Research on Digital Governance and Public Service Process Optimization from the Perspective of Public Value Creation

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Abstract

The deep integration of digital technologies into the public sector has catalyzed a paradigm shift from traditional public administration to digital-era governance. This transition is not merely about technological upgrades but represents a fundamental rethinking of how public value is created and delivered. This paper investigates the synergistic relationship between digital governance and public service process optimization through the theoretical lens of Public Value Creation (PVC), as pioneered by Mark Moore. It posits that digital governance acts as the foundational enabler, while process optimization serves as the operational mechanism for achieving superior public value outcomes. The study employs a qualitative conceptual analysis, building a framework that links the core dimensions of digital governance-data-driven decision-making, citizen-centricity, and collaborative platforms-with the principles of process optimization, such as simplification, integration, and automation. The analysis is substantiated with illustrative examples from global practices, including integrated service portals and AI-driven welfare systems. The findings reveal that the PVC perspective moves the evaluation of digital government projects beyond narrow efficiency metrics (e.g., cost reduction, processing time) towards a broader set of outcomes, including enhanced citizen trust, social equity, and substantive democratic engagement. However, the paper also identifies significant challenges, including digital exclusion, algorithmic bias, data privacy concerns, and institutional resistance. The study concludes that a conscious and strategic alignment of digital governance initiatives with public value objectives is imperative for governments to navigate the digital transformation successfully and legitimize their role in the 21st century.

Keywords

Digital Governance, Public Service Optimization, Public Value Creation, Digital Transformation, Citizen-centricity, Process Reengineering

1. Introduction

The dawn of the digital age has ushered in unprecedented opportunities and challenges for public administrations worldwide. Governments are under increasing pressure to become more responsive, efficient, and transparent in an era defined by rapid technological change and rising citizen expectations. The initial wave of e-government, focused on automating existing processes and putting information online, has evolved into a more profound concept: digital governance [1]. Digital governance transcends the mere application of Information and Communication Technologies (ICTs); it refers to the use of digital tools and platforms to transform the structures, processes, and very culture of government to enable new forms of citizen engagement and policy-making.

Concurrently, the optimization of public service delivery processes remains a central concern. Traditional, siloed, and paper-based processes often result in bureaucratic delays, citizen frustration, and inefficient resource allocation. Process optimization, drawing from concepts in New Public Management and business process reengineering, seeks to streamline these workflows to enhance service quality and operational efficiency [2].

However, an exclusive focus on efficiency can be myopic. The concept of Public Value Creation (PVC), introduced by Mark Moore (1995), provides a more holistic framework for assessing government performance. Moore argues that public managers should act as explorers of what is publicly valuable, aiming to create value that citizens and stakeholders collectively deem important [3]. This value is a composite of achieving policy outcomes (the substantive value), maintaining legitimacy and support from citizens and authorizers (the legitimizing value), and developing the operational capabilities to deliver both (the operational value).

While the intersections of digital government and service delivery have been studied, a critical gap exists in systematically linking these endeavors to the overarching goal of public value creation. Many digitalization projects are justified on cost-saving grounds but fail to enhance citizen trust or address broader societal goals. This paper, therefore, addresses the following research question: How does the integration of digital governance and public service process optimization, viewed through the public value creation lens, contribute to achieving superior and more legitimate public outcomes?

This paper aims to construct a conceptual framework that elucidates this relationship. It argues that digital governance provides the strategic foundation and technological capabilities, while public service process optimization acts as the tactical pathway for materializing public value. The synergy between the two, when deliberately guided by PVC principles, leads to outcomes that are not only efficient but also equitable, accountable, and empowering [4].

The structure of the paper is as follows. Following this introduction, Section 2 reviews the literature on public value creation, digital governance, and public service optimization. Section 3 presents the paper's conceptual framework. Section 4 analyzes how key facets of digital governance drive process optimization for public value. Section 5 discusses the expanded outcomes and persistent challenges, and Section 6 offers a concluding summary and implications for research and practice.

2. Literature Review

2.1 The Public Value Creation (PVC) Framework

Mark Moore's (1995) seminal work, Creating Public Value, shifted the focus of public management from merely administering public agencies to actively creating value for the public. The strategic triangle framework (Figure 1) posits that for a public service to be valuable, it must be:

- Substantively Valuable: It should achieve collectively desired outcomes and address public needs effectively.
- Legitimate and Politically Sustainable: It must earn the ongoing authorization and trust from citizens, legislators, and other stakeholders [5].
- Operationally Feasible: The public organization must possess or be able to build the necessary capabilities, resources, and processes to deliver the service.

Subsequent scholars have expanded on this concept. Stoker (2006) emphasizes that public value is network-centric and outcome-oriented, emerging from the interactions between various actors rather than being delivered by a single authority. Benington (2011) further broadens the concept, arguing that public value is not static but must be constantly re-evaluated in response to changing public needs, including in times of crisis. The key takeaway for this paper is that the ultimate measure of success for any public initiative is its net contribution to the public sphere, a composite of efficiency, equity, democracy, and resilience [6].

2.2 The Evolution from E-Government to Digital Governance

The journey of technology in government has been one of increasing sophistication and ambition. Layne and Lee (2001) outlined a four-stage growth model: 1) *Catalogue* (online presence), 2) *Transaction* (online services), 3) *Vertical Integration* (local and national systems linking), and 4) *Horizontal Integration* (seamless integration across different functions). The early stages, often termed "e-government," were largely about improving the efficiency of existing government operations.

Digital governance represents a more advanced stage. It is less about digitizing the old and more about reimagining the possible. As defined by Janowski (2015), digital governance involves "changing the government and its relationships with other entities through ICTs to achieve better policy outcomes [7]." This shift is characterized by a move from a government-centric to a citizen-centric perspective, from closed and siloed to open and collaborative ecosystems, and from pre-defined services to agile, data-informed co-creation. Key enabling technologies include Big Data analytics, Artificial Intelligence (AI), Internet of Things (IoT), and blockchain, which allow for predictive, personalized, and integrated public services.

2.3 Public Service Process Optimization: From NPM to Digital Reengineering

The drive for efficiency in public services is not new. The New Public Management (NPM) movement of the 1980s and 1990s advocated for the importation of private-sector management techniques, including process reengineering, to make the public sector more business-like and performance-oriented [8]. While NPM was criticized for its overemphasis on marketization and its potential to undermine public service motivation, its focus on outcomes and customer orientation left a lasting legacy.

In the digital era, process optimization has been supercharged. Osborne's (2010) New Public Governance (NPG) paradigm shifts the focus from intra-organizational management to inter-organizational relationships and co-production. Digital process optimization involves the systematic analysis, redesign, and implementation of workflows using digital tools. This can range from simple automation of repetitive tasks (Robotic Process Automation) to the complete re-architecting of multi-agency service journeys, such as the "Once-Only" principle where citizens provide data only once to the government. The goal is to create services that are seamless, proactive, and accessible across multiple channels [10].

2.4 Synthesizing the Linkages

The literature reveals distinct but interconnected trajectories. PVC provides the "why," the normative goal of government action. Digital governance provides the "what," the strategic approach and technological infrastructure.

Process optimization provides the "how," the methodological toolkit for redesigning service delivery. While these streams are often discussed in pairs (e.g., digital governance and PVC, or process optimization and efficiency), a tripartite synthesis is less common. This paper seeks to fill this void by arguing that the full potential of digitalization is only realized when process optimization is explicitly designed and evaluated against the multi-faceted criteria of public value.

3. Conceptual Framework: Integrating Digital Governance, Process Optimization, and Public Value

This paper proposes a conceptual framework (Figure 1) that illustrates the dynamic relationship between digital governance, public service process optimization, and public value creation.

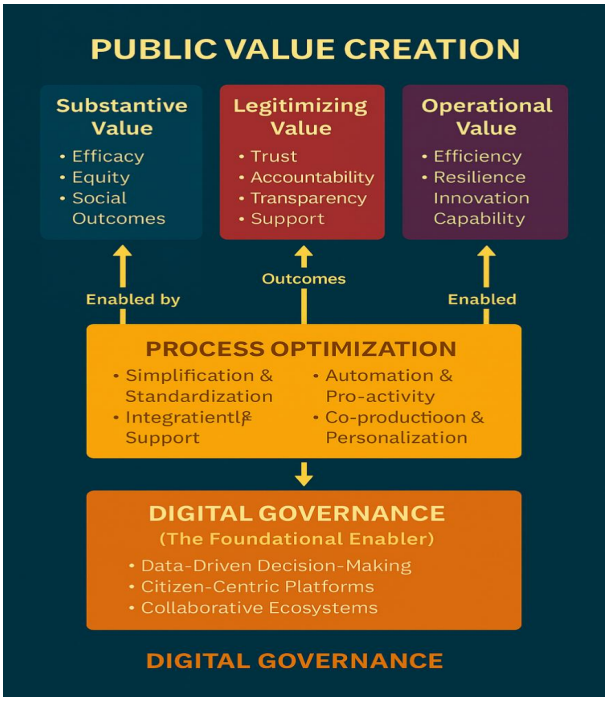

Figure 1. Conceptual Framework: Public Value Creation through Digital Governance and Process Optimization

Figure 1 Explanation of the Framework:

The framework posits a cascading and reinforcing relationship:

Digital Governance as the Foundation: At the base are the core components of digital governance. These are not just technologies but governing principles:

• Data-Driven Decision-Making: Leveraging big data, analytics, and AI to move from reactive to predictive and evidence-based policy and service design.

• Citizen-Centric Platforms: Developing digital interfaces (e.g., national portals, mobile apps) that organize services around life events (e.g., "having a baby," "starting a business") rather than government structures [11].

• Collaborative Ecosystems: Using digital platforms to facilitate collaboration and data exchange between government agencies, non-profits, private companies, and citizens themselves.

Process Optimization as the Mechanism: The principles of digital governance directly enable specific process optimization strategies:

• Data-driven decision-making enables automation and pro-activity (e.g., auto-enrollment in benefits).

• Citizen-centric platforms necessitate simplification, standardization, and integration to create seamless user journeys.

• Collaborative ecosystems are the prerequisite for co-production and personalization, where non-government actors and citizens become active partners in service design and delivery.

Public Value Creation as the Outcome: The successful implementation of optimized processes, in turn, generates outputs that contribute to the three facets of public value:

• Substantive Value: Optimized processes lead to better policy outcomes (e.g., improved public health through data-driven interventions), greater equity (e.g., wider access through digital channels), and enhanced social well-being [12].

• Legitimizing Value: Transparent, responsive, and collaborative processes build public trust, enhance the government's accountability, and strengthen its democratic mandate.

• Operational Value: Streamlined and automated processes directly improve efficiency (lower cost per transaction, faster processing times) and build a more resilient and innovative public sector workforce.

This framework suggests that the path to maximizing public value in the digital era is through the deliberate design of digital governance structures that empower the optimization of public service processes with clear value outcomes in mind.

4. Digital Governance as an Enabler for Value-Oriented Process Optimization

This section delves into how the key facets of digital governance, as outlined in the framework, enable specific types of process optimization that are geared towards public value.

4.1 Data-Driven Decision-Making and Predictive, Proactive Services

Traditional public service is often reactive: a citizen must identify a need, find the correct agency, and apply for a service. Digital governance, powered by data analytics, flips this model.

Process Optimization Enabled: Automation and Pro-activity.

Public Value Link: Substantive Value (efficacy, better outcomes) and Operational Value (efficiency).

By analyzing integrated datasets (with appropriate privacy safeguards), governments can predict needs and initiate service delivery. For example, instead of a citizen having to manually apply for a child benefit upon birth, a data-sharing agreement between the civil registry and the social security agency can trigger an automatic enrollment process, perhaps with a simple text message for confirmation [13]. This is the "Once-Only" principle in action. Similarly, predictive analytics in public health can optimize resource allocation for disease prevention, and in urban planning, sensor data (IoT) can optimize traffic flow and waste management. This shifts processes from bureaucratic hurdles to invisible, seamless support systems, creating substantive value by improving outcomes and operational value by reducing administrative overhead.

4.2 Citizen-Centric Platforms and Integrated Service Delivery

The legacy of siloed government agencies has resulted in fragmented citizen experiences. Digital governance advocates for a "one-stop-shop" philosophy, organizing government around the user, not the bureaucracy.

Process Optimization Enabled: Simplification, Standardization, and Integration.

Public Value Link: Legitimizing Value (trust, satisfaction) and Operational Value (efficiency).

Platforms like Gov.UK or Estonia's e-Estonia portal are prime examples. They present a single, unified digital front-end for hundreds of services. Behind this interface lies massive process optimization: legacy procedures are re-engineered, data standards are imposed to ensure interoperability between departments, and complex application forms are broken down and simplified. The process for a business to get a license, which might have involved visits to a dozen different agencies, is integrated into a single online workflow. This dramatically enhances the user experience, building trust and legitimacy (legitimizing value), while also making government operations vastly more efficient (operational value). Table 1 illustrates this transformation [14].

Table 1. Contrasting Traditional and Digitally Optimized Public Service Processes

Feature	Traditional Process	Digitally Optimized Process	Public Value Gain
Starting Point	Government agency requirement	Citizen's "life event"	**Legitimizing, Substantive**
Data Submission	Repeated across multiple forms and agencies	"Once-Only" principle	**Operational, Legitimizing**
Service Channel	Primarily physical office, phone	Multi-channel, with digital first	**Substantive (Equity), Operational**
Process Logic	Sequential, siloed	Integrated, parallel	**Operational**
Citizen Role	Passive recipient of service	Active participant, co-producer	**Legitimizing, Substantive**
Transparency	Low; process is a "black box"	High; status tracking and notifications	**Legitimizing**

Table 1 illustrates that: Digital public services are citizen-centric, integrating data and processes to improve efficiency, transparency, and fairness, thereby creating greater public value.

4.3 Collaborative Ecosystems and Co-Production

Digital governance breaks down the walls of the state, fostering networks that include businesses, non-profits, community groups, and individual citizens in the value creation process.

Process Optimization Enabled: Co-production and Personalization.

Public Value Link: Substantive Value (innovation, tailored services) and Legitimizing Value (empowerment, engagement).

Open data initiatives are a classic example. By making non-sensitive government data publicly available, governments enable third-party developers to create innovative apps that serve public needs, from transit navigation to comparing local school performance. This optimizes the "innovation process" by leveraging the creativity of the broader ecosystem. Furthermore, digital platforms can facilitate the co-design of services. For instance, a city planning department can use an interactive online platform to gather citizen feedback on urban development projects, incorporating this input directly into the planning process. This transforms the citizen from a passive observer into an active partner, creating services that are more closely aligned with public needs (substantive value) and strengthening democratic engagement (legitimizing value).

5. Discussion: Expanded Outcomes and Enduring Challenges

Adopting a PVC perspective reveals that the benefits of integrating digital governance and process optimization extend far beyond cost savings.

5.1 Expanded Public Value Outcomes

Enhanced Social Equity: While the digital divide is a risk, well-designed digital governance can enhance equity. For example, mobile-based services can reach populations in remote areas, and digital literacy programs can be integrated with service delivery. Multilingual platforms and accessibility features for people with disabilities can make services more inclusive than traditional, paper-based ones.

Strengthened Democracy and Accountability: Open data, open budgets, and transparent decision-making platforms allow citizens to scrutinize government work. The very act of making processes digitally transparent forces a discipline and clarity that can reduce opportunities for corruption and build trust [15].

Resilience and Innovation: Digitally optimized, data-driven systems are more adaptable. During the COVID-19 pandemic, governments with advanced digital capabilities could rapidly stand up new services like digital contact tracing or online vaccine registration. The operational capability built through digital transformation is a public value in itself, enabling governments to respond more effectively to future crises.

5.2 Persistent Challenges and Risks

Despite the potential, significant challenges threaten to undermine public value creation.

The Digital Divide and Algorithmic Bias: Digital-by-default can exclude elderly, low-income, and rural populations with limited access or skills, exacerbating existing inequalities. Furthermore, AI systems trained on biased historical data can perpetuate and even amplify discrimination in areas like criminal justice or social welfare, creating substantive negative value.

Data Privacy and Security: The data integration essential for process optimization raises serious concerns about the "surveillance state" and the protection of citizen data from breaches. A loss of privacy can severely erode public trust, destroying legitimizing value.

Institutional and Cultural Resistance: Bureaucratic silos, legacy mindsets, and fear of change can stymie digital transformation efforts. Process optimization often requires breaking down departmental empires, which can lead to internal political resistance.

Over-reliance on Technology and Dehumanization: An excessive focus on digital efficiency can lead to a loss of the human touch. Complex, sensitive cases often require empathy and discretion that algorithms cannot provide. The "cost" of digital optimization must not be the loss of humane service delivery.

6. Conclusion

This paper has argued that the integration of digital governance and public service process optimization is most productively understood and pursued through the lens of Public Value Creation. Digital governance provides the necessary strategic vision and technological tools, while process optimization offers the methodology for redesigning service delivery. Their synergy, however, must be consciously directed towards the multi-dimensional goals of substantive, legitimizing, and operational value.

The conceptual framework presented here illustrates that data-driven governance enables proactive services, citizen-centric platforms drive integration, and collaborative ecosystems foster co-production. Together, they can yield outcomes that are not only faster and cheaper but also more equitable, trustworthy, and empowering. The PVC lens

compels public managers and policymakers to ask not "Can we digitize this?" but "How can we use digitalization to create more public value?"

The challenges are non-trivial. Addressing the digital divide, ensuring algorithmic fairness, safeguarding data privacy, and managing cultural change are imperative. Future research should focus on empirical studies that measure the public value outcomes of specific digital governance initiatives, develop robust metrics for legitimizing value like trust, and explore comparative models for managing the ethical risks of AI in the public sector.

In conclusion, the digital transformation of the public sector is an inevitable and powerful force. By anchoring it firmly in the theory of public value creation, governments can ensure that this transformation leads not merely to digital governments, but to better governments-ones that are truly of, for, and by the people in the digital age.

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