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# Digital Transformation of University Administration: Reframing Efficiency and Transparency in Sri Lankan Public Universities Through Institutional and Socio- Technical Lenses

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**Abstract.** Digital transformation has become a strategic imperative in higher education governance worldwide. Yet in many public university systems, technological adoption proceeds faster than institutional adaptation. This study critically examines the impact of Management Information Systems (MIS) and administrative e-services on efficiency and transparency in Sri Lankan government universities. Drawing on a mixed-methods study across four public universities (N = 312 survey respondents; 24 key informant interviews), the research integrates institutional theory and socio-technical systems theory to assess whether digitalization constitutes genuine administrative transformation or symbolic modernization.

Findings indicate measurable improvements in transactional efficiency—particularly in student registration, examination processing, and payroll management. However, gains in transparency remain uneven and structurally constrained. Digital systems often coexist with manual processes, discretionary administrative practices, and hierarchical decision cultures that limit accountability gains. Resistance, fragmented governance, inadequate interoperability, and limited data literacy among staff further impede transformation.

The study argues that digital transformation in public universities cannot be understood as a purely technological shift. Rather, it represents a negotiated institutional process shaped by path dependency, bureaucratic norms, and power relations. The paper contributes to higher education governance literature by demonstrating how digital reforms in developing-country university systems often produce hybrid administrative models—partially modernized yet structurally constrained. Policy recommendations emphasize governance reform, process reengineering, and institutional capacity development as prerequisites for meaningful transparency gains.

**Keywords;** digital transformation, university governance, MIS, administrative reform, transparency, institutional theory, Sri Lanka, public sector modernization.

## **Introduction**

Universities across the globe are undergoing profound digital transformation. From student lifecycle management systems to integrated financial platforms, digital infrastructures increasingly shape how higher education institutions are governed. In advanced systems, digitalization is frequently associated with increased efficiency, data-driven decision-making, and enhanced transparency. However, in public university sectors embedded within centralized bureaucratic traditions, the translation of digital tools into institutional transformation is far from automatic.

Sri Lanka's public university system, overseen by the University Grants Commission of Sri Lanka, has invested in MIS platforms, e-procurement modules, digital examination systems, and student service portals over the past decade. These initiatives align with broader state modernization efforts and global digital governance agendas. Yet the critical question remains: do these technologies fundamentally alter administrative performance and accountability structures, or do they operate within existing institutional logics without transforming them?

This study moves beyond instrumental accounts of digital adoption. Instead, it interrogates how digital systems interact with entrenched administrative cultures and governance structures. Specifically, it asks:

1. To what extent have MIS and e-services improved administrative efficiency?
2. Do digital systems enhance transparency and accountability in practice?
3. What institutional and socio-technical factors mediate these outcomes?

By integrating institutional theory with socio-technical systems theory, this study positions digital transformation not as a technological upgrade but as an organizational restructuring process constrained by historical governance patterns.

## **2. Theoretical Framework**

### **2.1 Institutional Theory and Path Dependency**

Institutional theory suggests that organizations adopt reforms not only for efficiency but also for legitimacy (DiMaggio & Powell, 1983). Public universities in developing contexts often adopt digital systems in response to global modernization pressures. However, such reforms may be decoupled from daily practice if institutional norms remain unchanged.

Sri Lankan public universities are characterized by:

- Strong bureaucratic traditions
- Hierarchical decision-making
- Centralized regulatory oversight
- Procedural rigidity

Under such conditions, digital transformation may become symbolic compliance rather than substantive restructuring. Institutional path dependency limits radical process redesign.

## 2.2 Socio-Technical Systems Theory

Socio-technical theory argues that technological effectiveness depends on alignment between social systems (culture, skills, power structures) and technical systems (infrastructure, software, integration). Digital transformation fails when technology is layered onto unreformed workflows.

This framework helps explain why MIS implementation alone does not guarantee improved transparency. Administrative discretion, limited data literacy, and power asymmetries influence system use and data disclosure practices.

## 3. Literature Review

### 3.1 Digital Transformation in Higher Education

Research from OECD contexts suggests that integrated ERP systems enhance operational efficiency and reduce administrative lag (Selwyn, 2016). However, studies in developing nations indicate persistent challenges: infrastructure constraints, resistance to change, and limited interoperability (Nguyen et al., 2021).

### 3.2 Digital Governance and Transparency

E-governance literature links digitalization with reduced corruption and improved public accountability (Bertot et al., 2010). Yet transparency gains are conditional upon data accessibility, user literacy, and governance frameworks.

In higher education, transparency involves:

- Financial disclosure
- Examination processing clarity
- Recruitment fairness
- Procurement integrity

Technology can enable these processes but does not inherently democratize them.

### 3.3 Gaps in Existing Research

Few empirical studies critically assess digital transformation in South Asian public university systems. Most studies focus on student satisfaction or service efficiency, with limited attention to structural governance implications. This study addresses that gap.

## 4. Methodology

### 4.1 Research Design

A sequential mixed-methods design was employed across four anonymized Sri Lankan government universities.

### 4.2 Sample

- 312 survey respondents (administrative staff, academic staff, final-year students)
- 24 semi-structured interviews (registrars, assistant registrars, IT directors, bursars)

### 4.3 Instruments

Survey domains:

- Efficiency (processing time, error rates, workflow clarity)
- Transparency (information access, audit traceability, fairness perception)
- Organizational readiness

Interview focus:

- Implementation barriers
- Governance alignment
- Cultural resistance

### 4.4 Data Analysis

Quantitative data were analyzed using descriptive statistics and regression modeling. Qualitative data were coded thematically using institutional and socio-technical categories.

## 5. Findings

### 5.1 Efficiency Gains: Significant but Transactional

Survey results showed:

- 64% reduction in student registration processing time
- 41% reduction in payroll discrepancies
- Improved tracking of examination scripts

Regression analysis indicated that system integration level significantly predicted efficiency gains ( $p < .01$ ).

However, interviews revealed that many processes remain hybrid, requiring parallel manual approvals.

### 5.2 Transparency: Partial and Structurally Constrained

Only 38% of respondents agreed that digital systems improved transparency in procurement and recruitment.

Interview themes revealed:

- Restricted data access hierarchies
- Limited public-facing dashboards
- Continued discretionary approvals
- Weak whistleblower protections

Digital systems created data trails but did not automatically translate into accessible accountability.

### 5.3 Institutional and Cultural Barriers

Key constraints included:

- Hierarchical approval chains embedded in software
- Inadequate inter-departmental integration
- Resistance from senior administrators
- Limited data governance policies

Digital systems mirrored existing power structures rather than transforming them.

## 6. Discussion

This study demonstrates that digital transformation in Sri Lankan public universities is best characterized as **incremental modernization within institutional constraints**.

Efficiency gains occurred primarily at the operational level. However, transparency improvements were limited by governance design and cultural resistance.

Institutional theory explains symbolic compliance—adopting digital tools to signal modernization. Socio-technical theory clarifies why misalignment between workflows and systems constrains transformation.

Rather than replacing bureaucratic governance, digital systems have produced hybrid administrative regimes - digitally mediated yet hierarchically governed.

## 7. Policy and Governance Implications

1. Process Reengineering Before Automation
2. Integrated Governance Frameworks
3. Data Transparency Policies
4. Capacity Development in Data Literacy
5. Independent Digital Oversight Committees

Digital transformation must be governance-led, not technology-led.

## 8. Conclusion

Digital transformation in Sri Lankan public universities has improved operational efficiency but has not fundamentally restructured accountability systems. Technology alone cannot overcome institutional inertia.

Sustainable transformation requires alignment between technological innovation and administrative culture reform. Without governance restructuring, digital systems risk reinforcing existing hierarchies under the guise of modernization.

This study contributes to global higher education reform debates by demonstrating that digital transformation in developing-country universities is a negotiated institutional process—not a deterministic technological evolution.

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