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E-Government in Stagnation: The Case of Digital Inertia in E-PPID Implementation at the Bali Provincial Election Commission

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ABSTRACT

This research departs from the paradox between the progress of the government's digital transformation agenda and the stagnation of e-government implementation at the regional level, especially in the Electronic Information and Documentation Management Officer (E-PPID) service of the Bali Provincial General Election Commission (KPU). This study aims to analyze the characteristics of digital inertia that emerge and develop in the management of E-PPID in the Bali Provincial KPU. The method employed is qualitative, utilizing a case study design with an interpretive approach. Data were collected through in-depth interviews with five key informants, direct observation of system management, and documentation studies, and then analyzed using the interactive model developed by Miles, Huberman, and Saldaña. The results of the study show that digital inertia is formed through the interaction between the social realm and the material realm: on the one hand, a bureaucratic culture that maintains manual procedures, human resource rotation without systematic knowledge transfer, and dependence on central instruction; on the other hand, the limitations of technological infrastructure, centralized management of servers and Open Data, small document upload capacity, and reactive security responses. These two domains form a feedback loop that reproduces stagnation and decreases the quality of public information disclosure. The research concludes that sustainable digital transformation requires simultaneous intervention on the social and material dimensions, strengthening infrastructure and human resource capacity, and balancing authority between the central and regional KPU so that E-PPID truly functions as an instrument of democratic accountability.

Keywords: E-Government; Digital Inertia; E-PPID; Public Transparency.

INTRODUCTION

In the era of globalization and accelerating digital transformation, the concept of e-government has become the main foundation for many countries in strengthening effectiveness, transparency, and public participation (Millard, 2023; Yang et al., 2024; Dewi et al., 2025). Digital transformation in government has become a key strategic agenda in various countries, including Indonesia. Based on the UN E-Government Survey 2024, Indonesia managed to rise 13 places to 64th position out of 193 countries, after previously being in 77th position in the 2022 edition (Kementerian Pendayagunaan Aparatur Negara dan Reformasi Birokrasi, 2024). The improvement shows that the government's efforts through the Electronic-Based Government System (SPBE) are starting to show results, but these technical successes do not automatically guarantee a profound transformation in the public service system (Maulana et al., 2024; Supriadi et al., 2024).

Digital transformation cannot be understood only as the process of adopting new technologies in an organization or business entity, but rather as a comprehensive strategy that includes fundamental changes in various aspects of governance, work structure, operational patterns, and culture applied in the organization's management

system (Haskamp et al., 2021; Imran et al., 2021). In this context, organizations that want to successfully carry out digital transformation are not enough to adopt new technologies, but also must ensure the readiness of resources, both in terms of digital infrastructure, technical capabilities, and the competence of the human resources involved in it. Furthermore, digital transformation reflects the readiness of organizations to build an ecosystem that is able to accommodate innovation, efficiency, and effectiveness in carrying out various functions and services offered to the community (Hinings et al., 2018).

In the government sector, digital transformation plays a central role in efforts to develop an e-government system that aims to create governance that is more transparent, efficient, and responsive to people's needs (Sharmin & & Chowdhury, 2025). In Indonesia, the concept of e-government has become a big agenda of the digital transformation strategy implemented in the government system to improve the quality of public services and reform bureaucratic performance, which has been considered less effective (Virnandes et al., 2024; Maulana et al., 2024). One of the important aspects in the implementation of e-government is information disclosure, which is the main foundation for building public trust in public institutions. For this reason, the government responds to this need by issuing regulations that affirm the obligation of public bodies to provide easier and more transparent access to information for the public (Androniceanu, 2021; Pandey, 2023; Liambomba, 2023). The public's right to know has been guaranteed in the Constitution of the Republic of Indonesia in 1945 and is specifically regulated in Law Number 14 of 2008 concerning Public Information Disclosure.

As an institution responsible for the implementation of democracy in Indonesia, the General Election Commission (KPU) is also included in the category of public bodies that are required to implement information service standards in accordance with Information Commission Regulation Number 1 of 2010 concerning Public Information Service Standards. Transparency in the implementation of General Elections (Elections) and Regional Head Elections (Pilkada) is a crucial aspect in maintaining public trust in the democratic system in Indonesia. As part of efforts to strengthen transparency in the implementation of elections, the KPU then actively disseminated the importance of public information disclosure through various digital platforms (Huda et al., 2023; Harminto et al., 2024). This strategic step was further strengthened by the birth of General Election Commission Regulation (PKPU) Number 1 of 2015 concerning the Management and Services of Public Information within the KPU.

As part of the implementation of the policy, the KPU established an Information and Documentation Management Officer (PPID) who is tasked with managing and providing public information services (Pakpahan, 2023). Furthermore, the KPU's commitment to digital transformation in the information service system was strengthened by launching the Electronic Service of Information and Documentation Management Officials (E-PPID) on November 12, 2015, at the KPU RI Office (Ardiansyi & Nurrahman, 2024). With E-PPID, the public can obtain various information related to the implementation of Elections and Regional Elections online, ranging from the election stages, voter lists, vote counting results, to various other official documents (Alou et al., 2021). The implementation of this service not only increases efficiency in information distribution but also maintains transparency in the election system, thereby allowing the public to be more active in supervising the course of elections.

The Bali Provincial Election Commission also adopted the E-PPID system to ensure information disclosure at the regional level. This system is expected to provide easy access for the Balinese people in obtaining data and documents related to the election process and policies implemented by the local KPU. In terms of operations, the E-PPID KPU Bali Province is managed by PPID officers who are responsible for managing, storing, and presenting public information. Its management refers to the information service standards that have been set, including procedures for receiving, processing, and responding to information requests submitted by the public. The Bali Province KPU e-PPID service can be accessed through the official website at https://balippid.kpu.go.id/, which is designed as a public information center to ensure equal access for the entire community without requiring physical presence at the KPU office.

Although the Bali Provincial Election Commission has implemented the E-PPID system as part of public information disclosure, there are significant obstacles in its implementation. One of the main problems is the "Open Data" section on the official website of the Bali Provincial KPU, which has a technical problem, so it cannot be accessed and only displays the message "404 Page Not Found". The message indicates that the page or data source in question is unavailable or has not been updated in a long time. This is a serious problem considering that open data is the most essential aspect of the principle of information disclosure (Afful-Dadzie & Afful-Dadzie, 2017). This situation is not just an ordinary technical error, but reflects negligence in updating data and maintaining information systems that should be the main door for the public to obtain election data and institutional information openly.

In the case of the Bali Provincial KPU, the existence of E-PPID is supposed to be an instrument that strengthens election accountability, but if key features such as open data are not accessible, then this system loses its function as an effective transparency tool. The impact of digital inertia is not only limited to technical aspects, but can also affect public perception of the KPU's performance as an election organizer (Lestari et al., 2023). When

the public cannot access information that should be open, the legitimacy of the KPU as an election organizer can be questioned. This could exacerbate speculation that there is an impasse in the electoral process that could ultimately weaken democracy itself (Jubaidi & Khoirunnisa, 2024). If this problem is not addressed immediately, it will not only have an impact on public trust in information disclosure but it can also hinder the modernization of the election administration system in Indonesia more broadly.

As expressed by Mergel et al. (2019), the success of digitalization in government depends heavily on the extent to which the institution can overcome structural and cultural barriers that hinder the adoption of technology optimally. Thus, efforts to ensure information disclosure at the KPU are not only limited to the implementation of the digital system, but also include the management and maintenance of the system in an ongoing manner so that it can truly function according to its original purpose. Resolving this problem is not only about fixing technical errors, but also reflects the institution's commitment to maintaining information disclosure as one of the key pillars in good governance. Providing access to open data is not only a moral and legal obligation, but also a fundamental aspect that supports the smooth and sustainable functioning of democracy itself.

The problem described above is an interesting phenomenon to be researched, namely digital inertia that arises in the implementation of E-PPID at the Bali Provincial KPU, which results in stagnation in the realization of e-government as a tool to increase transparency and accountability of public institutions. This phenomenon indicates a structural tension between the digitalization initiatives that the government continues to promote and the reality of bureaucracy that still operates in traditional work patterns and is less adaptive to technological changes. The paradox between the "promise of digitalization" and the "reality of bureaucracy" is a vital reflective point in the study of e-government. This study is interested in analyzing the characteristics of the emergence and development of digital inertia in the management of E-PPID. The researcher wants to discuss in depth the emergence of the phenomenon of digital inertia in the context of the implementation of information technology in the public sector from the perspective of public administration science. Based on these problems, a study entitled E-Government in Stagnation: The Case of Digital Inertia in E-PPID Implementation at the Bali Provincial Election Commission was initiated.

In line with the formulation of the problem that has been presented, the purpose of the research to be achieved is to analyze the characteristics of digital inertia that emerge and develop in the management of E-PPID in the Bali Provincial KPU.

RESEARCH METHODS

This research was conducted at the Bali Provincial General Election Commission (KPU) Office, which is located at Jl. Tjok Agung Tresna No.8, Dangin Puri Klod, East Denpasar District, Denpasar City, Bali. The selection of this location is based on the research focus on the implementation of E-PPID as part of the e-government initiative by considering the strategic role of the Bali Provincial KPU in the implementation of elections and the transparency of public information in the Bali region. In addition, the Bali Provincial Election Commission is also an institution that is bound by regulations related to public information disclosure in accordance with Law Number 14 of 2008 concerning Public Information Disclosure. This obligation places E-PPID as a vital instrument in providing digital-based information. However, empirical conditions show that the Bali Province KPU E-PPID platform has not been functioning optimally. This makes the Bali Provincial KPU relevant to be analyzed in the context of the implementation of E-PPID and the obstacles faced in realizing the digitalization of public services.

Research Design

This study uses a qualitative method to analyze the phenomenon of digital inertia in the context of the stagnation of the E-PPID KPU of Bali Province in an effort to realize the realization of e-government. Qualitative research uses an interpretive framework to understand a problem in depth by placing people and their subjective experiences as the main focus of the study (Creswell & Creswell, 2017). Qualitative research begins with certain assumptions and utilizes a theoretical framework to direct the study of the meaning given by individuals or groups to a social phenomenon or human problem (Creswell & Poth, 2016). Qualitative research was chosen because it can provide an in-depth understanding of non-numerical factors related to internal policies, resistance to change, as well as technical and human resource obstacles that hinder the optimization of the E-PPID system in realizing e-government at the Bali Provincial KPU.

Data Types and Sources

1. Data Primer

Primary data is the main data obtained directly from subjects or informants who have in-depth knowledge and a clear understanding of the problem being studied (Nashrullah et al., 2023). In this study, primary data were obtained through in-depth interviews with five informants who have responsibility and direct involvement in the management of the E-PPID of the Bali Province KPU. In addition, primary data is also obtained through direct observation conducted by researchers in the field to comprehensively understand various aspects related to the E-PPID system. Primary data was collected during the research period that took place in 2025 in the work environment of the Bali Provincial KPU.

2. Data Seconds

Secondary data is supporting data that functions to complement and strengthen primary data in a study (Nashrullah et al., 2023). Secondary data sources were obtained through various means, including searching scientific articles related to the implementation of E-PPID and e-government, official documents related to public policy and information transparency, literature in the form of books, academic journal publications, data available online, and various other sources relevant to research topics and problems. The use of this secondary data aims to provide a more comprehensive perspective, enrich the analysis, and validate the findings generated from the primary data. Secondary data collection is carried out in parallel with the primary data, adjusted in time to ensure the data is relevant, current, and supports the findings of the primary data.

Data Collection Techniques

1. Interview

The interview technique is used by the researcher to obtain information and data in depth through oral interaction with informants related to the issues raised in this study. The interview process was carried out face-to-face at the Bali Provincial KPU office using interview guidelines that had been systematically prepared to stay focused on the research objectives. The guidelines include open-ended questions that allow informants to provide exploratory and detailed answers.

2. Observation

Observation is one of the data collection techniques in qualitative research that aims to systematically analyze and record various behaviors, interactions, and social dynamics through direct observation of individuals and groups (Jailani, 2023). This technique involves the use of the five senses, especially visual and auditory observation, to obtain data in a structured and in-depth manner. In this study, observations were made to observe directly how the process of managing and utilizing the E-PPID system within the Bali Provincial KPU takes place on a daily basis, including interactions between employees, the use of the E-PPID system, and responses to public information requests.

3. Documentation

The documentation techniques in this study include the collection of various types of documents, such as official archives, activity reports, related regulations, articles, books, and digital content related to the management of E-PPID at the Bali Provincial KPU and the phenomenon of digital inertia in the implementation of e-government. In addition, researchers will also utilize visual documents, such as photographs, infographics, and screenshots from the E-PPID platform, to support field findings and provide a concrete overview of the implementation of the system.

Data Analysis Techniques

In research, the data analysis process is one of the most important stages, where the data that has been obtained will be analyzed and described using theoretical foundations to produce conclusions. According to Miles et al. (2014), data analysis was carried out interactively and continued until the research was completed. Through a systematic process, complex data is simplified so that it allows for the drawing of valid and accountable conclusions. The data analysis techniques in this study include three main stages.

RESEARCH AND DISCUSSION

The empirical findings of this study show systematic stagnation in the implementation of the Electronic Public Information Disclosure System (E-PPID) at the Bali Provincial General Election Commission (KPU Provincial Bali). These findings emerged from the results of field observations, document analysis, and interviews with a number of five key informants involved in the management of public information disclosure within the Bali

Provincial KPU. Although formally the Bali Provincial Election Commission has fulfilled its normative obligation to provide digital-based public information disclosure services, it turns out that it is not automatically directly proportional to the quality of public information governance. This study found that the operational dimension of the E-PPID KPU Bali experienced symptoms of digital stagnation characterized by weak content updates, lack of system maintenance, and disconnection of data integration with the central KPU portal. The most visible symptom can be found through the appearance of a "404 Not Found" error message on a number of public document links, indicating irregularities in the management of digital archives. In addition, a number of information content such as public information lists, Government Agency Performance Accountability Reports (LAKIP), and Performance Agreements (PK) were updated a few years ago, indicating the absence of a continuous data update cycle.

Social Realm: Bureaucratic Resistance and Institutional Habit

The phenomenon of digital inertia in the implementation of E-PPID in the Bali Provincial KPU from the social realm is rooted in the dimension of human and institutional actors that affect how technology is received, adopted, and implemented in the context of the organization. In this context, human actors do not act as completely free rational agents, but rather as part of a social network that has institutionalized certain ways of thinking and acting (Polites & Karahanna, 2022). Characteristics such as beliefs, values, and bureaucratic work patterns are part of the institutional logic that forms resistance to change (Haveman et al., 2023).

Based on the results of interviews and field observations, it shows that the process of digitizing public information is still running formally. Employees tend to update data only when there is an external request, such as a request for information from the public, rather than as a routine initiative internalized in daily work practices. In addition, the interview revealed a defensive social adaptation. When the E-PPID is inaccessible or damaged by hacking, the manager still provides public information services through manual mechanisms such as WhatsApp or email. This action shows a form of adaptive compliance that places continuity of service as a priority, but at the same time shows subtle resistance to full digitalization because the work culture still prioritizes familiar manual methods. This kind of resistance is often rooted in a perception of risk and a lack of confidence in the reliability of error-prone or server-down digital systems, rather than on an individual's unwillingness to change. In other words, employees are not against digitalization, but are not yet convinced that the system actually makes their jobs easier (Yi et al., 2016). This phenomenon is caused by embedded organizational routines that are a common source of inertia, as they consist of individual habits that are interrelated and difficult to change (Polites & Karahanna, 2022).

Another social dimension that contributes to digital inertia is changes in the internal structure of the organization (Kaganer et al., 2023), especially related to the rotation of positions in the position of E-PPID KPU Bali operators. Employee rotation without a systematic knowledge transfer mechanism results in the loss of institutional memory and increases the risk of a knowledge gap. The informant revealed that E-PPID training from the central government should be carried out every year in stages from the KPU RI to the Provincial KPU and then to the Regency/City KPU, but sometimes it is only updated with technical instruction letters without direct training. This condition causes technical knowledge of digital systems to only persist in certain individuals and is not institutionalized systemically. When individuals who understand the technicalities of E-PPID are transferred or change positions, the knowledge and skills they possess are not well-documented. As a result, the sustainability of the system depends on the individual, not on established institutional procedures. The need for continuous training for PPID operators, and this lack of competence, causes content updates to be reactive, not proactive.

The results of the interviews also show that the practice of rotation of positions in the position of E-PPID operators at the previous Bali Provincial KPU tended to be flexible and not always based on technical competence. Deployed HR is often selected based on availability or general experience, without considering specific expertise in digital system management. In the last two years, the Bali Provincial KPU has begun to implement a more strategic approach by placing human resources according to their expertise, especially for positions that require IT skills. Nonetheless, there are no clear standard criteria or formal competency standards for each position, so placement is still ad hoc and relies on leadership assessment. This ambiguity can cause inconsistencies in the utilization of human resource capacity and slow down the E-PPID optimization process.

Digital inertia is also strengthened by the centralization of the system since 2023, with rigid top-down relationships that make employees in the regions merely passive policy implementers without reflective capacity. The informant explained that all control of server management, data security, and system maintenance is in the hands of the KPU RI. When there is a technical glitch, such as a broken link, server down, or cyber attack, the Provincial KPU can only report and wait for central instructions without the authority to take direct corrective action. This vertical relationship structure, while intended to maintain data security and standard uniformity, indirectly makes it difficult for local initiatives to grow independently.

Digital inertia in the social realm of the Bali Provincial KPU reflects a deep attachment to long-rooted value systems, bureaucratic habits, and social structures. This phenomenon of digital inertia does not always appear as an explicit rejection of change, but rather manifests through more subtle social mechanisms, such as reliance on old procedures, a preference for hierarchical control, and limited autonomy in digital-based decision-making. Digital transformation without social and bureaucratic transformation will ultimately only prolong digital inertia itself (Schmid, 2017). Technology cannot replace human commitment, and the system will not function effectively without institutional values that are truly internalized in the daily practice of the bureaucracy.

Material Realm: Technological Obsolescence and Systemic Disconnection

The material realm is related to the aspects of technology and digital infrastructure that are the foundation of modern organizational systems. Rigidity in the material realm depends not only on the design or structure of the device, but also on the complexity of the interaction between the components and the extent to which the system has a degree of flexibility (Schmid, 2019). When systems are designed with rigid structures, difficult to update and not well integrated, the organization's capacity to adapt to change decreases (Benzer et al., 2017).

Based on the results of an in-depth interview with the Bali Provincial KPU E-PPID management official, it was found that since 2023, the management of the E-PPID Open Data page has been fully centralized at the KPU RI. This condition causes units in the region to act only as end users, without the technical authority to repair system damage. This integration is carried out to standardize design and improve system security, but this also results in extending system recovery time and reducing the responsiveness of public information services. This condition is exacerbated by the fact that the system maintenance process is beyond the control of the regional KPU. When the Open Data page cannot be accessed for more than one year (February 2024 to July 2025), the Bali KPU can only wait for a technical response from the KPU RI. The close interconnectedness between the central and regional systems forms a systemic disconnection, where each level of the organization operates in the same digital ecosystem, but lacks the ability to autonomously improve the other.

The informant explained that the divided central server capacity for more than twenty national KPU applications causes the storage space for E-PPID to be very small and disproportionate to the volume of public data. This condition is increasingly complex because the capacity of the document size that can be uploaded on the official website and E-PPID portal is limited to a maximum of only 2 MB. This limitation not only reduces the efficiency of data management but also has the potential to reduce the quality of information disclosure because some documents cannot be uploaded in their entirety. This situation illustrates the condition of technological obsolescence, in which digital systems that are not supported by adequate infrastructure lose their adaptive ability to the needs of the organization (Hanelt et al., 2021; Purnamasari et al., 2025). Limitations also arise from the technical side; the manager revealed that the transition of the E-PPID system to the national cloud infrastructure of the Open Data page caused several regional datasets to be deleted or could not be migrated perfectly. The data recovery process is done manually by re-uploading the document to a central server, which slows down the updating of public information. This shows that centralized system architecture changes are triggering structural disruption at the provincial level and have not resulted in ideal inter-system integration.

Furthermore, the factor of financial limitations and the capacity of the physical infrastructure is also an important dimension of the material realm. Based on the results of the interview, the budget for the development of E-PPID in 2025 does not exist, due to the efficiency of the regional budget. This lack of financial support has a direct impact on maintenance delays and the absence of infrastructure updates. When fiscal support is unstable, public organizations often fall into a pattern of "survival maintenance" as a form of effort to keep the system functioning, but without being able to update it substantively. On the other hand, the regional KPU does not have the authority to set up local servers or cooperate with third parties due to centralistic regulations, although they understand the need technically.

In terms of security, the cyber attack incident on the Bali KPU website and social media in 2024 also shows the vulnerability of the public digital architecture in Indonesia. Mitigation efforts are carried out reactively, including restricting network access, updating passwords, and cooperating with the State Cyber and Cryptography Agency (BSSN). These measures do strengthen post-event security, but they also show that risk mitigation is not yet part of sustainable system design. According to Schmid (2019), this kind of thing is a common characteristic of digital inertia, where organizations tend to manage technology reactively after disruption occurs, rather than proactively through systemic learning mechanisms.

Overall, the field findings show that the material realm of E-PPID KPU Bali is still trapped by adaptive obstacles due to limited technical capacity, finance, regional authority, and the absence of a resilient mechanism to deal with system failures. This condition strengthens the argument that digital transformation requires an adaptive system and is open to continuous updates. Without a technology architecture that allows for integration and

flexibility, public organizations will continue to face digital inertia, where technology is no longer a driver of change, but rather a structural burden that limits the adaptive capabilities of bureaucracies.

Feedback Loop of Digital Inertia: The Interaction between Social and Material Realms

The phenomenon of digital inertia in the implementation of the E-PPID KPU Bali Province cannot be partially understood only through social or material dimensions, but must be seen as the result of dynamic interaction between the two. Empirical analysis shows that obstacles in digital transformation do not come from a single factor, but from how these two domains influence each other in a feedback loop that reinforces the status quo. This process does not stop after a single episode of technical failure or a policy change, but rather develops in a repeating and accumulated cycle. Digital inertia arises through feedback loops between humans, organizational structures, and technologies that form behavior reproduction patterns as well as system configurations that are difficult to change (Hanelt et al., 2021). In this context, the social realm serves as a space for the formation of bureaucratic habits and perceptions of the risks of digitalization, while the material realm becomes an arena where technical limitations and rigid system design strengthen social resistance to sustainable digital innovation.

The feedback loop of inertia forms a condition of systemic stagnation based on the fact that technological design, regulations, budgets, and the broader structure of the organization simultaneously shape human behavior, while human behavior then influences how technology is used and continues to be developed. In the early stages, forms of resistance do not appear explicitly, but through habitual patterns and bureaucratic structures that emphasize hierarchical compliance. Employees at the Bali Provincial Election Commission, who play the role of policy implementers from the center, tend to internalize the command structure in the way they interact with digital systems. When the E-PPID system is disrupted, the action taken is not to find a technical solution independently, but to wait for instructions from the KPU RI. This lack of technical autonomy has given rise to a sense of disempowerment at the local level, and the belief that digital systems can facilitate work has declined.

These social patterns are not formed in a vacuum, but at the same time are strengthened in terms of materials. There are a number of design decisions that socially then have major implications: first, the management of a fully centralized system at the national level since 2023 makes regional units position themselves as end-users without significant technical authority. Second, the central infrastructure is burdened with other national applications, so that storage capacity and bandwidth in the regions are limited. Third, the limit on the size of document uploads of only 2 MB on official portals results in many public documents not being able to be loaded intact or having to be shared.

After the initial phase, the feedback mechanism begins to occur and amplifies the inertia. When employees in the regions use the manual route because the digital system is not available or difficult to use, digital data management activities on E-PPID become rare and reactive, only when there is an external request. This reduces the frequency of digital updates, so that digital systems are less and less on a regular basis. As a result, digital performance decreases, data becomes stagnant, and services experience obstacles. On the material side, the infrequent use of the system makes maintenance and updates less of a priority. The absence of a system development budget by 2025 at the Bali Provincial KPU exacerbates this condition, the organization opts for the "minimum maintenance" mode instead of substantial innovation. The feedback loop mechanism of digital inertia can be described chronologically as follows: material design decisions (limited access, central control) → limited local capacity → local employees choose minimal or manual (social) initiatives → digital activity on the website decreases → the priority of system updates decreases (material) → system performance remains poor →employees are increasingly reluctant to use → systems so they return to manual solutions. This cycle runs without strategic intervention that breaks the connection between the social realm and the material realm.

In the case of the Bali Provincial KPU, the interaction can be observed from how the policy of centralization of technology, which was originally intended for efficiency, actually creates functional dependency and reduces reflective ability at the local level. When the central system is not responsive to the needs of the field, regional employees become accustomed to looking for administrative, not technological, solutions. On the other hand, this passive state signals to the center that the system is running "safely," thus slowing down the initiative to perform technical decentralization. This cycle shows a strong form of path dependence; the longer the system runs in that pattern, the harder it is for the organization to change direction. Over time, the reciprocal relationship between the social realm and the material realm strengthens and stabilizes digital inertia. When the use of digital systems declines, two parallel effects emerge: on the material side, budget and technical development priorities shift to emergency critical matters instead of innovation, such as server capacity not being enlarged, technical training modules not being carried out regularly, and system maintenance becomes only ahead of elections. On the social side, internal employees view the use of digital systems as a burden rather than a tool, due to the experience of system failures and the lack of local technical support.

Conceptually, these findings strengthen the argument that the success of digital transformation is not only determined by technical ability but also by the synergy between social willingness and material adaptability. When these two dimensions fail to reinforce each other, public organizations tend to get stuck in repetitive digital inertia. The digital system that is supposed to be the driver of change is defeated by the old routine that is increasingly attached. Employees who see little immediate benefit from digital systems will choose the most secure and familiar way, while systems that are rarely used are not updated, and performance declines. Finally, when this social-material realm interaction has formed a stable routine, digital inertia becomes a normal condition in the organization. It is like a delayed stability that seems safe on the outside, but inside, it is systemic stagnation.

Therefore, understanding the interaction between the social real and material realms and how feedback loops of inertia arise and evolve is crucial for successful digital transformation efforts. To break this loop requires a strategic approach that recognizes both as an integral part of the public digital transformation system. Efforts on the one hand will be ineffective if the other side remains in a rigid old pattern. These social and material changes must run in parallel, reinforce each other, and be oriented towards the same goal: to create a digital system that is not only technically functional, but also socially owned.

From the material realm, strengthening the technical infrastructure is the first step towards breaking the loop. A technically resilient system needs to be designed with the principles of flexibility and local responsiveness, so that when a disturbance occurs, the regional unit has the capacity to take corrective action without always relying on the center. This delegation does not mean reducing national data security standards, but rather strengthening the overall organizational responsiveness. This must also be supported by adequate institutional policies, including sustainable funding, sound infrastructure, and policies that encourage sustainable digital transformation.

In addition, the social realm has equal weight; sophisticated digital systems can fail to carry out their transformational functions if the organizational culture still maintains a conventional administrative mindset. Regular and reflective training programs are also an important mechanism to turn the cycle of inertia into a learning cycle. Only technical training is not enough; it is necessary to design training that fosters critical awareness of the role of technology in expanding the meaning of public services. That way, employees not only understand how to use the system, but also can evaluate its function and impact on the transparency of public information. Then, the Bali Provincial KPU needs to adopt a competency-based rotation policy so that the position of E-PPID operator is not only filled based on the availability of employees, but also based on expertise and digital experience. In addition, every change of personnel must be accompanied by a documented knowledge handover protocol.

Another important thing is the restructuring of the relationship between the KPU RI and the regional KPU. Breaking the loop of digital inertia demands a rebalancing of power between the central and regional regions, where technical and social responsibilities are proportionately distributed. The center retains control over the main architecture and security of the system, but the region is given room to make contextual local adaptations. When this relationship changes from subordination to collaboration, feedback from the regions can serve as input for central system updates, thus forming a productive two-way learning cycle. Ultimately, the key to breaking this loop is not to accelerate transformation, but rather to balance two realities: that technology and humans do not stand alone, but rather shape each other. This is the point where digital inertia is no longer an obstacle, but rather a mirror of a mature and sustainable digital institutionalization process.

CONCLUSION

The phenomenon of digital inertia in the implementation of E-PPID at the Bali Provincial KPU is the result of a negative synergy between the social realm and the material realm that forms a stagnant feedback loop. Digital inertia does not arise out of an explicit rejection of technology, but grows through social and technical processes that reinforce each other repeatedly. The practical implications confirm that sustainable digital transformation in public institutions such as the KPU requires simultaneous intervention in the social realm and material realm. Without the integration of the two, digital transformation will continue to be trapped in a cycle of partial reforms that do not touch the root of the problem. A balance between central control and regional autonomy is also an important prerequisite for creating a system that is resilient and adaptive to local needs. For further research, it is possible to develop a comparative model between provinces to assess the extent to which this digital feedback loop pattern is universal in the Indonesian bureaucratic environment.

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