

Strengthening Digital Governance in Sri Lanka: Towards Horizontal Integration and Institutional Reform in the Public Sector

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Abstract

This paper critically examines the role of digital transformation in enhancing governance, efficiency, and transparency within Sri Lanka's public sector. Despite significant investments in ICT infrastructure and the digitalization of services, public institutions remain fragmented, operating through isolated systems that hinder cross-agency collaboration and citizen-centred service delivery. Drawing on secondary data from global case studies, national policy frameworks, and international benchmarks, the study assesses the institutional, legislative, and technological challenges that impede horizontal digital integration. The analysis reveals that legacy systems, legal ambiguities, weak interoperability standards, and limitations in human capital continue to obstruct the advancement of coordinated digital governance. Institutional reluctance to share data, overlapping mandates, and inadequate enforcement mechanisms further exacerbate fragmentation. Drawing on international models such as Estonia's X-Road and India's Aadhaar infrastructure, the paper highlights the urgent need for a Digital Interoperability Act, the establishment of a central digital authority, and the adoption of unified API frameworks. The study concludes that effective digital transformation in Sri Lanka necessitates a multi-pronged approach encompassing legal reform, strategic investment in ICT capacity, strengthened institutional cooperation, and the ethical deployment of emerging technologies such as artificial intelligence. These reforms are essential to fulfil the current administration's vision of a responsive, inclusive, and fully integrated digital public sector.

Keywords: digital governance, public sector reform, e-government, interoperability, institutional integration, digital transformation

1. Introduction

Digitalization is increasingly recognized worldwide as a transformative force in both development policy and public administration. The integration of advanced digital technologies into government functions has been shown to enhance operational efficiency, strengthen citizen engagement, and reinforce accountability in public service delivery. For developing countries, digital transformation offers unique opportunities to overcome traditional infrastructural constraints, facilitating the creation of responsive and transparent governance frameworks.

In the Sri Lankan context, digital transformation has been prioritized within post-pandemic recovery strategies and governance reform agendas. Yet, despite substantial investments in digital infrastructure and the strengthening of institutional ICT capacities, the public sector remains marked by fragmented systems, isolated databases, and inconsistent service delivery mechanisms. This desk study examines both the global and local significance of digital transformation, identifies the barriers hindering horizontal integration across public institutions, and proposes policy directions to foster a seamless, citizen-centric digital government ecosystem.

2. The Global Importance of Digitalization for Development

Globally, digitalization has become a cornerstone of effective governance, economic competitiveness, and social inclusion. The United Nations E-Government Survey (2022) shows that countries with mature digital ecosystems consistently achieve greater efficiency in public services, stronger accountability, and higher citizen satisfaction. Governments worldwide increasingly deploy advanced technologies—including cloud computing, artificial intelligence (AI), blockchain, and big data analytics—to enhance service delivery, optimize decision-making, and foster participatory governance (World Bank, 2021).

Digital public infrastructure—spanning digital identity systems, interoperable data architectures, and unified service portals—is now recognized as fundamental to national development. The OECD (2020) emphasizes that digital government strategies must be inclusive, integrated, and adaptive to address the complex governance challenges of the 21st century. Such frameworks advance both technical interoperability and social inclusivity, ensuring that marginalized populations are not left behind in the digital transformation.

3. Digitalization in Developing Countries

In developing nations, digital transformation represents a critical pathway to overcoming resource constraints, curbing corruption, and advancing equity in public service delivery. Illustrative examples include Rwanda's Irembo platform and India's Aadhaar system, both of which demonstrate how integrated digital identity, payment, and verification mechanisms can enhance transparency and reduce bureaucratic inefficiencies.

Yet, significant challenges continue to impede the full realization of these benefits. Common obstacles include infrastructural deficits, widespread digital illiteracy, fragile regulatory environments, and heightened cybersecurity vulnerabilities. These factors collectively constrain the depth and reach of digital adoption. Moreover, the persistent digital divide deepens disparities between urban and rural communities, underscoring the need for deliberate and inclusive digital development policies that prioritize equitable access to technology and comprehensive digital literacy initiatives (UNDP, 2021).

4. The Role of Digitalization in Sri Lanka

Sri Lanka's digital transformation trajectory has been shaped by concerted institutional and policy initiatives, led primarily by the Information and Communication Technology Agency (ICTA). Flagship projects—including the Lanka Government Network (LGN), Lanka Government Cloud (LGC),

and digital platforms such as e-Samurdhi and Aswesuma—have been introduced to expand access to public services through digital channels.

Under the current administration led by President Anura Kumara Dissanayake, digital transformation has been reinvigorated as a core element of governance reform and public sector modernization. The President’s policy vision highlights the creation of an interconnected government service framework, advocating open data standards, real-time service delivery, and integrated digital identity systems. It further prioritizes citizen-centred service design and promotes cross-agency collaboration to dismantle entrenched bureaucratic inefficiencies.

Yet, despite these progressive ambitions, implementation is constrained by outdated policies and legislation that hinder data interoperability and inter-agency cooperation. For example, although the Personal Data Protection Act seeks to safeguard privacy, it lacks explicit provisions for controlled data exchange and technical interoperability standards. Institutional mandates often overlap or conflict, while agencies remain hesitant to share data amid legal ambiguities and weak enforcement mechanisms. As a result, these constraints obstruct the development of the horizontal institutional relationships essential for realizing a fully integrated digital public service ecosystem.

5. Current Digitalization Needs in Sri Lanka

Advancing digitalization in Sri Lanka depends on addressing multifaceted needs across policy, infrastructure, and organizational culture. At the policy level, the existing legislative environment remains inadequate for the complexities of modern digital governance. Although the Personal Data Protection Act establishes a foundation for privacy, it remains insufficient for enabling operational data exchange and interoperability. In the absence of a national digital governance framework that defines data-sharing protocols, system compatibility standards, and enforcement mechanisms, institutional fragmentation is likely to persist. Crafting such a framework should prioritize both data security and service integration, ensuring that

privacy protections do not inadvertently become barriers to effective governance.

From an infrastructure perspective, digital inclusion remains uneven, as rural and underserved regions continue to lack reliable broadband connectivity and modern ICT facilities. This digital divide restricts equitable access to e-government services and hampers nationwide interoperability. Strategic investments must focus on expanding broadband networks, deploying cloud-based data centers, and implementing standardized software platforms to facilitate data sharing and minimize redundancy. These infrastructure developments must be complemented by initiatives that strengthen digital literacy among both public officials and citizens, thereby maximizing adoption and impact.

Change management arguably presents the most complex challenge. Bureaucratic inertia and risk aversion often hinder the adoption of new digital systems. Successful transformation requires cultivating a culture that embraces innovation, supported by leadership that champions digital initiatives. Capacity-building programmes should target digital competencies, cybersecurity awareness, and project management skills to empower government employees. Additionally, incentive structures that reward collaboration and digital adoption can accelerate cultural change. Collectively, these elements constitute a triad essential for achieving sustainable digital transformation.

6. Current Status of Digitalization in the Public Sector

Despite significant investments in recent years, public institutions in Sri Lanka continue to function in isolated silos. Core departments—such as Immigration, the Registrar General’s Department, and the Department for Registration of Persons—maintain independent digital systems with little interconnectivity. Consequently, citizens are compelled to repeatedly submit physical documents—such as National Identity Cards and birth certificates—when accessing services, undermining the efficiencies promised by digitalization.

Several cases vividly illustrate this fragmentation. For instance, the absence of real-time data verification between the Registrar General's Department and Immigration results in redundant processes. During the COVID-19 pandemic, although national authorities declared grace periods for vehicle license renewals, the Department of Motor Traffic failed to implement them effectively due to system incompatibilities. Similarly, efforts by the Welfare Benefit Board to verify beneficiary eligibility using utility and transport data faltered, as relevant departments declined data-sharing requests. Collectively, these examples underscore the failure to institutionalize horizontal integration within Sri Lanka's public sector digital infrastructure.

7. Persistent Challenges

Despite isolated advancements—such as the Inland Revenue Department's e-filing system—Sri Lanka's broader digital landscape remains constrained by systemic impediments. The absence of standardized API frameworks critically undermines interoperability; without agreed technical specifications, disparate systems cannot communicate effectively, resulting in persistent data silos and inefficiencies. This challenge is compounded by the absence of a unified data architecture and standardized data formats, further complicating integration efforts.

Procurement and ICT policy oversight are fragmented, often resulting in uncoordinated investments and duplication of effort. Privacy concerns, while legitimate, are frequently overstated or misunderstood, leading to excessive caution in data sharing even where legal provisions would permit responsible exchange. This “privacy paralysis” undermines the collaborative potential of digital systems.

Human capital constraints further impede progress. A shortage of skilled professionals in cybersecurity, data governance, and digital system management compromises both the security and effectiveness of public sector digital initiatives. Insufficient expertise heightens the risks of data breaches, system failures, and mismanagement, thereby eroding public trust and undermining system sustainability.

The IMF's designation of digital reform as a structural benchmark within Sri Lanka's Extended Fund Facility Agreement underscores the strategic importance of addressing these challenges. Interoperability and anti-corruption digital tools are not merely technical concerns but essential components of fiscal transparency, accountability, and international confidence.

8. Horizontal versus Vertical Approaches to Digitalization

Sri Lanka's prevailing digital architecture is largely characterized by vertical digitalization, in which individual institutions develop isolated systems tailored to their specific mandates. While this approach meets immediate institutional requirements, it constrains broader efficiencies and diminishes user convenience. By contrast, horizontal digitalization integrates services across departments through shared protocols and interoperable systems, fostering seamless coordination and unified service delivery.

International exemplars of successful horizontal integration include Estonia's X-Road platform and India's Aadhaar-linked service networks, both of which demonstrate the transformative potential of cross-departmental integration. These systems facilitate seamless data exchange and service delivery, enhancing citizen experience and enabling data-informed governance. Sri Lanka's continued reliance on vertical digital structures limits its capacity to deliver efficient, integrated public services and constrains the use of data analytics for strategic policy-making.

9. Institutional Gaps and Integration Barriers

Multiple institutional challenges continue to impede the digital integration required for effective horizontal governance. Data ownership silos persist, as institutions remain reluctant to share information due to concerns over control and privacy. Legacy systems are often technically incompatible, lacking standardized communication protocols that would enable interoperability.

Furthermore, the absence of a centralized authority with the mandate to enforce digital integration perpetuates fragmentation. Overlapping and conflicting mandates between the ICTA and line ministries generate institutional confusion, fostering competition rather than collaboration. For instance, departments such as the Election Commission, Ministry of Public Administration, and Land Registry operate parallel data systems without coordination, leading to duplication of effort, inefficiency, and heightened administrative burdens.

10. Consequences of Fragmentation

The fragmentation of digital systems produces tangible and far-reaching negative outcomes. Citizens are frequently compelled to resubmit the same personal data across multiple agencies, creating inconvenience and inefficiency. Service delivery is routinely delayed by disconnected workflows and fragmented verification processes.

Operationally, redundancy inflates costs and wastes scarce resources. Policy misalignments arise as agencies pursue inconsistent digital initiatives, thereby undermining broader governance objectives. Moreover, these inefficiencies erode public trust in digital government, weakening citizen confidence in both service delivery and governance transparency.

11. Policy Implications

Addressing these challenges requires comprehensive and forward-looking policy reform. Sri Lanka requires a dedicated Digital Interoperability Act mandating secure, standardized data exchange across government institutions, while simultaneously safeguarding citizen privacy and data security.

Establishing governance structures—such as a central digital authority vested with enforcement powers and oversight responsibilities—is essential for operationalizing integration standards. Privacy legislation must be expanded to incorporate clear data-sharing protocols for legitimate public service functions.

Moreover, investments in digital infrastructure must be strategically aligned with a national interoperability roadmap to ensure coherent and sustainable development of digital services across sectors and regions.

12.Future Opportunities: Artificial Intelligence in Public Sector Performance

Artificial Intelligence (AI) offers significant opportunities to transform public administration in Sri Lanka, enabling governance that is smarter, more responsive, and more transparent. Predictive analytics can enhance welfare targeting by identifying vulnerable populations with greater precision, thereby improving both efficiency and equity in social protection schemes. AI-powered chatbots can streamline citizen–government interactions, delivering timely responses to inquiries and reducing administrative burdens.

Moreover, AI-driven fraud detection systems can identify irregularities in public finance and procurement, thereby strengthening anti-corruption efforts. AI-augmented decision support systems can analyze large datasets to inform policy formulation and operational planning, thereby advancing evidence-based governance.

Realizing AI’s full potential requires careful attention to its ethical, legal, and social implications. Transparency in algorithmic decision-making is essential for maintaining public trust, necessitating clear documentation and auditability of AI systems. Inclusivity must be safeguarded to ensure that AI applications do not exacerbate existing social inequalities. Frameworks for algorithmic accountability and privacy protection must be embedded within AI deployment strategies to mitigate risks of bias, discrimination, and misuse.

The OECD’s principles on AI governance provide valuable guidance for integrating AI ethically and responsibly into the public sector. For Sri Lanka, developing a comprehensive national AI strategy—encompassing regulatory frameworks, capacity-building, and public engagement—will be critical to harnessing AI’s benefits responsibly.

13. Policy Gaps and Legislative Reforms for Digital Integration

President Anura Kumara Dissanayake's digital transformation agenda envisions a public sector delivering seamless, citizen-centred services through interoperable digital platforms. This vision aligns with international best practices, emphasizing horizontal integration to eliminate redundancies, reduce bureaucratic inefficiencies, and enhance service quality.

Nonetheless, the current legislative framework—including the Personal Data Protection Act and sector-specific regulations—while safeguarding privacy, lacks explicit provisions for controlled data sharing and interoperability. This legal ambiguity fosters institutional caution and perpetuates silo-driven operations. Moreover, overlapping mandates, the absence of a centralized digital governance authority, and weak enforcement mechanisms further complicate cross-agency collaboration.

Addressing these gaps requires comprehensive legislative reforms, notably the enactment of a Digital Interoperability Act to establish standardized data-sharing protocols with embedded privacy safeguards. Equally imperative is the creation of a National Digital Governance Authority, empowered to enforce compliance and facilitate cooperation. Clarifying institutional responsibilities and incentivizing data sharing will foster a culture of trust and collaboration, both essential for building a modern digital public sector.

14. Recommendations

To ensure a robust, citizen-centred, and efficient digital governance ecosystem in Sri Lanka, the following recommendations are proposed, supported by detailed justifications and international exemplars:

14.1 Develop and Adopt a National API Framework

A standardized API (Application Programming Interface) framework is essential to enable secure, consistent, and seamless communication between government systems. This will allow real-time data exchange while ensuring system compatibility and security.

International Example: The UK's Government Digital Service (GDS) API standards provide guidance on designing secure and interoperable APIs. Similarly, Estonia's X-Road platform enables over 1,000 government institutions and private entities to share data securely (GDS, 2022; OECD, 2020).

Actionable Steps:

- ICTA should lead the drafting of API standards.
- Mandate compliance across all public sector ICT systems.
- Conduct audits to ensure adherence.

14.2 Institutionalize Interagency Data-Sharing Protocols via MoUs

Formal Memoranda of Understanding (MoUs) must be established to clearly outline data-sharing responsibilities, access rights, and dispute resolution mechanisms. This reduces ambiguity and fosters institutional trust.

Example: A formal MoU between the Welfare Benefit Board and the Department of Registration of Persons could enable live verification of social security applicants through National Identity Card data (OECD, 2023).

Actionable Steps:

- Standardize MoU templates through ICTA.
- Train legal and IT officers on data governance protocols.
- Monitor compliance via a central digital oversight unit.

14.3 Invest in Human Capital Development in ICT

Digital transformation depends on digitally literate public servants. Training in cybersecurity, data ethics, system integration, and emerging technologies such as AI and big data is imperative.

Example: India's Capacity Building Commission (CBC) runs customized programmes to equip public servants with digital skills aligned to their service needs (World Bank, 2022).

Actionable Steps:

- Collaborate with SLIDA, universities, and ICTA to offer certification programmes.
- Incentivize skill acquisition through career progression points.
- Launch digital literacy campaigns targeting rural administrators.

14.4 Establish a National Interoperability Authority

A statutory body should be created to oversee and enforce digital integration standards, resolve inter-institutional ICT conflicts, and conduct periodic audits.

Example: The European Commission's Interoperability Framework establishes governance bodies that enforce digital standards across the EU (European Commission, 2021).

Actionable Steps:

- Enact legislation to define the authority's powers.
- Integrate the authority within the Ministry of Technology.
- Require public institutions to report their ICT integration status annually.

14.5 Deploy Dual-System Arrangements for Inter-Agency Integration

Where full integration is not yet possible, dual-terminal access points can allow one agency to view or validate real-time data from another.

Example: The Department of Immigration could host a live-access terminal connected to the Registrar General's database to verify birth records during passport issuance (UNESCAP, 2020).

Actionable Steps:

- Prioritize high-impact departments (e.g., Immigration, Welfare Benefit Board, Education, Election, and Police).
- Use secure, read-only data access to protect source databases.
- Pilot and scale based on feedback.

14.6 Formulate a Comprehensive National AI Strategy

AI can radically improve governance if deployed responsibly. Sri Lanka requires a national strategy addressing ethical standards, risk assessments, and regulatory frameworks for AI in public service.

AI applications in welfare targeting, fraud detection in procurement, and natural language processing for trilingual citizen service platforms demonstrate transformative potential (OECD, 2019; World Economic Forum, 2020).

Actionable Steps:

- Establish an AI Ethics Council.
- Launch pilot projects in health and welfare.
- Develop explainable AI models to build citizen trust.

14.7 Enact a Digital Interoperability Act

Current laws are fragmented and inadequate. A new Digital Interoperability Act should define clear rules for standardized and secure data exchange, consent and privacy protection, and institutional accountability. The Act should address:

- standardized and secure data exchange,
- consent and privacy protection, and
- institutional accountability.

Example: Estonia's Public Information Act mandates government institutions to exchange information electronically, enabling an efficient digital state (EU Agency for Fundamental Rights, 2020).

Actionable Steps:

- Conduct a legal review of existing ICT and data laws.
- Draft the new act with multistakeholder input.
- Ensure the act complements the Personal Data Protection Act.

15. Conclusion

Digitalization presents Sri Lanka with a profound opportunity to modernize its public sector, strengthen governance, and deliver inclusive, efficient services. Yet, without decisive action to overcome systemic fragmentation, legislative incoherence, and capacity constraints, these benefits will remain constrained and unsustainable. A future-ready digital governance strategy must prioritize horizontal integration, legislative reform, the ethical deployment of artificial intelligence, and sustained capacity development.

Strong political commitment, coupled with alignment with international partners such as the IMF, is essential to building a robust, citizen-focused digital public service ecosystem. Through such concerted efforts, Sri Lanka can unlock the full potential of digital transformation to advance good governance and inclusive development.

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