T07P03 / The Digital Turn in Public Services: Innovation, Repackaging, and the Shifting Nature of Governance

Topic : T07 / POLICY IMPLEMENTATION, STREET-LEVEL BUREAUCRATS

Chair : Sarah Ball (University of Queensland)

Second Chair : Christopher Walker (Australia and New Zealand School of Government)

GENERAL OBJECTIVES, RESEARCH QUESTIONS AND SCIENTIFIC RELEVANCE

For over two decades policy scholars have researched the impact of ICT, e-government and more recently the digitalisation and use of AI in the transformation of public sector services and what this means for relations between the state, organisations, communities and individuals (Viana 2021). E-government and the digital transformation of government services was seen to herald in new forms of deliberation, engagement and transform modes of access to services and transactions with agencies (Katsonis and Botros 2015). These reforms spoke to neoliberal goals of improved service responsiveness, timely and convenient access, higher levels of diversification allowing the tailoring and individualisation of services, as well as greater competition and efficiency through the use of online provider platforms.

Data collection, monitoring, surveillance, and the analysis of behaviour, demand and the environment has provided higher levels of granulised information services. This includes real time data provision (eg, transport users) which has strengthened regulation and enforcement (electronic monitoring of transactions and behaviour), and supported timely safety warnings and responses (eg, hazardous weather alerts and public health warnings). Change and development in this field is rapid and continuous and the advent of AI has accelerated the capacity of digitalisation to seep into public sector analysis and decision making across a range of issues that might otherwise have been subject to higher levels of human supervision, intervention and determination.

Increasingly, expertise, knowledge and product development is occurring outside the public sector with agencies purchasing digital services that assist with the progression of public policy objectives. This points to the complex multiorganizational arrangements that now constitute public service delivery and governance arrangements.

This panel provides a timely opportunity to take stock of how the impact of digital transformation is not only reshaping the provision of services but also the decision making processes that impact how public governance occurs. We take a broad approach to the topic and are interested to explore how digitalisation has driven service innovation, the barriers and exclusions that such innovations might unintentionally create (O'Sullivan and Walker 2018), the role of third party providers and how their expertise and interests may reshape service provision and the direction of state policy objectives. And while more than a decade ago authors pointed to the opportunities for higher levels of deliberation, participation and engagement in policy and governance processes (OECD 2009), we are interested in observations of current practice to test the extent to which this has actually occurred or do such goals remain constrained, and why is this the case?

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CALL FOR PAPERS

As public services across the globe increasingly move to digital platforms, critical questions arise regarding how these changes are reshaping governance, stakeholder engagement, and the very nature of public

service delivery. This panel explores the potential impacts of digitalisation on policy deliberation, policy design and public service delivery. By doing this we expect to gain insight into new and more contemporary forces that are reshaping public services and the manner in which organisations, citizens and clients engage with the modern governance process. We are interested in papers that consider a range of critical issues including;

· Are digital services subject to mission drift as third-party technology providers influence priorities, and what are the implications of this for public policy and governance?

· How has digitalisation impacted on stakeholder engagement in public policy deliberation, service design and implementation? Has the push for digital solutions inadvertently marginalized certain voices while privileging others?

· Is the progress of digitalisation impacted by the skills and capabilities of public sector agencies and the skills and capabilities of clients and users?

· What evidence is there of genuine innovation in service redesign and delivery? What are the gains and who benefits?

· Does the shift from face-to-face services to digital simply represent a repackaging of traditional offerings and why might this be the case?

· Has service redesign and interests in efficiency impacted on access and utilisation by some client groups? Is there evidence of how public services compensate for any negative impact?

· What other observations have been made about the impact of digitalisation on public policy design, participation and delivery?

Together, these questions encourage a comprehensive discussion of how digitization is reshaping public service delivery, innovation, and governance. The panel aims to offer critical insights into both the potential gains and the pitfalls of the digital turn in public administration.

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(Virtual) Digital Era Governance or New Public Management 2.0? Examining the Role of Digital Tools in Welfare Services

Sarah Ball (University of Queensland)

Jenny Lewis (University of Melbourne)

PHUC NGUYEN (University of Melbourne)

In recent decades, welfare systems in many advanced democracies have undergone governance transformations. Building on early work by Considine (2001) and Considine and Lewis (1999, 2003), which identified four governance "ideal types"—Procedural, Corporate, Market, and Network—this paper examines the potential emergence of a new model: Digital Era Governance (DEG). Building on Margetts and Dunleavy's concept of DEG, we explore its structural features and purported virtues, focusing on whether digital tools constitute a substantive governance shift or primarily reinforce New Public Management (NPM) principles.

This paper will draw on empirical data from a 2023 survey of welfare-to-work services in Australia, assessing DEG's impact on service integration and client-centred design. Findings indicate that DEG's anticipated virtue of reintegration remains largely unfulfilled, with digital tools instead reinforcing NPM's focus on resource targeting and client self-responsibility. Although digital technologies are employed to streamline processes, the primary outcomes align more closely with a cost-saving, efficiency-orientation rather than with a paradigm shift toward citizen empowerment or service quality improvement.

This paper argues that, thus far, the digital welfare state resembles an NPM framework enhanced by digital tools rather than a departure from traditional governance modes. We discuss the implications of these findings, noting how DEG may present barriers to access for vulnerable citizens beyond the accessibility and usability issues commonly cited. The data implies that this new approach may create learning barriers and generate greater responsibilisation for users, in an increasingly opaque and often incorrect system. This suggests that future welfare governance must focus less on the instruments and more on a substantive reorientation towards citizen-centred service models.

Reshaping regulatory governance and practice: the implications of greater use of digital regulation in the road transport and trucking sector.

Christopher Walker (Australia and New Zealand School of Government)

This paper examines the increasing role of digital and smart technologies in the regulation of the heavy vehicle industry. The research explores the opportunities and barriers that road agencies and the trucking industry face when seeking to progress the implementation of innovations in the form of digital and smart regulation. Digitised surveillance systems are highly effective and efficient in data collection and analysis and can be used to introduce sophisticated, customised, and discerning regulatory programs, can be linked to localised infrastructure management systems and provide more tailoring to the specific operational and business needs of individual operators across the trucking industry.

Digital systems, be they compliance orientated, network management focussed or specifically targeting smart asset monitoring and management, are now an essential component of freight strategies. And while the collection and analysis of data is central to the operation of efficient and safe road transport systems (infrastructure and fleet) critical questions around how data is generated, in what format data is collected

(identified or deidentified) and who provides, stores and shares data remain a concern for all stakeholders in the road transport sector.

In this paper we explore likely developments that key organisations identify in the space of digital regulation. Our findings point to both improvements in operational performance (efficiency and effectiveness of regulation and business practices) as well as emerging unanticipated complexities impacting on the general trajectory of regulatory innovation and regulatory governance. The findings reveal that in an era of digital regulations all actors are increasingly relying on data to perform their roles and functions. Second, the interest and use of data is reshaping relationships amongst actors and this needs careful management; and finally, the trend in digital relations is towards higher levels of collaborative regulation and purposeful engagement since this is seen to more effectively help achieve shared policy and business objectives. The strategic question that emerges from this research is whether digital regulation encourages a shift (or disruption) from the traditional command-and-control approach to higher forms of collaborative regulation? What does this mean for future regulatory governance? And specifically for the road transport sector, how might this reshape strategies and the achievement of policy objectives concerned with productivity, safety and efficient infrastructure management?

The Artificial in AI: Unpacking the Role of AI in Public Sector Services

Bram Klievink (Leiden University)

Sarah Giest (Leiden University)

Digitalisation profoundly affects policy implementation and public service delivery. Although this has been a topic of policy research for decades, there is a lot of current interest in Artificial Intelligence (AI) and algorithms as innovation driving digitalization. We argue that this perspective doesn't reflect the current state of actual AI use in government, limiting the ecological validity of these studies. This is due to the use of hypothetical scenarios or attributing straightforward decision-making power to AI tools, resulting in typologies and taxonomies that fail to acknowledge or build upon each other (Wirtz et al., 2019; Straub et al., 2023). Moreover, the focus is predominantly on sophisticated algorithms, while citizens and public sector professionals are affected by less intelligent, more prevalent systems, or where AI plays a limited role within existing systems and processes.

We develop an overarching conceptual model to differentiate between genuinely new questions and innovations, and those that are a continuation of long-standing characteristics, legacies, and path dependencies in the digitalization of government activities, based on an assessment of recent insights on AI in combination with decades of theorizing and research on digital government. We aim to answer the question, to what extent AI challenges in the public sector are specific to AI or not. This builds an argument for shifting the discussion - putting not AI to the fore, but rather that the way AI and other technologies are used reflects pre-existing institutional structures or choices (cf. Kraemer & Dutton, 1979; Conway, 1968). This distinction is crucial because it demonstrates the insights into public sector digitalization challenges gained by AI's increased visibility, while simultaneously highlighting the risk of overestimating AI's novelty and its potential negative impact on how public sector organizations approach digital technologies and innovation. In short, we argue that the academic discourse on AI in the public sector regularly conflates AI with broader digitization efforts, overlooking the fact that many challenges predate AI and are also present in non-AI systems.

We then revisit well-documented cases to explore what insights such a distinction leads to, when applied systematically. We find that the rush to study and implement new technologies in public services sometimes results in a "solution in search of a problem" scenario, where mandates like "use AI" or "be data-driven" are established without first defining a relevant issue. Furthermore, automation is often mistakenly perceived as an independent decision-maker, while outcomes actually reflect system design and human choices (Kroll, 2021), sometimes through unintended interactions that vary across contexts (Giest & Klievink, 2024). We analyze how the pre-AI landscape may explain the effects of AI on service delivery, and vice versa how AI augments or changes the salience of pre-AI characteristics. Based on this, we conclude and discuss how the current debate isn't always helpful to governments trying to innovate in public services as it underestimates the realities of decades of digitalization and the legacy of past implementations, risking that core challenges and data/legacy issues are not recognized, analyzed, or resolved, thus persisting with only superficial solutions.

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Friday, July 4th 10:15 to 12:15 (B1)

Discussants

Sarah Ball (University of Queensland)

(Virtual) Institutional and organizational dynamics of Digital Transformation Plans in Brazil's Public Sector

Ana Maria Carneiro (Universidade Estadual de Campinas)

The digital transformation of public services has become a key mechanism for enhancing efficiency, transparency, and citizen engagement within government institutions (OECD, 2019; Mergel et al., 2019). In this context, Brazil's federal public administration has developed Digital Transformation Plans (PTDs in its Portuguese acronym) under the Digital Government Strategy (EGD) framework, established by Decree No. 10.332/2020 and supported by Law No. 14.129/2021. The Digital Transformation Plans are planning and agreement tools for the implementation of digital government actions by agencies and entities of the federal public administration.

This paper focuses on the formulation, implementation, and evaluation of PTDs, aiming to address the central question: What institutional and organizational factors influence the successful implementation of PTDs in the federal public sector? By analyzing the structural and operational dimensions of PTDs, the study examines how institutional capacities, resource availability, and governance shape the outcomes of these initiatives.

The EGD mandates the development of PTDs based on four key pillars: the digital transformation of services, system interoperability, the unification of digital channels through universal system platforms and single login systems and, more recently, security and privacy, grounded in Brazil's General Data Protection Law (LGPD). By the time of data collection, 38 PTDs had been formalized, and 10 were under negotiation across ministries and federal agencies.

The methodology employs a mixed-methods approach, combining qualitative and quantitative analyses, based on a mid-term evaluation of the EGD carried out between June and December 2021. Data was gathered through an online survey targeting 49 managers and focal points from 34 PTDs across federal ministries and agencies. The survey aimed to capture perceptions regarding the elaboration, implementation, monitoring, and perceived impacts of PTDs. This was complemented by secondary data from government reports and case studies.

Findings reveal significant progress in aligning PTDs with the EGD's broader objectives, improving inter institutional coordination, and prioritizing citizen-centric services. However, challenges remain, including disparities in institutional capacities, limited resources (human and financial), and insufficient mechanisms to measure the long-term impacts of these initiatives. The inclusion of security and privacy as a fourth axis also highlights the varying levels of organizational readiness to address emerging complexities.

By situating Brazil's experience within a global context, the study provides insights into how adaptive governance frameworks can address challenges related to resource allocation, policy alignment, and institutional capacity. It underscores the importance of balancing centralized coordination with localized flexibility to ensure the sustainability and inclusivity of digital government strategies.

Ultimately, this paper contributes to the broader discourse on innovation in public services, demonstrating how structured digital transformation initiatives can drive efficiency, inclusion, and resilience while navigating the complexities of implementation in diverse institutional environments.

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Data Strategy for Digital Governance: The Case of a Community-Based Health System

Adrian Galido (Mindanao State University - Iligan Institute of Technology)

The Philippine healthcare system with both public and private sectors aim to provide accessible and affordable services. Key challenges to promote digital inclusion for marginalized communities, allocate adequate budget for digital literacy, policy development, and ICT infrastructure remain (Treceñe, 2021). Highly urbanized cities in the Philippines continue to face resource constraints, workforce shortages, limited infrastructure, and fragmented access to healthcare services. Community-based health centers or barangay (village) health centers (BHCs) rely on manual data management. This limits their potential to fully utilize data-driven strategies.

How can data literacy and analytics capability enable the digital transformation efforts of local government units? This paper examines data-related skills and organizational practices across barangay health centers. The mixed-methods approach through a workshop with 30 community-based health centers of Iligan City, a sample highly urbanized city in Southern Philippines, highlights self-assessments using the Databilities® framework (Bonikowska et. al., 2019), an organizational data analytics assessment from Sainam et. al., (2022), and group discussions. The workshop design serves as a benchmark for other communities and intends to contribute to digital governance in public health.

Key results for data literacy reveal low to moderate data literacy levels among community-based health centers. The barangays (villages) scored low to moderate in data foundation, reading, and data comprehension. In contrast, barangays scored moderate to high in the writing domain. This reflects the adequate capability of BHCs in data collection and management. This also suggests a reliance on data collection and management as core responsibilities, though the BHCs may find more complex data tasks challenging.

Key results for data analytics capabilities show neutral to moderate engagement across barangay, indicating areas of underdeveloped capabilities and implementation opportunities. Identified areas include skills development, strengthening of leadership commitment, and improving other operational and structural challenges. Moreover, the stakeholders in the group discussions identified nine thematic areas needing improved organizational support for digital transformation initiatives. The themes pointed out include staffing shortages, healthcare programs implementation, maternal childcare, reproductive health, resource constraints, data management concerns, public health issues, infrastructure access, and cultural factors.

Addressing challenges through digital literacy programs, technical skills development, and supporting infrastructure aim to build sustainable digital governance in public healthcare. Future directions to understand the role of data literacy and analytics in improving the healthcare system include case studies or comparative analysis between public and private health units. This paper intends to contribute to strengthening service delivery, data-informed decision-making, and public trust in community-based health centers.

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Legal Embedding of the Digitalisation of Public Service Delivery: A European and Belgian Perspective

Marie DeCock (Hasselt University)

Daan Bijnens (Hasselt University)

As digitalisation reshapes public service delivery and governance, its legal underpinnings remain crucial yet

often underexplored. This paper examines the **legal frameworks** that **structure** and **constrain digital transformation** in public administration, focusing on transparency, access to information, and administrative justice.

At the **European level**, the **Aarhus Convention** exemplifies how **international legal instruments** influence the digital turn in governance. By granting citizens the right to access environmental information, participate in decision-making, and seek judicial review, the convention mandates digital infrastructures that facilitate transparency and engagement. Online publication of environmental data, interactive consultation platforms, and digital complaint mechanisms not only enhance efficiency but also strengthen democratic legitimacy and legal certainty. Aarhus thus plays a pivotal role in **shaping national legal frameworks for digital governance across the EU**.

A **case study of Belgium** further illustrates the legal embedding of digitalisation through the recently adopted *Bestuursdecreet* (Administrative Decree). This legislation establishes a comprehensive framework for digital public services and inter-agency data exchange. It enshrines principles of open data, the reuse of government information, and the "Only Once" principle, which reduces administrative burdens on citizens and businesses. Additionally, the decree mandates digital accessibility, user-friendly service design, and robust privacy protections, reflecting a legal commitment to balancing efficiency with fundamental rights. It **supports the transition to a modern, digital government that is more connected and efficient**.

Next to this, recent developments in **digital justice** are driving a shift towards **fully digital proceedings**. In late 2023, the Flemish administrative courts made a significant move towards fully digital legal proceedings with the approval of the Digitalization Decree. This decree lays the foundation for conducting all legal procedures in these courts entirely online. Notably, while citizens still have the option to choose whether or not to use the new digital platform, several parties, including government agencies, are now required to engage with the digital procedure. This shift has sparked a case before the **Belgian Constitutional Court**, where the legal boundaries of digital justice will be defined. The case will determine whether the introduction of fully digital proceedings at public courts rather enhance or limit citizens' right of access to justice in the near future.

By **analysing these legal frameworks**, this paper argues that digitalisation is not merely a technical or managerial shift but a *legal* transformation with profound implications for governance, administrative justice, and citizen engagement. Public policy research on digitalisation cannot be fully understood without considering the **possibilities and pitfalls of legal instruments**. Legal frameworks shape the extent to which digitalisation enhances transparency, inclusivity, and accountability, while also posing risks related to privacy, data protection, and administrative fairness. Effective policymaking in this domain requires an integrated approach where legal knowledge and digital governance research go hand in hand to ensure that technological advancements serve democratic principles and public interest.

Methodology-wise, this paper uses a **legal method** (desk research of legislation, case law, and legal doctrine) combined with a **case study** and **findings from a job as a writer of legislation for cabinets and government agencies**. Since this panel aims to offer critical insights into both the potential gains and the pitfalls of the digital turn in public administration, this paper makes clear that the law plays a not-to-be-ignored role in the digitization of public service delivery, innovation, and governance.

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Session 3Digital bureaucracy

Friday, July 4th 16:00 to 18:00 (B1)

Does digital transformation of public administration promote transparency and reduce corruption in authoritarian states? Evidence from Central Asia

NOORE SIDDIQUEE (University of Melbourne)

In general, limited transparency or lack of it is a common phenomenon in virtually all developing countries. It is particularly true to the Central Asian and other post-Soviet countries due largely to historical and contextual reasons. Likewise, corruption has been high as evidenced in Transparency International's Corruption Perceptions Index (CPI) and other global measures. Amid such scenarios, digitalization of public administration is conceptualized as a powerful strategy that can foster transparency and promote good governance by tackling corruption significantly. While the value of digitalization is generally acknowledged, evidence to this effect has remained fragmented and limited, especially in the post-Soviet and transitional societies. On the other hand, there are some scholars who remain skeptical about the benefits of digitalization in authoritarian contexts. They argue that mere digital innovations have a limited effect if they are not accompanied with broader reforms to promote governance in terms of public participation, voice and accountability, political rights and media freedom, among others. The present study examines if the ongoing digitalization of administration has any impact in reshaping public governance in the region. Specifically, it explores the extent to which digitalization has helped advance transparency in public governance and whether enhanced transparency and associated changes have any effects in reducing corruption in Central Asia. We use a mix of quantitative and qualitative data and test our results by comparing them with those in non-Central Asian relatively more democratic and non-democratic countries. The results show that while digitalization serves as an important strategy in promoting transparency and curbing corruption, impacts are higher in non-Central Asian countries. The fact that digitalization has produced better results in hybrid regimes and flawed democracies than in authoritarian contexts of Central Asia has major policy implications. The paper contributes to the topic of digitalization in several ways. Theoretically, it adds to the limited knowledge about digitalization and its effects in the region from a comparative perspective. Practically, the insights of the study especially those pertaining to the limitations and pitfalls of the current approach can inform policies and actions towards bolstering transparency, tackling corruption and improving governance in the region and beyond.

Digital Frontend and Bureaucratic Backend for Resolving Citizen Complaints: Evidence from Indonesia

Amirah Sumarto (University of Oxford)

Digital tools for receiving and managing citizen complaints are widely adopted by government institutions. However, the bureaucratic machinery that underpins and drives responsiveness to these complaints remains unstudied. My research addresses this gap in the literature by studying the use of digital citizen complaint systems in Indonesian local governments. This paper draws on qualitative analysis based on multiple sources, including interviews with central and local government officials, citizens, and other key stakeholders, as well as a review of complaint texts, to uncover how digital complaint systems trigger a reconfiguration of bureaucratic processes. The introduction of these systems leads to notable organisational shifts and exposes existing constraints. The current literature on government responsiveness often frames responsiveness as the result of either political oversight or discretionary actions of street-level bureaucrats. However, my findings reveal the emergence of new mid-level bureaucratic roles and the creation of lateral coordination pathways that cut across formal organisational boundaries. Rather than relying solely on control-based mechanisms, the system enables responsiveness through three empowerment mechanisms:

legitimacy to act, which enables bureaucrats to mobilise follow-up actions; mission reframing, which aligns personal motivation with institutional responsiveness; and creative discretion, which allows adaptive responses to procedural gaps. These mechanisms cultivate entrepreneurial roles among mid-level bureaucrats, including mobilisers, norm evangelists, and improvisers, who are instrumental in translating citizen complaints into meaningful responses. These findings highlight the critical yet understudied role of mid-level bureaucrats in government responsiveness. They also show that government digital transformation requires not only technological tools but also the cultivation of complementary bureaucratic practices.

(Virtual) Artificial Intelligence and Street Level Bureaucracy between discretion and efficiency. An analysis concerning the Italian judicial sector

Giancarlo Vecchi (Politecnico di Milano)

Erica Melloni (Politecnico di Milano)

1. Can the processes of digitalization and the irruption of AI-based platforms and solutions influence the behavior of bureaucratic actors interfacing with citizens and businesses?

The topicality of this question makes it possible to refer to Lipsky's theory of Street Level Bureaucracy in order to reflect what the advantages and criticalities of using this instrumentation might be.

In particular, the theory addresses the problem of the discretionary nature of SLBs as actors at the interface between programs and users, emphasizing both positive (adaptation and personalization) and deviant negative (deviation from program objectives, adverse selection, etc.) uses. The availability of AI tools to help SLBs make decisions then raises certain questions concerning factors such as the enabling or limiting of discretion, relations with users, working conditions and the use of tools, and the relationship with institutional and ethical norms specific to a sector.

2. The paper focuses on judges, already considered by Lipsky as a category of civil servants falling within the category of SLBs due to the relative discretion exercised in various decision-making domains.

The empirical basis is the experimentation of AI-based solutions to support the judges of the Court of Appeal of Milan. In this project, a number of judges were supported to verify how possible AI solutions could improve the quality of the decision and the efficiency in the management of the proceedings. In this direction, a number of elements emerged to highlight the positive opportunities and criticalities of using this technology.

3. The paper aims to develop reflections on the role of artificial intelligence digitilìzation in changing the role of public bureaucracies and policy governance. Under what conditions can the inclusion of new actors and technology in policy processes help to improve public services? Or does it risk making decision-making processes more opaque? The case of the judiciary appears significant because the demand to maintain significant levels of discretion by judges is relevant to avoid distortions and to take into account the social context; the risk is the non-use of tools that can improve the quality and timeliness of decisions. On the other hand, the uncritical recourse to artificial intelligence may introduce automatisms that risk not only failing to recognize bias and changes in social relations, but also the role of the legal process as a place of interaction between the various parties involved.

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Assembling Digital Bureaucracy and Meaninglessness: An Actor-Network Theory Analysis of Korea's National Education Information System

Youngdal Son (Graduate School of Governance)

Digital government transformation (DGT) is widely promoted as a means to enhance efficiency, transparency, and service delivery. However, while existing research highlights its benefits—such as automation and data-driven decision-making—less attention has been given to how digitalization itself generates new inefficiencies and meaningless work. Bureaucratic formalism, instead of being reduced by digital tools, is often reproduced and reinforced in new socio-technical forms. Despite discussions on meaningless work, such as Graeber's (2018) concept of bullshit jobs, few studies have applied this perspective to digital government systems.

This study fills this gap by analyzing how digital government innovation produces and sustains meaningless work through an Actor-Network Theory (ANT) lens. ANT allows for an in-depth examination of the interactions between policy, technology, and bureaucracy, mapping the socio-technical mechanisms that stabilize digital inefficiencies. Using South Korea's National Education Information System (NEIS) as a case study, this research investigates why a system designed to enhance educational administration has instead contributed to rigid processes, redundant tasks, and digital alienation among educators and administrators.

This study addresses two key research questions: (1) How does NEIS contribute to the persistence of meaningless work in public education? (2) What socio-technical mechanisms sustain inefficiencies within NEIS?

Using document analysis, in-depth interviews, and digital ethnography, this study tracks the evolution of NEIS over a period of approximately 28 years (1996–2024) to reveal how bureaucratic redundancy is internalized into digital platforms. By tracing these socio-technical interactions, the research uncovers the mechanisms through which digital transformation—rather than eliminating inefficiencies—reorganizes them into new bureaucratic forms. Furthermore, digital governance structures often create symbolic rather than functional innovations, reinforcing administrative rigidity rather than increasing flexibility.

By applying ANT, this study challenges the dominant assumption that digitalization inherently enhances efficiency and offers a novel framework for understanding the unintended consequences of digital government transformation. The findings provide insights into designing more adaptive and context-sensitive digital governance systems that align with the actual needs of frontline workers.

Keywords: Digital Transformation, Digital Bureaucracy, Meaningless Work, Actor-Network Theory (ANT), National Education Information System (NEIS)