VER
Vascular & Endovascular Review

Digital Transformation In Public Administration: Policy, Governance, And Social Implications

Anuj Srivastava*[1], Atul Narang*[2], Smita Varma Arora[3], Prof. Mahalaxmi Johri[4], Sanjeev Singh Thakur[5], Kritika Sharma[6], Sangeeta Mathur[7], Amit Singh Rathore[8]

[1]Professor & Controller of Examination, IFTM University, Moradabad.(UP) India; anujcoeiftmu@gmail.com
[2]Assistant Professor, Sharda School of Business Studies, Sharda University Agra, Agra, Uttar Pradesh, India, Pincode – 282007
[3]Advocate MP High Court Principal Seat at Jabalpur MP Enrollment no. 1763/2005; smita_varma@yahoo.co.in
[4]Dean Faculty of Art's, HOD sociology department, Dean Student Welfare P.K.University Shivpuri Madhya Pradesh; johrimahalaxmi@gmail.com
[5]Assistant Professor, Sharda School of Business Studies, Sharda University Agra. 282007; ca.sanjeevkrsn@gmail.com
[6]Research Scholar, IIS University, Agarwal Farm(SFS) Mansarovar Jaipur (Rajasthan) 302020; Email: Kritika.200213@gmail.com
[7]Dean, School of Arts and Humanities, Career Point University, Kota, Rajasthan; drsangeetamathur@gmail.com
[8]Director and Professor, Om Kothari Institute of Management and Research, Kota,Rajasthan
1-A Special IPIA Jhalawar Road Anantpura Kota 324005

***Corresponding author:**
Anuj Srivastava, Professor & Controller of Examination, IFTM University, Moradabad.(UP) India; anujcoeiftmu@gmail.com and Atul Narang , Assistant Professor, Sharda School of Business Studies, Sharda University Agra, Agra, Uttar Pradesh, India-282007

ABSTRACT

The digital transformation of public administration represents a fundamental shift from industrial-era bureaucracy to a 21st-century digital government. This transition is driven by the triple promise of enhanced operational efficiency, improved citizen-state interaction, and bolstered economic competitiveness. It necessitates a move from siloed, hierarchical governance to integrated, "Whole-of-Government" models, enabled by central digital service units and agile, iterative policy-making. The application of emerging technologies, such as AI and IoT, promises further automation and service enhancement. However, this transformation is a double-edged sword, presenting significant societal challenges. The digital divide threatens to exacerbate social equity, creating gaps in access, skills, and meaningful usage. The rise of mass surveillance and opaque algorithmic decision-making poses grave risks to civil liberties, privacy, and due process. Consequently, building digital trust through transparency, accountability, and ethical frameworks is paramount. Ultimately, a sustainable digital future must be human-centric, balancing efficiency gains with the protection of fundamental rights. It requires a new kind of public servant equipped with hybrid skills and a deep public service ethos, and a redefined citizen-state relationship where individuals evolve from passive recipients to active co-creators of public value. The success of this paradigm shift hinges on proactive policies that ensure equity, ethical governance, and participatory design.

KEYWORDS: Digital Trust, Transparency and Accountability, Human-Centric Design, Public Service Ethos, Co-Creation.

How to Cite: Anuj Srivastava, Atul Narang, Smita Varma Arora, Prof. Mahalaxmi Johri, Sanjeev Singh Thakur, Kritika Sharma, Sangeeta Mathur, Amit Singh Rathore., (2025) Digital Transformation In Public Administration: Policy, Governance, And Social Implications, Vascular and Endovascular Review, Vol.8, No.14s, 104-112.

INTRODUCTION

Digital Revolution in Public Administration, Policy, Governance, and Societal Implications A primary and persuasive justification for digital transformation is the substantial enhancement in operational efficiency and the resulting decrease in public spending. Conventional, paper-based bureaucracy is frequently associated with delays, redundancies, and elevated administrative costs.[1] Digital initiatives aim to eliminate these silos through process automation, record digitization, and facilitation of online transactions. For example, transitioning tax filing, business registration, and benefit applications to digital platforms significantly diminishes processing times and physical work. This "digital-by-default" strategy not only reduces expenses related to physical infrastructure and personnel but also diminishes the potential for corruption and errors connected with manual processes. The efficiency improvements are dual: the government functions more efficiently, while individuals and enterprises conserve significant time and resources that were once expended on navigating onerous bureaucratic processes.[2][3] This establishes a virtuous cycle in which conserved public monies can be redirected to other essential sectors such as healthcare or education, hence enhancing the beneficial effects of the digital shift.[4]

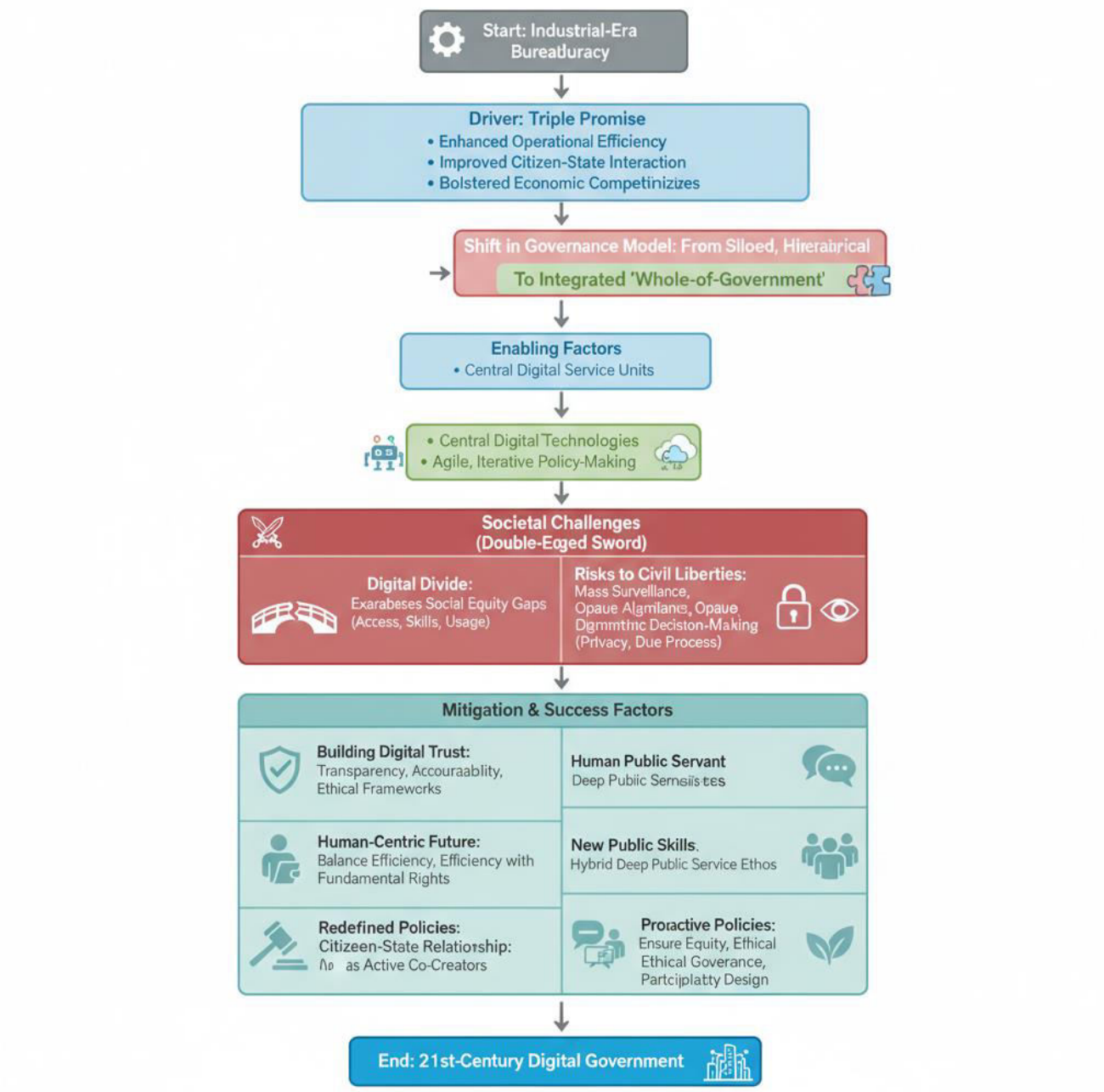

Fig: 1 Digital Revolution in Public Administration, Policy, Governance, and Societal Implications.

Digital approaches transcend mere efficiency; they fundamentally aim to enhance the quality of interaction between the state and its citizens. The norm for public services is currently established by the private sector's user-focused digital solutions, encompassing banking and e-commerce. [5] Citizens anticipate services that are readily accessible, transparent, and tailored to individual needs. A national digital strategy tackles this issue by advocating for a citizen-centric design philosophy. Portals provide a unified point of entry for various services, customized dashboards for monitoring applications, and anticipatory service delivery (e.g., automatically dispatching pensions forms as a citizen nears retirement age) markedly improve the user experience. [6][7]This transparency cultivates enhanced trust in public institutions. The visibility of application statuses, accessibility to public data, and smooth interaction with government enhance citizen happiness and civic participation. The digital channel transforms into a medium for a more responsive, accountable, and collaborative connection between the governed and the government, transitioning the state from a monolithic institution to a responsive service provider.[9]

ECONOMIC COMPETITIVENESS AND INNOVATION

The primary strategy justification is the improvement of a country's economic competitiveness and its capacity to innovate. In the global information economy, digital infrastructure is as essential as transportation networks and shipping facilities. An effective national digital strategy establishes the essential circumstances for a flourishing digital economy. [10] This encompasses investing in high-speed broadband and 5G networks, cultivating a proficient digital workforce via education and upskilling initiatives, and establishing a legislative framework that promotes entrepreneurship and investment in technology industries. By fostering digital knowledge and accessibility, the policy guarantees that the entire populace may engage in the digital economy,

thereby averting a detrimental digital divide. Moreover, government-driven digitization serves as a spur for development within the private sector.[11][12] Public data rules enable entrepreneurs and researchers to develop innovative applications and services, ranging from transportation analytics to environmental monitoring. A nation that effectively implements its digital strategy establishes itself as an appealing center for technology firms, venture capital, and elite talent, ensuring its leadership in the forthcoming era of industrial and technical progress.

National Digital Initiatives and Frameworks. The foundation of this entire initiative is the National Digital Agenda or Strategy. This document functions as the national master plan, delineating a coherent vision, establishing strategic goals, and specifying quantifiable objectives. It coordinates the initiatives of diverse governmental ministries, agencies, and tiers of authority towards a unified set of objectives.[13][14] An effective plan often includes objectives pertaining to the deployment of digital infrastructure, the enhancement of digital skills, the expansion of e-government services, and the facilitation of business digitalization. It supplies requisite funding and establishes governance frameworks to supervise implementation. It is an essential living document, frequently revised to incorporate technological breakthroughs such as Artificial Intelligence (AI) and the Internet of Things (IoT), so ensuring the nation's digital trajectory stays pertinent and aspirational.[15]

Data Protection and Privacy Legislation

As governmental services and business operations grow progressively dependent on information, the establishment of comprehensive legislative frameworks for data protection and privacy is imperative. [16][17] The European Union's General Data Protection Regulation (GDPR) has established itself as the global benchmark in this field. This regulation is not an impediment to digitization but rather a crucial facilitator. It fosters citizen trust by empowering individuals with control over their personal data, requiring companies to maintain transparency regarding data usage, and enforcing stringent consequences for violations. An effective data protection framework guarantees that digital transformation does not infringe upon basic rights. It also enables international data flows, as nations recognized for possessing "adequate" data protection rules can exchange data effortlessly, which is essential for global digital commerce. In the absence of this trust, citizen adoption of digital services would be minimal, leading to the strategy's eventual failure.[18][19] Frameworks for Digital Identity and Authentication

A secure and globally recognized digital identity is essential for realizing the complete potential of digital governance and the economy. A national digital identification framework offers citizens a distinct, verifiable credential for secure access to internet services. This extends beyond a mere username and password; it frequently incorporates multi-factor authentication and may be associated with a chip-enabled physical card or a mobile application. The advantages are significant: individuals can execute legal documents, retrieve comprehensive medical records, submit tax returns, and establish bank accounts online with a high level of security. It guarantees that the appropriate individual is utilizing the correct service, hence minimizing fraud and enhancing service efficiency. The design of such systems necessitates meticulous attention to privacy, inclusivity, and security to prevent the development of a surveillance instrument or the marginalization of individuals lacking technological access. Standards for Interoperability and Policies for Open Data Interoperability—the capacity of diverse information systems, devices, and applications to access, exchange, and utilize data—is the foundational technology for a cohesive digital government. [20][21] In its absence, government agencies become into isolated digital entities, compelling citizens to repeatedly input identical information. National interoperability frameworks require standardized technical specifications, data models, and APIs (Application Programming Interfaces) that enable systems to communicate effectively.[22][23] This facilitates the "once-only" principle, whereby citizens and corporations submit specific standard information to the government solely once. The Open Data policy is closely associated with the publication of non-sensitive government data in machine-readable formats for unrestricted public access. This transparency enhances accountability and stimulates innovation, enabling developers, journalists, and researchers to utilize this data to generate new insights, applications, and services, ultimately amplifying the social and economic worth of public sector information.[24]

International Perspectives and Benchmarking

Every country formulates its digital strategy in isolation. Acquiring insights from global leaders and evaluating progress is an essential component of the policy formulation process. Diverse models provide significant insights on execution, scalability, and emphasis.[25][26]

Digital Decade of the European Union

The European Union exemplifies a distinctive supranational framework through its "Digital Decade" agenda. This initiative aims to achieve a comprehensive digital transformation of the entire bloc by 2030, centered on four fundamental pillars: a digitally proficient populace, safe and sustainable digital infrastructure, the digital transformation of enterprises, and the digitalization of governmental services. The EU's strategy is defined by its magnitude and regulatory authority. It integrates substantial cross-border investment in initiatives such as Gaia-X (a federated data infrastructure) with significant laws including the GDPR and the Digital Markets Act. The EU model exemplifies how a coalition of nations may consolidate sovereignty to establish global digital standards and compete with other technological superpowers, while firmly grounding its digital future in a robust framework of rights and values. [27][28]

Estonia's "Digital First Paradigm

Estonia is perhaps the most advanced digital society globally and exemplifies a "Digital First" or "Digital by Default" methodology. Emerging from the imperative to establish a state apparatus following the dissolution of the Soviet Union, Estonia completely bypassed historical structures. The X-Road platform serves as the foundation of its digital ecosystem, functioning as a decentralised data interchange layer that securely connects public and private sector datasets without establishing a centralised

data repository.[29]]30] With a secure national ID card, Estonians can vote, sign contracts, view health records, and file taxes online from any location globally. [31][32]The Estonian approach exemplifies the efficacy of a basic, safe, and decentralised architecture, a substantial level of public confidence, and a philosophical dedication to digital comfort as the standard.

Singapore Smart Nation Initiative

Singapore Smart Society" initiative is a thorough, hierarchical strategy designed to utilize technology to address national issues and improve the quality of life in a densely populated metropolitan environment. It encompasses the entire city-state, extending beyond e-government. The initiatives are practical and data-driven, including a national digital identification system (SingPass), [33] an integrated e-payment platform (Pay Now), and sensor networks that improve traffic management and public health. Singapore's model is defined by strong central planning, significant government investment in research and development, and a pragmatic, solution-focused methodology. It illustrates the integration of digital technology into the urban framework to enhance economic competitiveness and overall quality of life for citizens.

Comparative Analysis of Policy Approaches

A comparative investigation of these and additional models uncovers diverse policy methodologies. The EU embodies a values-driven, regulatory framework that emphasizes citizen rights and market equity.[33][34] Estonia exemplifies a fundamental, citizen-focused paradigm, constructed from the ground up with security and efficiency as its primary principles. Singapore exemplifies a pragmatic, state-driven "smart city" paradigm, utilising technology to address certain urban and economic issues. Alternative models, such as the United States' more decentralised and market-oriented strategy, depend significantly on private sector innovation under a less stringent regulatory framework. The selection of a model is contingent upon a nation's unique historical context, institutional capabilities, scale, and societal ideals. Nonetheless, the most effective solutions consistently include strong leadership, a definite vision, substantial investment in infrastructure and capabilities, and a steadfast commitment to fostering trust through security and privacy. [35] The change from industrial-age bureaucracy to digital-era governments signifies one of the most significant transformations in public administration in a century. This transition involves not just the adoption of new technology but also requires a thorough reevaluation of the state's structure, operations, and service to its inhabitants. It necessitates the removal of entrenched orthodoxies and the adoption of innovative governance models, fostering leadership and a workforce adept at flourishing in a digital landscape, and reforming the financial and procedural frameworks that support public initiatives. This thorough examination explores three fundamental pillars: innovative public sector governance models, the crucial influence of leadership and culture, and the necessary reforms in funding, procurement, and project management to establish a government suitable for the 21st century.[35]

Table: 1 Pillars of National Digital Transformation

leaner government and reduce public expenditure by automating processes.	- Automating processes and digitizing records - Shifting services online (tax filing, business registration) - "Digital-by-default" approach to reduce manual labor, physical costs, and opportunities for corruption.
the quality of state-citizen interaction, building trust and engagement.	- Citizen-centric design (single portals, personalised dashboards) - Proactive service delivery (e.g., automatic pension forms) - Transparency in application status and access to public data.
the nation's position in the global digital economy and foster innovation.	- Investing in digital infrastructure (broadband, 5G) - Fostering a skilled digital workforce - Open data policies and a regulatory environment that encourages entrepreneurship and investment.
Master plan with a clear vision, priorities, and measurable targets for digital transformation.	- A living document that aligns government efforts - Encompasses infrastructure, skills, e-government, and business digitalization - Establishes funding and governance structures.

Citizen trust and enable digitalisation by safeguarding fundamental rights.	- Gives individuals control over their personal data - Mandates transparency and imposes penalties for breaches - Facilitates international data flows.
Secure key for accessing digital services, reducing fraud and streamlining delivery.	- A unique, verifiable credential (e.g., linked to a card or app) - Enables secure online signing, banking, and access to sensitive records - Must be designed with privacy and inclusivity in mind.
Seamless digital government and fuel innovation through data sharing.	- Common technical standards and APIs allow systems to communicate - Enables the "once-only" principle for data submission - Open Data policies publish non-sensitive data for public use, promoting accountability and innovation.
A values-based, regulatory-led model to digitally transform the entire bloc by 2030.	- Focus on skills, infrastructure, business transformation, and public services<br- Combines cross-border investment (e.g., Gaia-X) with strong regulation (e.g., GDPR, Digital Markets Act).
A foundational, citizen-centric model built from the ground up for maximum efficiency and security.	- Uses a decentralised data exchange layer (X-Road) instead of a central repository - Secure national ID card enables nearly all civic duties online ("Digital by Default").
A pragmatic, state-led model to solve urban and national challenges through technology.	- Holistic, top-down strategy for the entire city-state - Practical applications: national ID (SingPass), unified payments, sensor networks for traffic and health.
Highlights that successful strategies adapt to a nation's context but share common success factors.	- **Models:** EU (regulatory), Estonia (foundational), Singapore (pragmatic), US (market-driven). - **Common Success Factors:** Strong leadership, clear vision, robust investment, and a focus on trust.

Innovative Frameworks for Public Sector Governance

The traditional form of public sector governance, marked by isolated departments, hierarchical decision-making, and inflexible, multi-year planning cycles, is inherently incompatible with the speed and intricacy of the digital era. New governance paradigms are emerging, emphasising integration, user-centricity, and adaptability. Comprehensive Government versus Fragmented Approaches [36] The fragmented approach, in which ministries or agencies function as autonomous entities with separate budgets, IT systems, and procedures, has historically caused citizen dissatisfaction and administrative inefficiencies. A citizen seeking a business licence should not be required to submit identical information to the tax authority, health inspectorate, and environmental agency independently. The "Whole-of-Government" (WoG) strategy directly addresses this fragmentation. It asserts that intricate public issues—ranging from climate change to social welfare—cannot be addressed by individual institutions operating in isolation. WoG fosters interoperability, data exchange, and synchronised service provision across departmental boundaries to ensure a cohesive user experience. The fundamental principle is to build government according to life events, such as "having a child," "starting a business," or "caring for an elderly relative," instead of the internal configuration of the bureaucracy. This necessitates a unified digital infrastructure, standardised data protocols, and a governance system that promotes collaboration rather than departmental territoriality. Although difficult to execute, a Whole of Government strategy minimises redundancy, decreases long-term expenses, and, crucially, restores public trust by streamlining and enhancing the coherence of interactions with the state.[37] The Function of Central Digital Service Units (e.g., 18F, GDS) Facilitating this transition from silos to a Whole-of-Government model frequently necessitates a committed, centralised agent of change. This is the function performed by Central Digital Service Units (CDSUs), including the United Kingdom's Government Digital Service (GDS) and the United States' 18F.[38] These units are not conventional IT departments dedicated to preserving legacy systems; rather, they are multidisciplinary teams comprising technologists, designers, product managers, and policy experts responsible for establishing standards, developing shared tools, and expediting digital transformation throughout the government. Their authority stems not from financial oversight, but from proficiency, sway, and a directive from the upper echelons of government. The Government Digital Service (GDS) notably implemented the "Government as a Platform" approach, developing a unified website (GOV.UK) that amalgamated numerous distinct government sites, and instituted Digital Service Standards that all new public services

[37][38] Likewise, 18F functions as a consultancy for the government, assisting other agencies in developing and procuring superior digital services through agile methodology and human-centered design. These units function as centres of excellence, disseminating best practices, preventing agencies from duplicating efforts, and ensuring that the concepts of the Whole of Government approach are integrated into the core of digital service delivery. Agile Governance and Iterative Policy Formulation The concept of agile governance underlies both the Whole of Government approach and the operations of Centralised Decision Support Units. Conventional policy-making typically follows a linear, waterfall model: a problem is recognised, a multi-year research is commissioned, legislation is formulated and deliberated, and a definitive remedy is executed. In a rapidly evolving environment, such policies frequently become outdated by the time of their implementation. Agile governance, derived from software development, offers an iterative alternative.[39] It entails formulating policies and services in brief, iterative cycles, launching "minimum viable products" or pilot initiatives, collecting empirical data and user feedback, and then perpetually enhancing and optimising the methodology. This "test and learn" approach mitigates the likelihood of significant, large-scale policy failure. A new digital platform for unemployment benefits can first be implemented with a small trial group, with its features enhanced according to the requirements and challenges faced by real users. This necessitates a substantial cultural transformation for policymakers and politicians, who frequently under pressure to propose unequivocal, monumental solutions. By adopting agility, governments can enhance their responsiveness, reliance on evidence, and efficacy in meeting the changing demands of their constituents.[40][41] Leadership, Organisational Culture, and Capacity Development Technology and processes are only a portion of the equation; the human factor is equally, if not more, essential. Transforming a centuries-old institution necessitates visionary leadership, a significant culture transformation, and a unified endeavour to enhance digital capabilities across all tiers of the public sector workforce. The Function of the Chief Digital/Information Officer.[41][42]

The designation of a Chief Digital Officer (CDO) or Chief Information Officer (CIO) unequivocally indicates that an organisation is committed to its digital future. Nonetheless, the function of the public sector Chief Data Officer/Chief Information Officer has undergone significant transformation. They have transitioned from being just managers of IT infrastructure and cost centres to becoming strategic leaders and agents of change. A contemporary Chief Digital Officer is tasked for formulating and implementing the organization's digital strategy, advocating for user-centred design, and promoting the use of innovative technologies and methodologies. They must be bilingual, proficient in communicating with technical teams in the language of technology and with ministers and senior civil servants in the language of policy and public value. Their success depends on their capacity to influence, convince, and forge alliances across divisions, obtaining support for revolutionary projects that may contest entrenched power structures.[43][44] The most effective Chief Data Officers are those who are granted a position at the highest levels of decision-making, ensuring that digital considerations are included into policy from the beginning, rather than being considered after. Promoting a Digital-First Culture within Bureaucracy A true digital transformation necessitates fostering a "digital-first" culture across the entire organisation, extending beyond the C-suite. This beyond merely equipping personnel with new software; it involves imparting a novel set of beliefs and behaviours. A digital-first culture is inherently user-centric, prioritising the demands of the citizen over the comfort of the bureaucracy in all endeavours. It is defined by an inclination towards action and experimentation, wherein calculated risks are promoted, and failure is regarded as a learning opportunity instead of a reason for punishment. This culture prioritises collaboration and transparency over hierarchy and departmental confidentiality, advocating for the utilisation of open-source code, open data, and transparent procedures. It advocates for evidence-based decision-making, use data analytics to guide policy and service design instead of depending on intuition or tradition.[45] Promoting such a culture necessitates continuous communication from leadership, the acknowledgement of achievements (and insightful mistakes), and the intentional removal of procedural obstacles that hinder creativity. This is a long-term undertaking that finally ascertains if digital transformation is only a superficial technological layer or a profound evolution of the public sector's character. Enhancing the Competence of the Public Sector Workforce A digital strategy's efficacy is contingent upon the competence of its executors. Consequently, a substantial and continuous initiative to enhance the skills of the public sector workers is needed.[46][47] This does not imply transforming every civil official into a programmer. Instead, it entails cultivating "digital literacy" throughout all operations. A policy adviser must comprehend how data analytics might enhance policy outcomes. A procurement officer must be proficient in draughting agile contract specifications. A frontline service manager must be proficient in utilising customer feedback methods to enhance service quality. This necessitates a multifaceted strategy: allocating resources for ongoing, role-specific training initiatives; establishing avenues for current employees to acquire new skills; and updating recruitment processes to draw in new talent with digital proficiency. Moreover, governments must reevaluate their human resources policies to contend with the private sector for premier technological talent, providing competitive remuneration, adaptable work arrangements, and mission-oriented roles that impart a significant feeling of civic duty. Through investment in its personnel, the public sector enhances its internal capacity to autonomously manage and develop its digital services sustainably, thereby diminishing reliance on costly, long-term external contractors and assuring the retention and expansion of institutional expertise.[48] Financial Support, Acquisition, and Project Oversight Transformation will stagnate, regardless of optimal governance models and a proficient workforce, if the financial and procedural mechanisms of government are structured for a previous epoch. The modernisation of funding, procurement, and project management constitutes the third essential pillar, facilitating the practical implementation of digital innovation. Transitioning from Capital Expenditure to Operational Expenditure: Cloud-First Strategies Conventional government IT financing is primarily characterised by Capital Expenditure (CapEx), involving substantial initial allocations for multi-year initiatives aimed at acquiring physical servers and software licenses. This paradigm is intrinsically perilous, binding agencies to certain technology for extended periods and engendering substantial "sunk cost" fallacies that complicate the termination of unsuccessful initiatives. The contemporary alternative, facilitated by cloud computing, is a transition to Operational Expenditure (OpEx). A "Cloud-First" strategy, already embraced by numerous governments, requires agencies to prioritise cloud-based solutions prior to developing new on-premise systems. [49][50] The OpEx model regards IT as a utility, similar to energy, where payment is based on usage. This provides exceptional flexibility and scalability, enabling services to increase during peak demand (such as tax season) and decrease during

lulls, therefore optimising costs. It also improves security, as prominent cloud providers may invest in cybersecurity at a scale unattainable by individual organisations. Moreover, it expedites innovation by providing small, interdisciplinary teams with immediate access to premier computing resources and tools, enabling them to swiftly develop and refine services without the delays associated with extensive internal procurement and hardware setup procedures.[51]

AGILE ACQUISITION FOR DIGITAL ADVANCEMENT

The conventional government procurement method, intended to guarantee equity and avert corruption, frequently constitutes the primary obstacle to digital innovation. It generally entails composing comprehensive, multi-hundred-page Requests for Proposals (RFPs) that delineate every prerequisite beforehand, a method contrary to agile development. This strategy advantages large, established system integrators at the expense of smaller, more innovative technology companies, resulting in inflexible, fixed-price contracts that are unable to accommodate evolving user requirements.[52][53] Agile procurement transforms this flawed methodology. It entails deconstructing big tasks into smaller, more manageable elements.[54][55] Agencies may opt for shorter-term contracts targeting specific outcomes rather than a singular, comprehensive RFP, employing evaluation criteria that emphasise a vendor's historical performance, technical proficiency, and problem-solving methodology above their capacity to provide the most compliant bid. Approaches such as "Challenge-Based Procurement" provide suppliers with a defined issue (e.g., "minimise the duration required to process a visa application") and assess their proposed solutions via a live, prototype demonstration. This facilitates opportunities for unconventional vendors, promotes competition, and synchronises the contracting process with the iterative and collaborative essence of digital service creation.

CONCLUSION

The digital transformation of government is a double-edged sword. It holds immense promise for creating a more efficient, responsive, and innovative state that fosters a vibrant digital economy and a more engaged citizenry. However, it simultaneously presents profound risks: it can exacerbate social inequities, create new tools for surveillance and control, and erode trust if not managed ethically and inclusively. A sustainable and inclusive digital future must be guided by a human-centric framework built on three pillars: Equity and Access, Ethical Governance, and Participatory Design. The ultimate goal is not to create a more technologically sophisticated bureaucracy, but to forge a new social contract for the digital age, where technology strengthens, rather than undermines, democratic values and social equity.

REFERENCES

1. Alojail, M., Alshehri, J., & Khan, S. B. (2023). Critical Success Factors and Challenges in Adopting Digital Transformation in the Saudi Ministry of Education. Sustainability, 15(21), 15492. https://doi.org/10.3390/su152115492
2. Andersen, K. N., Medaglia, R., Vatrapu, R., Henriksen, H. Z., & Gauld, R. (2011). The forgotten promise of e-government maturity: Assessing responsiveness in the digital public sector. Government Information Quarterly, 28(4), 439–445. https://doi.org/10.1016/j.giq.2010.12.006
3. Aryatama, S., Miswan, M., Fahriyah, F., Pribadi, T., & Suacana, I. W. G. (2024). Enhancing Governance Efficiency through Digital Transformation in Public Services: Lessons from Global Practices. Global International Journal of Innovative Research, 2(5), 1019–1027. https://doi.org/10.59613/global.v2i5.171
4. Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3(2), 77–101. https://doi.org/10.1191/1478088706qp063oa
5. Bryman, A. (2012). Social research methods (4. ed). Oxford Univ. Press.
6. Bughin, J., LaBerge, L., & Mellbye, A. (2017).
7. The case for digital reinvention. Castleberry, A., & Nolen, A. (2018).
8. Thematic analysis of qualitative research data: Is it as easy as it sounds? Currents in Pharmacy Teaching and Learning, 10(6), 807– 815. https://doi.org/10.1016/j.cptl.2018.03.019
9. Chang, H., Mikalsen, K. S., Nesse, P. J., & Erdal, O. B. (2020). Digitalization of Municipalities Through Ecosystem Collaboration. Nordic and Baltic Journal of Information & Communications Technologies. https://doi.org/10.13052/nbjict1902-097X.2020.006
10. Cordella, A., & Tempini, N. (2015). E-government and organizational change: Reappraising the role of ICT and bureaucracy in public service delivery. Government Information Quarterly, 32(3), 279–286. https://doi.org/10.1016/j.giq.2015.03.005
11. Creswell, J. W., & Creswell, J. D. (2018). Research Design: Qualitative, Quantitative, and Mixed Methods Approaches. Dahlström, P., Desmet, D., & Singer, M. (2017). The seven decisions that matter in a digital transformation: A CEO's guide to reinvention. Demirkan,
12. H., Spohrer, J. C., & Welser, J. J. (2016). Digital Innovation and Strategic Transformation. IT Professional, 18(6), 14–18. https://doi.org/10.1109/MITP.2016.115
13. Dener, C., Nii-Aponsah, H., Ghunney, L. E., & Johns, K. D. (2021). GovTech Maturity Index: The State of Public Sector Digital Transformation. The World Bank. https://doi.org/10.1596/978-1-4648-1765-6
14. Denscombe, M. (2014). The good research guide: For small-scale social research projects (5. ed). Open University Press.
15. Dobrolyubova, E. (2021). Measuring Outcomes of Digital Transformation in Public Administration: Literature Review and Possible Steps Forward. NISPAcee Journal of Public Administration and Policy, 14(1), 61–86. https://doi.org/10.2478/nispa2021-0003
16. Dunleavy, P., Margetts, H., Bastow, S., & Tinkler, J. (2005). New Public Management Is Dead—Long Live Digital-Era Governance. Journal of Public Administration Research and Theory, 16(3), 467–494. https://doi.org/10.1093/jopart/mui057

17. W. D., & Bellman, J. (2021). The journey to government's digital transformation. Deloitte Insights. https://www2.deloitte.com/us/en/insights/topics/digital-transformation/digitaltransformation-in-government.html Erkkilä, T. (2020). Transparency in Public Administration. In T. Erkkilä, Oxford Research Encyclopedia of Politics. Oxford University Press. https://doi.org/10.1093/acrefore/9780190228637.013.1404
18. Feher, P., & Szabo, Z. (2018). Digitalization in the Public Sector – Findings of a Hungarian Survey. 2018 12th International Conference on Software, Knowledge, Information Management & Applications (SKIMA), 1–6. https://doi.org/10.1109/SKIMA.2018.8631534
19. B. (2024). Digital Governance Adoption: Exploring Drivers, Impacts, and Strategic Innovations across Sectors. In I. P. P. Salmon, A. Ardianto, Y. M. Akbar, & H. Habiburrahman (Eds.), Proceedings of the 6th Open Society Conference (OSC 2024) (Vol. 894, pp. 32–44). Atlantis Press SARL. https://doi.org/10.2991/978-2- 38476-340-5_4
20. Heuberger, M., & Heine, M. (2021). The impact of digitalization in the public sector: A systematic literature review. Der Moderne Staat – Zeitschrift Für Public Policy, Recht Und Management, 14(1–2021), 3–23. https://doi.org/10.3224/dms.v14i1.13
21. Ghoshal, S. (2015). Imagining the Digital future. Gong, C., & Ribiere, V. (2021). Developing a unified definition of digital transformation. Technovation, 102, 102217. https://doi.org/10.1016/j.technovation.2020.102217
22. J., LaBerge, L., & Srinivasan, R. (2016). Culture for a digital age. 39 Haug, N., Dan, S., & Mergel, I. (2024). Digitally-induced change in the public sector: A systematic review and research agenda. Public Management Review, 26(7), 1963–1987. https://doi.org/10.1080/14719037.2023.2234917
23. Feki, M., & Boughzala, I. (2015). The Shape of Digital Transformation: A Systematic Literature Review. Hien, B. N., Tuyen, N. T. K., Lan, N. T., Ngan, N. T. K., & Thanh, N. N. (2024). The Impact of Digital Government Initiatives on Public Value Creation: Evidence from Ho Chi Minh City –Vietnam. Revista de Gestão Social e Ambiental, 18(2), e04892. https://doi.org/10.24857/rgsa.v18n2-092
24. M., & Wimmer, M. A. (2015). Introduction to Policy-Making in the Digital Age. In M. Janssen, M. A. Wimmer, & A. Deljoo (Eds.), Policy Practice and Digital Science (Vol. 10, pp. 1–14). Springer International Publishing. https://doi.org/10.1007/978-3-319-12784-2_1
25. P., & Perjons, E. (2014). An Introduction to Design Science. Springer International Publishing. https://doi.org/10.1007/978-3-319-10632-8
26. Jonathan, G. M. (2020). Digital Transformation in the Public Sector: Identifying Critical Success Factors. In M. Themistocleous & M. Papadaki (Eds.), Information Systems (Vol. 381, pp. 223–235). Springer International Publishing. https://doi.org/10.1007/978-3-030-44322-1_17
27. Kitsios, F., Kamariotou, M., & Mavromatis, A. (2023). Drivers and Outcomes of Digital Transformation: The Case of Public Sector Services. Information, 14(1), 43. https://doi.org/10.3390/info14010043
28. Komna, L., & Mpungose, S. (2024). Investigating the impact of digital transformation in the public sector: A case study of the State Information Technology Agency (SITA), South Africa. International Journal of Business Ecosystem & Strategy (2687-2293), 6(4), 218–234. https://doi.org/10.36096/ijbes.v6i4.610
29. Lappi, T. M., Aaltonen, K., & Kujala, J. (2019). Project governance and portfolio management in government digitalization. Transforming Government: People, Process and Policy, 13(2), 159–196. https://doi.org/10.1108/TG-11-2018-0068
30. Liva, G., Codagnone, C., Misuraca, G., Gineikyte, V., & Barcevicius, E. (2020). Exploring digital government transformation: A literature review. Proceedings of the 13th International Conference on Theory and Practice of Electronic Governance, 502–509. https://doi.org/10.1145/3428502.3428578
31. Luna-Reyes, L. F., & Gil-Garcia, J. R. (2014). Digital government transformation and internet portals: The co-evolution of technology, organizations, and institutions. Government Information Quarterly, 31(4), 545–555. https://doi.org/10.1016/j.giq.2014.08.001
32. Margetts, H., & John, P. (2024). How rediscovering nodality can improve democratic governance in a digital world. Public Administration, 102(3), 969–983. https://doi.org/10.1111/padm.12960
33. MCSGroup. (2024, February 15). The Impact of Digital Transformation in the Public Sector. https://www.mcsgroup.jobs/resources/blog/the-impact-of-digitaltransformation-in-the-public-sector/ Mergel, I., Edelmann, N., & Haug, N. (2019). Defining digital transformation: Results from expert interviews. Government Information Quarterly, 36(4), 101385. https://doi.org/10.1016/j.giq.2019.06.002
34. Millard, J. (2023). Exploring the impact of digital transformation on public governance: Prevailing (public) governance models throughout Europe. Publications Office. https://data.europa.eu/doi/10.2760/219929
35. Drejer, I., & Marques, P. (2024). Citizen engagement in public sector innovation: Exploring the transition between paradigms. Public Management Review, 26(12), 3622–3642. https://doi.org/10.1080/14719037.2024.2347360
36. Norling, K. (2025). Digital transformation or digital standstill? Status quo bias in Swedish public sector strategies. Transforming Government: People, Process and Policy, 19(1), 91–107. https://doi.org/10.1108/TG-04-2024-0078
37. OECD. (2019). Digital Government Review of Sweden: Towards a Data-driven Public Sector. OECD. https://doi.org/10.1787/4daf932b-en OECD. (2024).
38. Trust in government. OECD. https://www.oecd.org/en/topics/trustin-government.html Osmundsen, K., Iden, J., & Bygstad, B. (2018).
39. Digital Transformation: Drivers, Success Factors, and Implications. Digital Transformation. Rosacker, K. M., & Rosacker, R. E. (2010).
40. Information technology project management within public sector organizations. Journal of Enterprise Information Management, 23(5), 587–594. https://doi.org/10.1108/17410391011083047

41. Shooter, K. (2020, May 18). McKinsey: Unlocking Success In Digital Transformations. https://technologymagazine.com/data-and-dataanalytics/mckinsey-unlocking-success-digital-transformations Turner, D. (2010).
42. Qualitative Interview Design: A Practical Guide for Novice Investigators. The Qualitative Report. https://doi.org/10.46743/2160- 3715/2010.1178
43. Ubaldi, B.-C., Van Ooijen, C., & Welby, B. (2019). A data-driven public sector: Enabling the strategic use of data for productive, inclusive and trustworthy 41 governance (OECD Working Papers on Public Governance No. 33; OECD Working Papers on Public Governance, Vol. 33). https://doi.org/10.1787/09ab162c-en
44. Ugochukwu Francis Ikwuanusi, Okeoma Onunka, Samuel Jesupelumi Owoade, & Abel Uzoka. (2024). Digital transformation in public sector services: Enhancing productivity and accountability through scalable software solutions. International Journal of Applied Research in Social Sciences, 6(11), 2744–2774. https://doi.org/10.51594/ijarss.v6i11.1724
45. Vial, G. (2019). Understanding digital transformation: A review and a research agenda. The Journal of Strategic Information Systems, 28(2), 118–144. https://doi.org/10.1016/j.jsis.2019.01.003
46. Yang, C., Gu, M., & Albitar, K. (2024). Government in the digital age: Exploring the impact of digital transformation on governmental efficiency. Technological Forecasting and Social Change, 208, 123722. https://doi.org/10.1016/j.techfore.2024.123722
47. Zhang, L., & Zhang, X. (2025). Impact of digital government construction on the intelligent transformation of enterprises: Evidence from China. Technological Forecasting and Social Change, 210, 123787. https://doi.org/10.1016/j.techfore.2024.123787