

## Evaluating Digital Transformation Policy in Teacher Professional Allowance Services: Administrative Efficiency and Teacher-Conditions

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### Abstract

Digital transformation in education policy implementation has become a critical strategy for improving efficiency, transparency, and accountability in public service delivery, particularly in the management of the Teacher Professional Allowance (TPG) in Indonesia. This study analyzes the implementation of digital transformation in the TPG service system at the Department of Education and Culture of Sidoarjo Regency and examines its implications for administrative processes and teachers' work experiences. This study employs a descriptive qualitative approach. Data were collected from January to March 2025 at the Sidoarjo Regency Education Office and selected schools involving 10 informants consisting of teachers, school operators, and administrative staff. Participants were selected using purposive sampling based on their direct involvement in the TPG digital service process. Data collection techniques included semi-structured interviews, non-participant observations, and documentation analysis. The findings show that digital transformation has improved administrative efficiency, transparency, and accessibility in TPG services. However, the implementation remains constrained by limited system integration, infrastructure instability, and disparities in digital literacy among teachers and school operators. These conditions create a digital divide in which school operators tend to adapt more effectively than teachers, leading to uneven experiences in accessing and managing digital administrative systems. Beyond administrative efficiency, the study also reveals that reduced bureaucratic workload contributes to decreased administrative pressure on teachers, providing greater psychological space for them to focus on professional and instructional preparation. However, this study does not directly measure classroom teaching performance. Instead, the findings indicate that digitalization primarily reshapes administrative workloads, which indirectly influences teachers' perceived professional focus and work conditions within a hybrid governance system combining digital and manual processes. The study recommends the integration of fragmented platforms into a single integrated system (single source of truth), improvement of digital infrastructure reliability, and strengthening of teachers' digital competencies to reduce administrative duplication and improve service effectiveness in the Sidoarjo context.

**Keywords:** digital transformation, education policy, Teacher Professional Allowance (TPG), administrative efficiency, teacher work conditions



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## INTRODUCTION

Digital transformation has become an important component of education system reform aimed at improving efficiency, transparency, and accountability in education service management. It involves not only the digitization of manual systems but also changes in organizational processes, structures, and public service delivery (Ciancarini et al., 2024). In this context, the use of digital and information technology not only functions as an administrative tool but also as a strategic instrument to support the implementation of effective education policies (Margetts & Dunleavy, 2024). Liu et al. emphasized that the use of digital technology/AI in education essentially serves to simplify work processes, provide more accurate data, and support evidence-based decision-making (Liu et al., 2025). In line with this, the policy analysis conducted by Hakim et al. showed that administrative reform and digitalization of educational services are aimed at reducing bureaucratic burdens and accelerating services to the public (Hakim et al., 2025).

At the implementation level, (Dacholfany et al., 2021) showed that when these principles are applied in organizational management, the results improve administrative order, program effectiveness, and the quality of religious services and learning. One form of implementation of this education policy is the Teacher Professional Allowance (TPG) program, which is a government policy instrument to improve the welfare and professionalism of teachers as the main actors in the education process (UU No. 14 Tahun, 2005). TPG not only functions as a financial incentive, but also as a tool to encourage continuous improvement in the quality of teachers' teaching performance (Nawas et al., 2025). Accordingly, this study evaluates TPG digital services using dimensions of system integration, service efficiency, transparency, accountability, and human resource digital capacity.

However, the implementation of the TPG policy still faces various structural and technical problems, such as delays in disbursement, data inconsistencies, and a verification process that has not been fully digitized (Kementerian Keuangan RI, 2023). In addition, the effectiveness of digital transformation implementation is also influenced by technological readiness, organizational capacity, and the digital competence of human resources involved in the service process (Ciancarini et al., 2024). This manual process is also prone to data input errors, miscommunication between institutions, and low transparency of information for teachers as service recipients (Fahrurrisal et al., 2024). The TPG service system remains only partially aligned with the objectives of full digital transformation (Egodawe et al., 2022). These issues indicate that the implementation of digital-based TPG services has not yet been fully optimized and therefore requires further evaluation. In addition, a preliminary survey conducted in January 2025 involved four informants consisting of teachers, school operators, and administrative staff at the Sidoarjo District Education Office. The findings indicated that the verification process was still largely carried out manually, resulting in delays in disbursement and increased administrative burden for teachers. The findings of this preliminary survey were subsequently used to identify the main research problems and formulate the focus of this study on evaluating the effectiveness of digital transformation in TPG services.

In Sidoarjo Regency, the implementation of the Teacher Professional Allowance (TPG) policy is supported by an integrated digital service architecture developed by the Ministry of Education, Culture, Research, and Technology, primarily through the Dapodik (Data Pokok Pendidikan) system as the main education database, the SIM TPG (Teacher Professional Allowance Information System) for allowance processing, and supporting platforms such as SIM PKB and SIAGA for teacher and personnel data management (Kemendikbudristek RI, 2023). The digitalization of TPG services has been gradually implemented since the national integration of education data systems under Kemendikbudristek digital governance reforms, which require all

schools to update and synchronize data through Dapodik as the basis for eligibility and verification of teacher allowances.

This digital system covers several key stages of the TPG service process, including data input by school operators, verification by education authorities at the district level, system-based validation through centralized synchronization, and digital monitoring of allowance disbursement status. Although the system was designed to reduce manual intervention and improve transparency, several stages, particularly verification and data validation remain partially manual, indicating incomplete operational integration. In practice, the implementation still faces challenges related to limited system capacity, incomplete inter-platform integration, and disparities in digital literacy among teachers and school operators. These conditions affect the overall effectiveness of system utilization (Margetts & Dunleavy, 2024);(Ciancarini et al., 2024);(Alenezi, 2022).

In previous research, studies on Teacher Professional Allowance (TPG) have predominantly focused on teacher certification and its impact on teaching performance (Fahrurrizal et al., 2024);(Nawas et al., 2025), as well as policy interventions aimed at improving teacher welfare (Bismo et al., 2024);(Sulastri et al., 2024). Other studies have examined educational service delivery and digital transformation in supporting teacher performance (Triyunita et al., 2025), as well as improvements in education data management systems (Khoirohnissah, 2023). However, these studies tend to address TPG either from a welfare perspective, an administrative perspective, or a digital transformation perspective in isolation, without integrating policy implementation, digital governance, and teacher performance outcomes within a unified analytical framework. To address this gap, this study is guided by the following research questions: (1) How is the digital transformation of the Teacher Professional Allowance (TPG) service implemented in the Sidoarjo District Education Office? (2) What factors influence the effectiveness of its implementation? and (3) How does the digital transformation of TPG services affect teachers' teaching performance?

In this study, teacher professional performance is operationally understood as teachers' professional and administrative work experiences related to instructional preparation, administrative compliance, and perceived professional focus within the implementation of digital TPG services. This definition focuses on teachers' professional experiences and administrative practices within the implementation of digital TPG services. This construct is operationalized through interview data, school administrative records, and relevant documentation related to teaching activities and professional compliance.

Building on prior research, this study positions itself within the broader literature on digital governance and educational policy transformation, while responding to the need for more integrated analyses of digital transformation in public education services. Although (Isma et al., 2025) highlight the contribution of digital transformation to improving educational policy outcomes, their work still leaves room for further empirical exploration at the implementation level, particularly in linking digital service systems with teacher-level performance outcomes. Therefore, this study is expected to contribute to the development of public administration and education policy studies by examining how digital transformation in TPG services shapes service effectiveness and teacher work-related outcomes. This study adopts the Digital Governance perspective as the main analytical lens, which emphasizes system integration, interoperability, institutional capacity, and human resource readiness in public service transformation. In the context of TPG services, this framework is used to analyze how digital platforms such as Dapodik and SIM TPG shape policy implementation processes and influence administrative outcomes and teacher work conditions.

Based on the theoretical synthesis of digital governance and policy implementation theory, this study develops a conceptual framework that explains the relationship between digital transformation in TPG services and teachers' perceived work conditions according to (Van Meter & Van Horn, 1975) as shown in Figure 1 below.

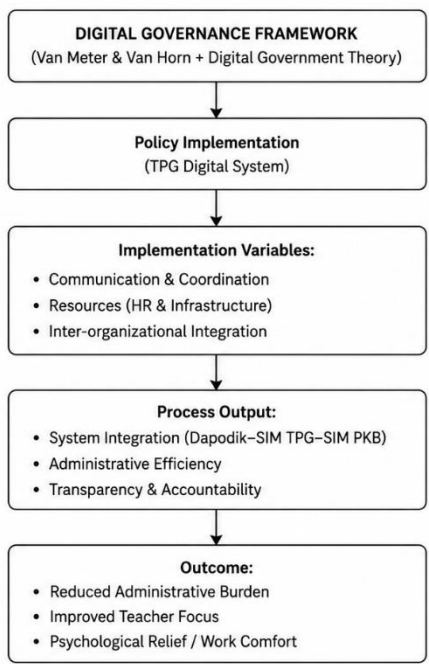


Figure1. Conceptual Framework

The framework illustrates that digital transformation operates through administrative and governance mechanisms, which are mediated by institutional capacity and human resource readiness, and ultimately influence teachers’ work experience in terms of administrative burden and professional focus.

**RESEARCH METHODS**

This study employs a qualitative descriptive approach framed as a policy implementation evaluation study to analyze the digital transformation of the Teacher Professional Allowance (TPG) program at the Sidoarjo Regency Education and Culture Office. The fieldwork was conducted from January to March 2025 in Sidoarjo Regency, East Java, Indonesia, with the Sidoarjo District Education Office serving as the main site of analysis. The unit of analysis in this study is the implementation process of the TPG digital service system, involving school operators, teachers, and education office administrators responsible for data input, verification, and disbursement procedures. This approach was chosen because it provides a comprehensive understanding of policy implementation processes, actor interactions, and bureaucratic dynamics within the education service system (Creswell & Creswell, 2023); (Creswell & Poth, 2024). Data collection focused on teachers’ professional and administrative experiences related to instructional preparation, administrative compliance, and the utilization of digital TPG services. The research procedure is illustrated in Figure 2.

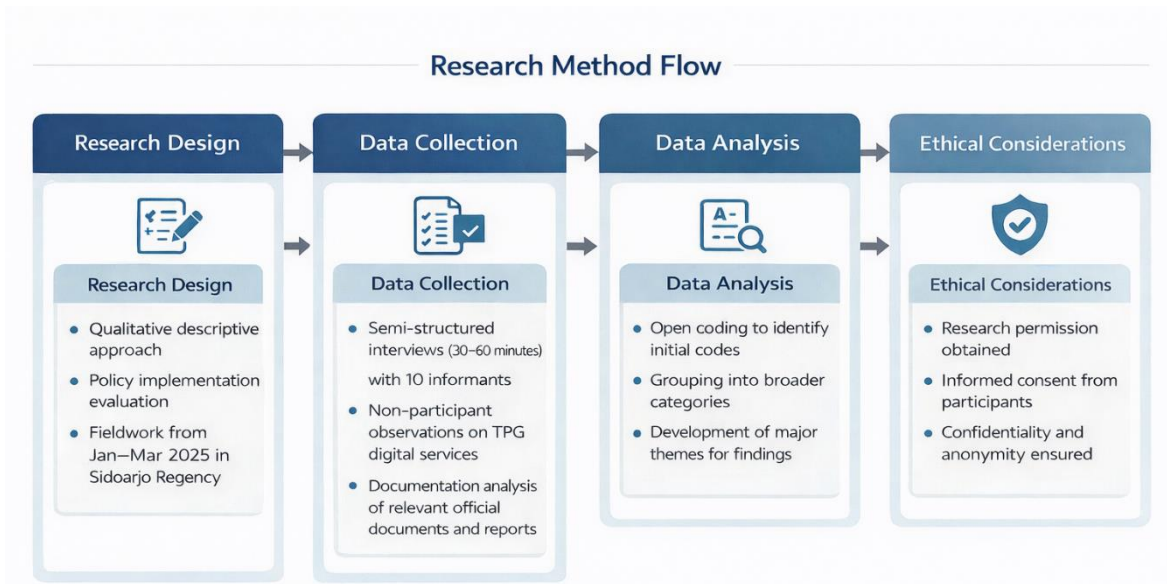


Figure 2. Research Method Flow

Data were collected through semi-structured interviews, non-participant observations, and documentation techniques (Tisdell et al., 2025). Semi-structured interviews were conducted with 10 informants consisting of three administrative staff members at the Sidoarjo District Education Office, three school operators, and four teachers receiving the Teacher Professional Allowance (TPG). Informants were selected purposively based on their direct involvement in the TPG digital service process, including data input, verification, and disbursement procedures. Each interview lasted approximately 30–60 minutes and was conducted in Bahasa Indonesia. The interviews were audio-recorded and transcribed to ensure data accuracy. Observations were conducted several times during the fieldwork period from January to March 2025, focusing on data submission processes, verification activities, digital system utilization, and administrative coordination among service actors. Observation findings were documented through systematic field notes prepared after each observation session. Documentation techniques were used to complement the interview and observation data through the analysis of official documents, administrative reports, service guidelines, teacher data records, and digital service archives related to TPG implementation. These documents were selected based on their relevance to the research objectives and their connection to the implementation of digital TPG services. The number of informants was considered sufficient when the data obtained showed recurring patterns and no substantial new information emerged, indicating data saturation and information redundancy. This approach enabled the researcher to collect empirical data directly from real-world conditions and strengthen the depth and credibility of the findings (Flick, 2024).

Data analysis was carried out through the stages of data condensation, data presentation, and systematic conclusion drawing (Miles et al., 2020). Interview transcripts, observation notes, and documentary evidence were coded manually through an open coding process to identify significant statements and recurring issues related to digital transformation in TPG services. The initial codes were grouped into broader categories based on similarities in meaning and relationships between findings. From this process, several major themes were developed, including challenges in digital transformation, implementation strategies, and the impact of digital transformation on administrative efficiency and teacher work conditions. These themes subsequently became the basis for organizing the findings and discussion sections of the study. Data validity was maintained through source triangulation by comparing information obtained from different informants and data sources. Member checking was also conducted by confirming selected interview results and interpretations with several informants to ensure consistency and accuracy of the findings. Ethical considerations were applied throughout the research process. Prior to data collection, the researcher obtained

permission from the Sidoarjo District Education Office and informed all participants about the purpose of the study. Informants participated voluntarily and provided informed consent before the interviews were conducted. To maintain confidentiality and anonymity, participants' identities were not disclosed in the research report, and all collected data were used solely for academic purposes (Assyakurrohim et al., 2022).

## RESULTS AND DISCUSSION

### Findings on Digital Transformation in Teacher Professional Allowance (TPG) Services

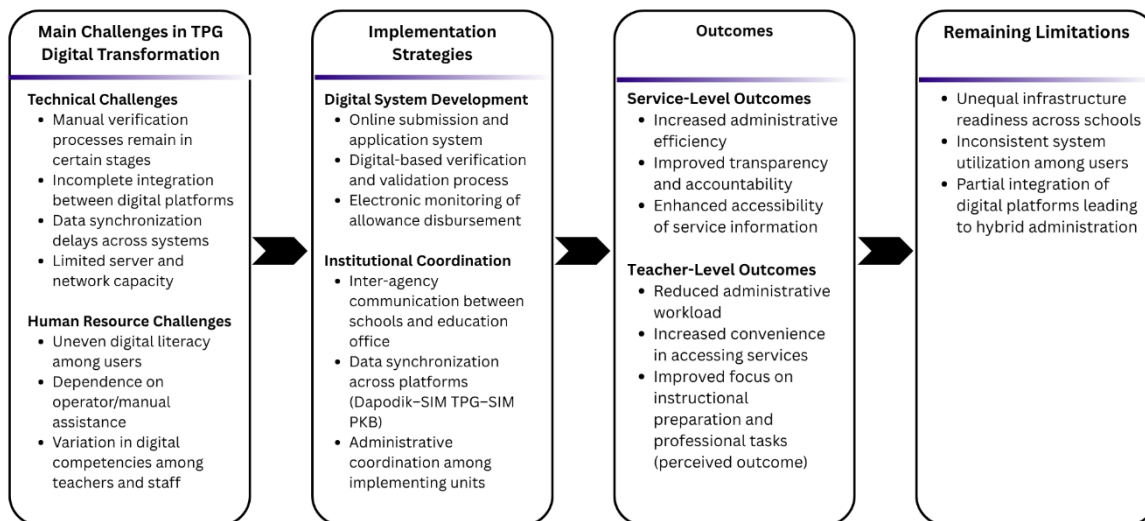


Figure 3. Digital Transformation in TPG Services

Based on the qualitative data analysis process, the findings of this study were organized into three major themes that emerged inductively from interview data, observations, and document analysis. These themes consist of: (1) main challenges in the digital transformation of TPG services, (2) implementation strategies for digital transformation, and (3) observed impacts of digital transformation on service effectiveness and teacher work conditions. The categorization of these themes was developed through the coding and thematic analysis process, as visualized in Figure 3. Referring to Figure 3, the findings are explained as follows:

#### 1. Main Challenges in the Digital Transformation of Teacher Professional Allowance (TPG) Services

The findings under this theme indicate that the implementation of digital transformation in the Teacher Professional Allowance (TPG) service at the Sidoarjo Regency Education and Culture Office still faces various complex and multidimensional challenges. Although digitalization has been implemented to improve service efficiency, transparency, and accountability, in practice the existing system has not been able to completely replace manual mechanisms. One of the major challenges identified from the interview and observation data is the continued reliance on partially manual verification processes, indicating that digital integration has not yet been fully implemented across all stages of TPG service delivery. This condition not only slows down the disbursement process but also increases the potential for administrative errors, such as data inconsistencies and delays in document validation.

Furthermore, system integration issues remain a significant challenge that directly affects the effectiveness of the digitalization of TPG services. Several platforms involved in the TPG service

workflow, including Dapodik, SIM TPG, SIM PKB, and SIAGA, are not yet fully integrated across all operational stages. This lack of integration creates problems such as data duplication, inconsistencies in teacher administrative records, and delays in data synchronization between schools and the district education office. For example, differences between teacher data uploaded in Dapodik and the verification data processed in SIM TPG often require manual revalidation by administrative staff before the allowance disbursement process can continue. These findings indicate that the digital transformation process remains at the stage of partial digitization, where technology primarily supports existing administrative procedures but has not yet achieved comprehensive system integration as envisioned in the concept of digital governance.

From a human resources perspective, this study found variations in digital literacy between teachers, school operators, and administrative staff. Several teacher informants reported difficulties in navigating integrated digital platforms, particularly during data synchronization and verification processes between Dapodik and SIM TPG. One recurrent issue identified during interviews was the delay in updating teacher administrative data across platforms, which required repeated manual confirmation with school operators and education office administrators. In comparison, school operators and administrative staff demonstrated relatively higher technical familiarity because of their routine involvement in digital administrative procedures. Consequently, some teachers remained dependent on operator assistance or reverted to manual mechanisms when encountering technical difficulties. These findings confirm that the success of digital transformation depends not only on technological availability but also on the readiness and digital competence of service users.

On the other hand, technological infrastructure factors also emerged as operational obstacles in the implementation of digital TPG services. Interview findings and field observations revealed that system disruptions, slow server responses, and unstable internet connectivity occasionally occurred during periods of intensive data synchronization and verification activities. These technical constraints affected the accessibility and continuity of digital service processes, particularly when multiple users accessed the system simultaneously. Consequently, delays in administrative verification and data processing were still encountered in several cases. These findings suggest that the challenges of digital transformation are not limited to system design but are also influenced by the readiness and reliability of supporting technological infrastructure.

Generally, the findings of this study indicate that the challenges in implementing digital transformation of TPG services include technical, organizational, human resource, and policy aspects that are not yet fully adaptive to digital change. This indicates that the transformation process is still in a transitional stage, where digital systems are not yet fully integrated with existing bureaucratic processes. Therefore, a more comprehensive and integrated approach is needed for optimal and sustainable digital transformation.

This finding is in line with (Fahrurrizal et al., 2024), which shows that TPG management still faces various administrative obstacles that affect service effectiveness and teacher performance. However, unlike previous studies that mainly focused on conventional administrative management and teacher professionalism, this study demonstrates how these administrative challenges persist and evolve within a digital governance environment. The case of Sidoarjo Regency shows that digital transformation does not automatically eliminate structural and bureaucratic problems; instead, it introduces new implementation challenges related to system integration, data synchronization, digital literacy, and technological infrastructure readiness. Therefore, this study contributes to the policy implementation literature by showing that the effectiveness of digital transformation in public education services depends not only on technology adoption, but also on the institutional capacity to

integrate digital systems, coordinate stakeholders, and support users in adapting to administrative change.

In addition, the results of this study also strengthen the findings of (Sulastri et al., 2024), which emphasize that the successful implementation of TPG policies is heavily influenced by communication, coordination, and resource availability. In the context of digital transformation, these factors become increasingly complex because they involve not only interactions between actors but also system integration, data synchronization, and technological readiness. This finding is closely related to the policy implementation and digital governance perspective discussed in the introduction, which highlights the importance of institutional capacity, coordination mechanisms, and technological support in achieving effective public service transformation. The findings indicate that several governance dimensions, such as administrative transparency and digital service accessibility, have improved through the implementation of online systems. However, other dimensions, particularly cross-platform integration, inter-unit coordination, and equitable digital capacity among users, remain relatively weak. As a result, the implementation challenges are no longer purely administrative but have evolved into broader digital governance challenges that require stronger institutional adaptation and more integrated policy support.

Overall, the findings indicate that the implementation of digital transformation in TPG services in Sidoarjo Regency still faces challenges related to system integration and resource readiness. Interview and observation data revealed that inconsistencies between digital platforms, variations in user digital competence, and infrastructure limitations affected the effectiveness of service implementation. These findings highlight that digital transformation in public services requires not only technological development but also institutional readiness, human resource capacity, and stronger cross-platform integration. In this context, the study demonstrates that the effectiveness of digital transformation depends on the synergy between technology, organizational coordination, and user adaptability in supporting improvements in public service quality.

## 2. Implementation Strategies for Digital Transformation in TPG Services

The findings related to implementation strategies for digital transformation emerged inductively from the coding and categorization process of interview, observation, and documentation data. This theme reflects various institutional efforts undertaken by the Sidoarjo Regency Education and Culture Office to support the implementation of digital-based Teacher Professional Allowance (TPG) services. The research findings show that the implementation strategy for digital transformation in TPG services in Sidoarjo Regency was carried out through several interrelated approaches, including the development of digital service systems, strengthening institutional coordination, improving human resource capacity, and establishing operational regulations and procedures. The development of digital systems became the primary strategy to support the entire administrative process, ranging from online submission and verification to the disbursement of professional allowances. Based on interviews with education office staff and school operators, the use of digital platforms simplified several administrative stages and enabled teachers to monitor the progress of their submissions more transparently compared to previous manual procedures.

In addition to system development, the implementation strategy was supported by coordination among work units and stakeholders involved in TPG administration. The Education and Culture Office attempted to improve communication and data synchronization between schools, operators, and administrative divisions through integrated reporting and verification mechanisms. However, field findings indicate that coordination challenges still occurred, particularly when differences in teacher data between platforms delayed the verification and validation process. Several informants explained that data updates in one system were not always automatically synchronized

with other administrative platforms, requiring repeated manual confirmation by operators and administrative staff. These findings indicate that institutional coordination in digital governance depends not only on communication among actors but also on the interoperability and integration capacity of information systems.

From a human resource perspective, capacity-building strategies were implemented through technical guidance, training sessions, and ongoing assistance for teachers and school operators in using digital platforms. This strategy aimed to improve digital literacy and operational understanding of the TPG service system. Several teachers stated that training activities helped them better understand online administrative procedures, although differences in digital competence among users remained evident. Difficulties in operating digital systems were found to be more prominent among teachers who were less familiar with administrative technologies, while school operators generally demonstrated higher levels of system adaptation due to their routine administrative responsibilities. Consequently, technical assistance and peer support continued to play an important role during implementation.

Furthermore, the implementation strategy was reinforced through the establishment of standard operating procedures (SOPs) and administrative regulations governing digital TPG services. Clear procedural guidelines were intended to ensure consistency, accountability, and transparency throughout the service process. Administrative staff explained that SOPs provided structured guidance for document submission, verification, and validation stages, thereby reducing procedural uncertainty. Nevertheless, observations revealed that implementation in practice still depended heavily on user compliance, technical readiness, and coordination among implementing actors.

Although various implementation strategies have been introduced, the findings indicate that digital transformation in TPG services remains in a strengthening and adaptation stage. Several challenges related to system integration, infrastructure readiness, and unequal digital capabilities among users continue to affect implementation effectiveness. These findings suggest that successful digital transformation is influenced not only by the availability of digital technology, but also by institutional capacity, human resource readiness, and the ability to integrate administrative systems comprehensively.

This finding is consistent with (Triyunita et al., 2025), which argues that digital technology in education can improve teacher effectiveness and professional competence. In the context of this study, the digitalization of TPG services contributed not only to administrative efficiency but also to easier access to information and service monitoring for teachers. Likewise, (Khoirohnissah, 2023) emphasizes that digitalization can improve the efficiency and accuracy of educational data management. However, this study extends previous findings by demonstrating that the effectiveness of digital transformation in public service delivery is highly dependent on system interoperability, institutional coordination, and the readiness of implementing actors. Therefore, digital transformation in TPG services should be understood as an organizational and governance transformation process rather than merely the adoption of administrative technology.

### 3. Observed Impacts of Digital Transformation on Service Effectiveness and Teacher Work Conditions

The research results show that the approach to addressing the digital transformation issues of the Teacher Professional Allowance (TPG) service in Sidoarjo Regency is carried out through a systematic, phased strategy, and oriented towards user needs. One of the main approaches implemented is improving digital system integration so that the entire service process can run in an integrated and efficient manner. This integration includes data alignment between platforms, from teacher data, the proposal process, to the disbursement of allowances, thereby minimizing input

errors, accelerating the verification process, and improving data accuracy and consistency. This integration effort is crucial considering the main problem previously identified related to system fragmentation that hinders service effectiveness.

Moreover, in addition to system integration, a human resource capacity-building approach is also a key factor in supporting the success of digital transformation. Continuous training, technical assistance, and strengthening of digital competencies for teachers and government officials are carried out to ensure that all users are able to operate the system optimally. This approach is oriented not only toward improving technical skills but also toward establishing a work culture that adapts to technological change. Thus, digital transformation is understood not only as a system change but also as a shift in work patterns and ways of thinking within the education bureaucracy.

Another approach implemented is the use of information technology as a means to increase transparency and accountability in services. The digital system allows teachers to monitor the status of TPG applications in real time, providing clear information and increasing trust in the service process. This transparency also plays a role in reducing the potential for conflict, misunderstanding, and dissatisfaction that often arise from delays or lack of information in manual systems. With open access to information, the relationship between service providers and users becomes more accountable and responsive.

In an organizational context, problem-solving approaches also involve internal policy support and leadership roles. Leaders play a strategic role in driving the implementation of digital transformation, through decision-making, strengthening coordination, and creating a work environment that supports innovation. Adaptive and visionary leadership can accelerate the transformation process and overcome resistance to change that often arises within bureaucracies. Therefore, the success of digital transformation depends not only on technology and human resources, but also on the commitment and direction of organizational policies.

The implementation of digital transformation in Teacher Professional Allowance (TPG) services was reported to improve administrative efficiency and reduce bureaucratic workload in the management process. These improvements were primarily observed at the administrative level, particularly in data management and reporting processes within schools and the education office. Informants described that the digitization of submission, verification, and monitoring procedures helped streamline administrative tasks, reduce manual processing, and accelerate service workflows.

In relation to teacher work, the effects were mainly perceived rather than directly measured. Teachers reported that reduced administrative burdens allowed them to allocate more time to instructional preparation and classroom activities. However, these findings should be interpreted as perception-based rather than as direct indicators of teaching performance. The relationship between administrative efficiency and teaching-related activities is also influenced by contextual factors such as workload distribution, school leadership support, and digital literacy. An alternative explanation is that these perceived changes may also be influenced by factors beyond digital transformation, such as financial certainty from allowances and organizational support within schools. Therefore, the relationship between digital transformation and teacher work outcomes should be understood as indirect and multi-factorial rather than causal.

The findings suggest that digital transformation in TPG services does not operate as a standalone determinant of teacher performance improvement, but rather as part of a broader administrative restructuring process. The observed outcomes are shaped by the coexistence of digital and manual procedures, producing a hybrid governance structure. This condition indicates that efficiency gains are unevenly distributed and depend on institutional readiness, system interoperability, and actor-level adaptation. From a policy implementation perspective, this aligns with the argument that administrative reform outcomes are mediated by organizational capacity and

not solely determined by technological adoption (Van Meter & Van Horn, 1975); (Margetts & Dunleavy, 2024).

This finding is in line with (Nawas et al., 2025) which shows that teacher certification policies, including TPG, contribute to improving teacher welfare and motivation, which are important factors in driving teaching performance. In this study, this increased motivation is reinforced by the service efficiency resulting from the digital system, allowing teachers to benefit not only financially but also through ease of administrative processes. In addition, (Bismo et al., 2024) also stated that professional allowances play a role in improving teacher welfare, although their impact on the quality of education is not always direct.

Unlike previous studies that primarily examine teacher professional allowance (TPG) from either a welfare perspective or a general digitalization perspective, this study provides a more specific contribution by focusing on how digital governance arrangements in TPG services reshape the policy implementation pathway at the administrative level and how this restructuring is perceived to influence teachers' work processes. The novelty of this study lies in the mechanism of digital governance in a partially integrated TPG service system. First, it highlights the role of multi-platform digital governance integration (e.g., Dapodik and SIM TPG) as a central mechanism in shaping the implementation of teacher allowance policies, rather than viewing digitalization as a single unified system. Second, it examines the implementation pathway of policy delivery, showing that partial integration and residual manual processes create a hybrid governance structure that influences service efficiency. Third, it links this governance structure to teachers' perceived work conditions, particularly in terms of reduced administrative burden and improved ability to focus on instructional tasks.

The mechanism through which digital transformation is assumed to influence teacher work is indirect. Digital systems improve administrative efficiency by reducing repetitive manual processes and increasing transparency in allowance verification. These administrative improvements are then perceived by teachers as reduced workload and improved certainty in allowance processing, which may contribute to higher motivation and better focus on teaching activities. However, this relationship is not linear and is shaped by contextual factors such as system interoperability, digital literacy, and institutional support. Therefore, the main contribution of this study is not only identifying that digitalization affects policy outcomes, but explaining how a partially integrated digital governance system mediates the relationship between incentive-based policies (TPG) and teachers' perceived work conditions within the implementation process.

In general, the approach combining system integration, human resource capacity building, technology utilization, and organizational policy support has proven effective in addressing most of the challenges in the digital transformation of TPG services. However, this success still requires ongoing strengthening, particularly in terms of equitable infrastructure distribution and user capacity building. Therefore, ongoing policy evaluation is crucial to ensure that the digital transformation can proceed optimally, inclusively, and sustainably, supporting teachers' professional activities and administrative effectiveness.

## CONCLUSION

The implementation of the digital transformation policy within the Teacher Professional Allowance (TPG) program at the Sidoarjo Regency Education and Culture Office indicates that digitalization plays a positive role in supporting improvements in efficiency, transparency, and accountability in the management of education services, as reflected in the findings of this study. However, the implementation of this policy still faces various obstacles, such as limited

infrastructure, suboptimal system integration, and variations in human resource capacity, indicating that the policy's implementation has not been fully effective. Various strategies that have been implemented, such as digital system development, human resource capacity enhancement, and strengthening operational standards, demonstrate efforts to improve policy implementation. However, the success of these policies is highly dependent on institutional readiness and integrated system support. Overall, based on triangulated findings from interviews, observations, and document analysis conducted in this study, the findings show that digital transformation in the TPG service contributes positively to improving administrative efficiency, teacher motivation, and perceived teaching support, although these effects are indirect and mediated by institutional and contextual factors. Therefore, continuous evaluation and strengthening of policies are needed so that the implementation of digital transformation can be more effective, equitable, and sustainable in supporting improvements in the quality of learning.

The policy implications of this research are structured across three levels of governance. At the national level, there is a need to strengthen the integration of the TPG service system to prevent data fragmentation between platforms. At the local government level, improvements are required in digital infrastructure capacity, including network stability and server reliability, to ensure smooth service delivery and operational continuity. At the user level, strengthening human resource capacity remains a priority through continuous digital literacy training for teachers and government officials to enhance system usability and adaptation. In addition, the development of adaptive, digital-based standard operating procedures and strengthened inter-agency coordination are required to support effective, transparent, and accountable policy implementation.

This study has several limitations, including its limited study area, Sidoarjo Regency, which means the results cannot be broadly generalized to other regions with different characteristics. Moreover, this study used a qualitative approach focused on data depth, thus failing to quantitatively measure the impact of digital transformation on teacher performance. Another limitation lies in the variation in informants' digital capabilities, which may influence perceptions of the effectiveness of the system studied. As a result, further research is recommended to develop a quantitative approach to more structuredly measure the impact of digital transformation on teacher performance. Furthermore, comparative research across regions is also important to examine differences in the implementation of digital-based TPG policies in various regional contexts. Further research could also explore the broader integration of education service systems and policies, including their linkages to the national system, to obtain a more comprehensive picture of digital transformation in the education sector. Beyond its practical implications, this study contributes to the literature on digital governance and policy implementation by providing empirical evidence on how partially integrated digital systems mediate the relationship between public service reforms and perceived organizational outcomes in the education sector.

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