

## Digitalization of SMA/SMK Student Admission to Improve Transparency and Accountability in Sumedang Regency

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### ABSTRACT

This study examines how the digitalization of the 2024 senior high school student admission system (PPDB SMA/SMK) enhances transparency and accountability in public education services in Sumedang Regency, Indonesia. Employing a qualitative case study approach, data were collected through document analysis, system observation, and in-depth interviews with PPDB committees and members of the anti-illegal levies task force during the 2024 admission period. The findings reveal that real-time quota disclosure, automated selection algorithms, and publicly accessible rankings substantially reduce information asymmetry and discretionary practices. Accountability is further reinforced through standardized procedures and external oversight mechanisms. The novelty of this study lies in integrating digital governance analysis with anti-corruption oversight perspectives, offering empirical insights into how digital admission platforms operationalize transparency and accountability within decentralized education governance contexts.

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## **INTRODUCTION**

The rapid advancement of information and communication technology (ICT) has fundamentally transformed how governments design and deliver public services. Digital technology is no longer viewed merely as a technical support tool but has become a core driver of administrative reform and governance innovation. Recent public administration literature emphasizes that digital governance enables governments to enhance efficiency, responsiveness, transparency, and accountability while reducing bureaucratic complexity and discretionary practices (Criado, Sandoval-Almazan, & Gil-Garcia, 2021; Mergel, Edelmann, & Haug, 2021). In this context, digital transformation is increasingly positioned as a strategic response to rising public demands for open, fair, and accountable government performance.

In the education sector, digital transformation holds particular importance due to the scale of service beneficiaries and the strategic role of education in national development. Education services involve complex administrative processes that require objectivity, fairness, and equal access. One of the most critical and sensitive processes is student admission, which directly determines access to public education institutions. Prior to digitalization, conventional admission systems in many developing countries were frequently associated with opaque procedures, limited information disclosure, favoritism, and opportunities for data manipulation, ultimately undermining public trust (UNESCO, 2021; World Bank, 2022).

In Indonesia, the *Penerimaan Peserta Didik Baru* (PPDB) system represents a major public service that affects millions of households annually. Historically, PPDB implementation faced persistent challenges such as unclear selection criteria, weak information transparency, and public complaints regarding fairness in student placement. These conditions reflect information asymmetry between public institutions and citizens, which limits effective public oversight and weakens accountability (Schillemans & Bovens, 2021). To address these governance issues, the Indonesian government introduced online PPDB as part of a broader agenda of digital bureaucracy reform and smart government development, aligning with global trends emphasizing automation, data transparency, and digital auditability (Mergel et al., 2021; OECD, 2023).

The digitalization of PPDB is designed to provide real-time access to information on registration procedures, school quotas, applicant rankings, and selection outcomes through publicly accessible platforms. By minimizing direct interaction between applicants and officials, the system reduces opportunities for informal practices and subjective decision-making. Furthermore, digital PPDB generates traceable data logs that can be monitored and audited, reflecting key principles of transparent governance such as openness, procedural clarity, and decision traceability (Meijer, Grimmelikhuijsen, & Hillebrandt, 2021).

Nevertheless, the effectiveness of digital PPDB in strengthening transparency and accountability remains an empirical question. Studies on digital governance caution that technological innovation alone does not guarantee improved governance outcomes. Successful implementation depends on supporting infrastructure, institutional capacity, regulatory coherence, and citizens' digital literacy (Criado et al., 2021; OECD, 2023). In developing contexts, unequal internet access and limited digital skills may create new forms of exclusion, potentially undermining equitable service delivery.

Existing studies on digital admission systems largely emphasize efficiency and administrative effectiveness, while relatively little attention has been paid to examining how transparency mechanisms embedded in digital platforms function as instruments of public accountability, particularly in Southeast Asian settings. This study addresses this research gap by analyzing the implementation of PPDB SMA 2024 as a niche empirical case. Its novelty lies in examining specific transparency instruments—such as real-time publication of selection results, automated ranking algorithms, and online complaint channels—and assessing how they reshape accountability relationships between education authorities and citizens. The study aims to analyze how the digitalization of PPDB SMA 2024 enhances transparency and accountability in public education services, contributing both theoretical insights and practical policy implications.

## **THEORETICAL REVIEW**

Digital governance has emerged as a central paradigm in contemporary public administration, reflecting the growing integration of digital technologies into governmental structures, processes, and public service delivery. It refers to the strategic use of information and communication technologies (ICT) to enhance public sector performance, improve transparency, strengthen accountability, and foster citizen participation (Criado, Sandoval-Almazan, & Gil-Garcia, 2021). Unlike early e-government initiatives that primarily focused on digitizing administrative tasks, digital governance emphasizes institutional transformation, data-driven decision-making, and interactive relationships between governments and citizens. In this sense, technology functions not merely as an operational tool but as an enabler of new governance arrangements.

Recent scholarship highlights that digital governance reshapes bureaucratic processes by automating routine procedures, standardizing workflows, and reducing discretionary authority (Mergel, Edelman, & Haug, 2021). Automated systems limit manual intervention, thereby minimizing opportunities for procedural manipulation and informal practices. Moreover, digital platforms generate traceable data records and transaction logs that facilitate continuous monitoring and auditing of government actions. However, digital transformation does not automatically produce better governance outcomes. Its

effectiveness depends on organizational readiness, regulatory alignment, and digital competencies among both public officials and citizens (Criado et al., 2021).

Within the digital governance framework, transparency and accountability remain fundamental normative principles. Transparency refers to the availability, accessibility, and clarity of government information that enables stakeholders to understand and monitor public decisions (Meijer, Grimmelikhuijsen, & Hillebrandt, 2021). It includes proactive disclosure of procedures, criteria, and outcomes, as well as real-time access to service information. Accountability, meanwhile, refers to the obligation of public institutions to explain, justify, and take responsibility for their actions, including responding to public inquiries and complaints (Schillemans & Bovens, 2021). In the digital era, accountability is increasingly mediated through technological systems that document decision-making processes and facilitate citizen feedback.

Transparency and accountability are mutually reinforcing. Transparency provides the informational basis for accountability, while accountability mechanisms encourage institutions to maintain openness to preserve legitimacy and public trust. Digital platforms strengthen this relationship by enabling instant data publication, traceable service transactions, and interactive communication between governments and citizens (Meijer et al., 2021). Nevertheless, accountability depends not only on information availability but also on institutional responsiveness and willingness to act on public input (Schillemans & Bovens, 2021).

In the education sector, digital governance has become particularly relevant due to the scale of service beneficiaries and the sensitivity of administrative decisions. Student admission processes determine access to public education and are often vulnerable to perceptions of unfairness and corruption. Digital admission systems are promoted as governance instruments to improve procedural integrity, reduce favoritism, and restore public trust (UNESCO, 2021; World Bank, 2022). By automating registration, verification, and ranking processes, digital platforms reduce direct interaction between applicants and officials and ensure rule-based decision-making.

Digital admission systems operationalize transparency and accountability through several mechanisms: open access to admission criteria and quotas, automated and auditable selection algorithms, real-time publication of results, and online complaint-handling channels (OECD, 2023). However, recent studies caution that digital transparency does not automatically translate into meaningful accountability, particularly in contexts with unequal digital access and limited institutional capacity (Criado et al., 2021). Therefore, empirical examination of how digital systems function in practice remains essential.

Against this background, this study contributes to digital governance literature by examining how transparency and accountability are embedded in the operational features of Indonesia's PPDB digital system. It provides empirical insights into how digital technologies mediate governance relationships in public education services, particularly in developing country contexts.

## **METHODOLOGY**

This study employed a qualitative descriptive approach with a case study design to examine how digital governance practices are operationalized through the implementation of the PPDB SMA 2024 system in public education services. A qualitative approach was chosen because it allows an in-depth exploration of administrative processes, stakeholder interactions, and contextual factors shaping transparency and accountability in digital service delivery (Creswell & Poth, 2021). The case study design is particularly appropriate for analyzing contemporary governance innovations within their real-life institutional settings (Yin, 2022).

The research focused on the implementation of PPDB SMA 2024 in one selected province in Indonesia, selected due to its advanced adoption of digital admission systems and the high volume of student applicants. This context provided a relevant empirical setting to observe how transparency and accountability mechanisms are embedded and practiced within a digital admission platform. The unit of analysis encompassed the PPDB online system, its operational procedures, and interactions between education authorities and service users.

Data collection was conducted between May and July 2024 using multiple qualitative techniques to ensure data triangulation and enhance the credibility of findings (Miles, Huberman, & Saldaña, 2021). First, non-participant observation was undertaken to examine the PPDB system interface, focusing on features related to information disclosure, registration workflows, automated ranking, and complaint-handling mechanisms. Second, document analysis was conducted on policy regulations, technical guidelines, standard operating procedures, and official announcements related to PPDB implementation to assess formal accountability frameworks and regulatory compliance. Third, semi-structured interviews were conducted with key informants, including officials from the provincial education office, school administrators, and PPDB system operators, to capture insights on system management practices, implementation challenges, and perceived governance outcomes.

Data analysis followed thematic analysis procedures. Data from observations, documents, and interviews were systematically coded and categorized to identify recurring themes related to transparency practices, accountability mechanisms, and governance challenges. Cross-source comparison enabled validation of findings and minimized researcher bias (Miles et al., 2021). Overall, this methodological approach provided a comprehensive understanding of how the digitalization of PPDB SMA 2024 functions as an instrument for strengthening transparency and accountability in public education services.

## **RESULTS AND DISCUSSION**

The implementation of the digital PPDB SMA 2024 system illustrates how digital governance principles are operationalized in public education services through structured, transparent, and accountable processes. The admission procedure was conducted through four sequential stages: online registration, real-time data verification, automated ranking and selection, and public announcement of results via the official PPDB portal. These stages collectively transformed conventional, paper-based admission practices into an integrated digital service characterized by procedural clarity and information openness.

At the registration stage, applicants submitted personal and academic data through individual system accounts. Clear guidelines, eligibility criteria, and timelines were displayed on the main dashboard, enabling applicants and parents to understand procedural requirements without relying on intermediaries. Registration data were automatically stored in a centralized database, eliminating manual data collection at schools and reducing administrative discretion. The availability of real-time registration statistics and quota information enhanced early-stage transparency by allowing applicants to monitor competition dynamics. This finding reflects the role of digital platforms in reducing information asymmetry between public institutions and citizens, which is a core dimension of transparent governance (Meijer et al., 2021).

The real-time verification stage further strengthened accountability by combining automated system checks with digital verification by designated operators. Verification status updates were visible to applicants through their accounts, enabling continuous monitoring of decision progress. Reduced face-to-face interaction limited opportunities for informal negotiation, a common vulnerability in manual admission systems. Importantly, every verification action was recorded in system logs, creating traceable digital records that support institutional answerability. This aligns with accountability theory, which emphasizes traceability and documentation as prerequisites for effective oversight (Schillemans & Bovens, 2021).

Automated ranking and selection represented the most significant governance innovation within the PPDB system. Applicant data were processed using predefined algorithms based on regulatory criteria such as zoning and academic performance. Ranking lists were updated in real time and publicly accessible, allowing applicants to assess their admission probability transparently. By embedding selection rules into system algorithms, discretionary decision-making by school administrators was substantially reduced. This finding supports digital governance literature asserting that automation can enhance procedural fairness and minimize favoritism when rules are clearly codified (Criado et al., 2021).

The public announcement of results through a centralized digital portal further reinforced transparency and public trust. Admission outcomes could not be altered without leaving digital traces, protecting institutions from allegations of manipulation while enabling public scrutiny. In addition, the system provided supporting transparency features, including open access to school quotas,

admission pathways, and frequently asked questions. These features reduced uncertainty and increased user confidence in the admission process.

The complaint-handling mechanism integrated into the PPDB platform also played a crucial role in strengthening accountability. Applicants could submit complaints regarding technical issues or perceived irregularities, which were automatically logged, tracked, and responded to through the system. This two-way communication channel institutionalized citizen participation in oversight and reflects a shift toward participatory accountability in digital governance (Criado et al., 2021). Digital transaction logs documenting all system activities further enabled internal and external audits, reinforcing institutional control mechanisms.

Despite these positive outcomes, challenges remained. Temporary system access delays during peak periods, limited internet connectivity in remote areas, and uneven digital literacy among users highlighted risks of exclusion. These findings confirm that digital governance effectiveness depends not only on technological design but also on inclusive infrastructure and capacity-building efforts (UNESCO, 2021).

Overall, the integrated findings demonstrate that the digitalization of PPDB SMA 2024 significantly enhanced transparency and accountability through open information access, automated decision-making, complaint-handling facilities, and digital traceability. At the same time, they underscore that digital PPDB represents an institutional reform instrument rather than a mere technological upgrade, requiring continuous improvement to ensure equitable access and sustainable governance outcomes.

## **CONCLUSIONS AND RECOMMENDATIONS**

This study concludes that the digitalization of PPDB SMA 2024 has significantly strengthened transparency and accountability in public education services through real-time information access, automated selection mechanisms, and traceable digital records. These features reduce discretionary practices and enhance public trust in admission processes. To ensure inclusive implementation, policymakers should expand digital infrastructure, establish user support services, and promote digital literacy programs. Regular system monitoring and evaluation are recommended to sustain system reliability, equity, and long-term governance improvement.

## **FURTHER STUDY**

This research is limited to a single provincial case and uses qualitative methods. Future studies may employ comparative multi-region analysis or quantitative evaluation of user satisfaction to measure the broader impact of digital PPDB on governance performance.

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