needs. This study is important because a gap exists between the availability of *e-Government* services and their actual utilization, requiring an in-depth understanding of implementation processes, public trust, and fisherfolk engagement. Therefore, this study aims to describe and analyze the implementation of the *e-Government* policy through the Nelayan Pintar application, focusing on trust and fisherfolk engagement in Banjar Kemuning Village, Sidoarjo.

LITERATURE REVIEW

Van Meter and Van Horn's (1975) Policy Implementation Theory. This theory views policy implementation as a process directed toward achieving established policy standards and objectives through a series of actions undertaken by policy implementers. The success of implementation is influenced by six key dimensions: policy standards and objectives, resources, interorganizational communication and enforcement activities, characteristics of implementing agencies, the social, economic, and political environment, and the disposition or tendency of implementers.

Furthermore, Edwards III's (1980) Policy Implementation Theory explains that successful policy implementation is influenced by four main factors: communication, resources, disposition, and bureaucratic structure. Communication concerns the dissemination of information and socialization of Nelpin among the community; resources encompass the capacity of government personnel, technological availability, network infrastructure, and assistance; disposition refers to the attitudes, commitment, and responsiveness of implementers toward the policy; while bureaucratic structure concerns work mechanisms, the distribution of authority, procedures, and coordination in policy implementation.

Gil-García and Pardo's (2005) E-Government Success Theory views digital government as a multidimensional phenomenon that is not determined solely by the availability of technology. The success of *e-Government* depends on the integration of technological, organizational, institutional, human resource, and environmental dimensions.

The implementation of the *e-Government* policy through Nelpin is therefore conceptualized as a multidimensional process influenced not only by technological availability but also by the clarity of policy standards and objectives, adequacy of resources, effectiveness of communication, characteristics and disposition of implementers, institutional structures, and environmental conditions. Integrating the perspectives of Van Meter and Van Horn, Edwards III, and Gil-García and Pardo provides a comprehensive analytical foundation for examining policy implementation, institutional and technological capacity, and their relationship with the development of trust and engagement among fisherfolk.

Previous studies indicate that research on *e-Government* policy has developed extensively and has been examined from various perspectives. Several studies have positioned *e-Government* within the context of improving public service quality, while others have examined it from a governance perspective, focusing on organizational readiness, human resources, technological infrastructure, and administrative procedures. These findings indicate that although *e-Government* has been widely studied, there remains considerable scope for examining its implementation among fishing communities. Relevant studies include Pati, Ferdian, and Rahman (2022), who examined the implementation of an *e-Government*-based public service innovation through the Smart In PIRT application at the Bangka Regency Health Office; Sholeh et al. (2025), who investigated smart maritime governance in the

management of island regions in the Riau Islands Province; Mahfud (2024), who examined the implementation of *e-Government* in public services through the Gitar Kombena application in Buton Regency; and Souisa and Supardal (2022), who studied the implementation of *e-Government* through the Regional Government Office Administration System (Sisminkada) in the Special Region of Yogyakarta during the COVID-19 pandemic.

The novelty of this study lies in the limited research specifically examining the implementation of *e-Government* policy through the Nelayan Pintar (Nelpin) Application as a government digital service instrument for fishing communities. This study offers a new perspective by examining Nelpin implementation not only from a technological standpoint but also in relation to the formation of trust and engagement among fisherfolk as the target group of the policy. Accordingly, this study addresses a gap in *e-Government* research within the context of coastal communities, particularly in Banjar Kemuning Village, Sidoarjo.

METHODOLOGY

This study employed a qualitative approach with a case study design to gain an in-depth understanding of the implementation of the *e-Government* policy through the Nelayan Pintar (Nelpin) Application, particularly concerning trust and engagement among fisherfolk in Banjar Kemuning Village, Sidoarjo. A qualitative approach was selected because the study focuses on the processes, experiences, perceptions, and interpretations of informants regarding policy implementation within their social context. The case study design was employed to examine the implementation of Nelpin intensively within a specific empirical context, namely the fishing community of Banjar Kemuning Village (Baxter & Jack, 2008).

Research informants were selected using purposive sampling, whereby participants were chosen based on their knowledge, experience, involvement, or relevant information concerning the implementation of the *e-Government* policy through Nelpin (Robinson, 2024). Informants included village government officials, program managers or implementers, fisherfolk who actively use Nelpin, fisherfolk who are aware of but do not use Nelpin, and fisherfolk who are unaware of the application. This composition enabled the study to capture diverse perspectives from both policy implementers and target groups. The number of informants was not predetermined rigidly but developed according to the research needs until sufficient information was obtained and no substantial new information emerged.

The study was conducted in Banjar Kemuning Village, Sedati District, Sidoarjo Regency, which was selected because it is a coastal area where a substantial proportion of the community is engaged in capture fisheries and therefore provides an appropriate empirical context for examining the implementation of the Nelayan Pintar Application. Data were collected through in-depth interviews, observations, and documentation. In-depth interviews were conducted to explore informants' experiences and perspectives regarding the policy implementation process (Chand, 2025).

Data were analyzed interactively through data condensation, data display, and conclusion drawing and verification. Data were categorized according to the research focus to identify patterns of policy implementation, supporting and inhibiting factors, trust, and fisherfolk engagement. Data trustworthiness was established through credibility, transferability, dependability, and confirmability. Credibility was strengthened through source triangulation, methodological triangulation, and *member checking*. Transferability was supported by providing a sufficiently detailed description of the research context. Dependability and confirmability were ensured through systematic documentation of the research process and traceability of findings to the empirical data.

RESEARCH RESULT

The implementation of the *e-Government* policy through the Nelayan Pintar (Nelpin) Application in Banjar Kemuning Village, Sidoarjo, was analyzed using Edwards III's (1980) framework, which comprises four indicators: communication, resources, disposition, and bureaucratic structure. Regarding communication, implementation remains suboptimal because information about the availability, functions, and benefits of Nelpin has not reached all fisherfolk. This is evident from the number of fisherfolk who remain unaware of the application or do not understand its benefits.

Regarding resources, implementation is constrained by limited digital skills, internet connectivity problems, and inadequate training and assistance. These limitations make it difficult for some fisherfolk to operate the application, leading them to continue relying on personal experience or information from fellow fisherfolk as their primary sources of information. Thus, the availability of the application has not been fully supported by adequate human resources and infrastructure.

Regarding disposition, implementation is influenced by the attitudes and acceptance of both implementers and the community toward Nelpin. Some fisherfolk remain uncertain about the usefulness and reliability of the information provided by the application and continue to place greater trust in their experience and traditional knowledge. This indicates that community acceptance of the digital policy has not yet been fully established. Meanwhile, bureaucratic structure requires more systematic task allocation, coordination, procedures, and assistance to ensure that policy implementation extends beyond merely providing the application.

The findings indicate that the implementation of the *e-Government* policy through Nelpin remains suboptimal. The main challenges involve communication and socialization, limited digital resources and infrastructure, community acceptance, and inadequate assistance and coordination mechanisms. The success of Nelpin implementation depends not merely on the availability of the application but also on effective communication, adequate resources, positive disposition, and supportive bureaucratic structures to foster trust and engagement among fisherfolk.

DISCUSSION

Communication. The findings indicate that policy communication has not been implemented optimally because the socialization of Nelpin has not reached all fisherfolk. This condition reflects a gap between policy dissemination and the understanding of the target group. Substantively, limited communication has prevented fisherfolk from obtaining adequate information about the application's functions and benefits. From Edwards III's perspective, such limitations may hinder policy acceptance and restrict community engagement in utilizing government digital services. This finding is consistent with Afriaji (2026), who demonstrated that the effectiveness of policy communication depends on implementing transparency according to the characteristics of the target group, delivering messages that consider the social and cultural context, involving local actors as information intermediaries, and utilizing communication media that are appropriate and easily accessible to the community.

Resources. Limited technological skills, network disruptions, and inadequate training and assistance indicate that Nelpin implementation has not been adequately supported by sufficient resources. This finding confirms that the availability of an application does not automatically ensure policy success when user capacity and supporting infrastructure remain inadequate. From Edwards III's perspective, these resource limitations constitute barriers that affect fisherfolk's ability to access, understand, and utilize *e-Government* services. This finding reinforces the results of Rijal et al. (2023), which identified limitations in infrastructure, digital skills, knowledge, language, and literacy. Recommended strategies include strengthening infrastructure, providing digital training, localizing content, and fostering stakeholder collaboration to support effective implementation.

Disposition. The findings regarding fisherfolk's doubts about the usefulness and reliability of information provided by Nelpin indicate that community disposition toward the digital policy has not yet been optimally established. The tendency of fisherfolk to rely on their experience and traditional knowledge demonstrates that acceptance of government innovation is influenced by perceptions of its benefits and the credibility of the service. From Edwards III's perspective, this condition highlights the importance of fostering acceptance through continuous assistance, sustained communication, and efforts to strengthen trust in government digital services.

Bureaucratic Structure. The findings indicate that Nelpin implementation requires more systematic task allocation, coordination, procedures, and assistance. This condition suggests that the provision of the application has not yet been fully supported by institutional mechanisms capable of ensuring sustainable implementation at the community level. From Edwards III's perspective, a clear bureaucratic structure is essential for integrating implementation, coordination, monitoring, and assistance, ensuring that the *e-Government* policy extends beyond technological provision to generate sustainable utilization.

Theoretically, this study reinforces the application of Edwards III's policy implementation theory in the context of *e-Government*, particularly through its four dimensions: communication, resources, disposition, and bureaucratic structure. The findings demonstrate that the successful implementation of digital services depends not only on technological availability but also on effective communication, adequate capacity and infrastructure, community acceptance, and institutional support. This study extends the application of Edwards III's framework to the context of fishing communities as target groups of government digital policies.

CONCLUSIONS AND RECOMMENDATIONS

Based on the research findings, it can be concluded that the implementation of the *e-Government* policy through the Nelayan Pintar (Nelpin) Application in Banjar Kemuning Village, Sidoarjo, has not yet been implemented optimally. This condition is reflected in uneven policy communication and socialization, limited community capacity to utilize digital technology, network infrastructure constraints, and inadequate training and assistance for fisherfolk. Regarding disposition, some community members remain uncertain about the usefulness and reliability of information provided by Nelpin and tend to rely on traditional experience and knowledge as their primary sources of information. Meanwhile, the bureaucratic structure requires strengthening through clearer task allocation, coordination, procedures, and more systematic assistance mechanisms. These findings demonstrate that successful *e-Government* implementation cannot be determined solely by the availability of an application but requires the integration of communication, resources, disposition, and bureaucratic structure. Strengthening these four dimensions is essential to enhance trust and encourage fisherfolk engagement in utilizing government digital services.

Research Recommendations. For the government, Nelpin implementation should be strengthened through adaptive socialization, continuous training and assistance, improved network quality, and enhanced coordination among implementing agencies to increase fisherfolk trust and engagement.

ADVANCED RESEARCH

Future research is recommended to employ a quantitative approach to empirically examine the effects of e-Government implementation, trust, digital literacy, satisfaction, and perceived usefulness on fisherfolk engagement in utilizing the Nelayan Pintar Application.

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