

Governance of Digital Transformation and Institutional Excellence

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ABSTRACT While digital transformation is a key lever for institutional performance, the attainment of its outcomes is contingent on a suitable governance framework that directs, orchestrates and protect this process. This paper addresses the issue of the relationship between the governance of digital transformation and the quest for institutional excellence in universities, public administration, and corporate organizations. To this end, a structured, mixed-methods, sequential explanatory study was undertaken, comprising the following steps: (1) a systematic narrative literature review on international experiences published during 2020–2026; (2) a cross-sectoral survey of 487 participants (higher education n=198; public administration n=152; corporate n=137), responding to an validated 42-item instrument; (3) semi-structured in-depth interviews with 24 participants; and (4) validation of our proposed model during an expert workshop with 12 practitioners. Based on this process, an Integrated Governance Framework for Digital Transformation and Institutional Excellence (IGF-DTIE) was developed that connects four governance pillars – namely: strategic leadership, digital infrastructure and data governance, human capital and digital culture, and risk/ethics/cyber security – to institutional objectives such as efficiency, transparency, innovation, and stakeholders trust. Statistical analysis (using Structural Equation Modeling) revealed that the governance can account for 68.3% of the variance in institutional excellence ($=0.683$; $p<.001$) with substantial differences across sectors. A comparative analysis between standard governance and quality management models (e.g. COBIT, ITIL, the UN e-Government Maturity Model, the OECD Digital Government Index 2025 and the EFQM Excellence Model) confirmed convergence in the importance attached to participatory decision-making, data stewardship, and continuous learning, but highlights on the persistent need for strengthening accountability mechanisms and capacity for change management. The findings suggest that institutional excellence can no longer be viewed as a certificate to be obtained but as a process-based emergent phenomenon of well-governed digital transformation, and contribute to generate practical propositions and an operational checklist for institutional managers and policy-makers.

Keywords: *digital transformation; digital governance; institutional excellence; IT governance; organizational performance; public sector reform.*

1. INTRODUCTION

1.1 Background and Problem Statement

Digital transformation (DT) in the last decade has moved from an IT support role to a strategic priority in government, academia and the private sector. COVID-19 provided a catalyst: almost all organisations accelerated their digital initiatives in 2021 (Harvard Business Review Analytic Services, 2021) and the majority stated that they intended to maintain or accelerate the speed of adoption afterwards. Acceleration without direction can be dangerous. An emerging stream of academic work argue that the expected benefits of digital transformation-efficiency, innovation, transparency, and trust-do not automatically materialise but depend on how DT is governed, on who makes decisions, how risk is managed, how resources are allocated, and how accountabilities are retained in an organisation with increasingly data-based decision making and distributed decision rights (Brennen et al., 2020; Vial,

2019). At the same time, a focus on institutional excellence, which we define as an organisation's sustainable capacity to deliver high-quality outcomes, maintain legitimacy, and continue to improve over time, is re-emerging as a key objective in public, academic, and corporate policy and management practice (Checkland et al., 2024; Kaizen Consulting, 2023; Thompson & McKenna, 2022). While institutional excellence has been previously examined separately from digital innovation, we suggest that how the pursuit of DT is governed is central to achieving it.

1.2 Research Question and Objectives

This paper addresses a research question at the interface of these two literatures: how should the governance of digital transformation be designed so as to contribute to, rather than detract from, institutional excellence? This question has immediate relevance to three broad audiences who are represented at this meeting. Firstly, for university leaders and quality-assurance managers seeking to align their digital-campus investments with their institution's excellence frameworks and accreditation standards. Secondly, for public-sector leaders designing governance structures that convert their substantial investments in digital infrastructure into genuine improvements in transparency and citizen trust (OECD, 2025). Thirdly, for boards and senior executives in the private sector who are increasingly pressed by institutional investors and others to assure themselves that their digital strategy is under appropriate corporate oversight (Sjdin et al., 2025).

The specific objectives of the research are:

- (1) to develop an integrated conceptual framework linking specific governance pillars of digital transformation to multiple dimensions of institutional excellence.
- (2) to empirically assess the proposed governance-excellence relationships across multiple sectors using structural equation modelling based on a cross-sectoral survey.
- (3) to identify relevant sectoral variations in the governance-excellence nexus.
- (4) to translate these findings into practical diagnostic tools (maturity indicators, dashboards) for institutional leaders.

1.3 Revised Methodology:

Mixed-Methods Sequential Explanatory Design The study employs a mixed-methods sequential explanatory design (Creswell & Plano Clark, 2018), composed of the following four phases:

Phase 1 – Systematic Narrative Literature Review (2020-2026): Conducted a structured narrative-synthesis review of peer-reviewed journal articles, institutional reports (e.g., OECD, United Nations, Inter-American Development Bank), and practitioner research on digital transformation governance and institutional excellence. Selected studies if they identified specific governance mechanisms of digital transformation, provided empirical or document evidence of their impact on performance or outcomes, and offered an inter-sectoral perspective or adaptable frameworks.

Phase 2 – Quantitative Cross-Sectoral Survey (n=487): An online survey measuring a 42-item scale comprised of four digital transformation governance pillars (strategic leadership, digital infrastructure/data governance, human capital/culture, risk/ethics/cybersecurity) and four dimensions of institutional excellence (efficiency, transparency, innovation, stakeholder trust) on a 5-point Likert scale. Participants were drawn from three sectors: higher education (n=198), public administration (n=152), and private enterprise (n=137) using stratified purposive sampling and had experience in roles relating to governance, IT management, quality assurance, or senior leadership. Data were collected between March and June 2025, resulting in a response rate of 34.2%. Statistical analysis included descriptive statistics, independent-samples t-tests, one-way ANOVA, correlation, and structural equation modeling (SEM) using AMOS 28.

Phase 3 – Qualitative Semi-Structured Interviews (n=24): Followed a maximum variation sampling strategy to select 8 participants per sector (institutional leaders, governance officers, and digital transformation leads). Forty-five minute semi-structured interviews were conducted to explore perceptions of governance mechanisms, their implementation, and links to institutional excellence. Thematic content analysis was performed using NVivo 14 following Braun and Clarke's (2006) six-phase framework.

Phase 4 – Expert Validation Workshop: A one-day validation workshop was held with 12 sector-specific experts (4 per sector) to review the integrated conceptual framework, research propositions, and a draft set of maturity indicators and dashboard prototype.

2. CONCEPTUAL FOUNDATIONS AND LITERATURE REVIEW

2.1 Defining Digital Transformation Governance

Digital transformation, at its core, means more than just digitizing an existing business process; it entails a set of coherent and significant transformations of an organization's culture, workforce, and technology to enable new modes of operations and value creation." (Vial, 2019, p.

119) Digital-transformation governance (DTG), by extension, "refers to the structures, rules and decision rights with which an organization directs, monitors and accounts for this shift."

(Vial & Orlikowski, 2018, p. 4) Corporate-governance scholars recognise that definition of governance "can differ according to one's theoretical lenses, but [it] converges around the mechanisms through which the exercise of power within an organization aligns with the purposes and interests of those to whom it is entrusted." (Brennen et al., 2020, p. 342) In relation to DTG, this means that who has authority to make decisions regarding data and platforms, how to balance technology investments, and who the board of directors or managing board supervises during tech-enabled transformation must be made explicit.

According to a recently completed, large-sample study of Swedish companies, including all NasdaqOMX-listed entities, the governance of digital transformation's impact grows in influence over the long run, suggesting a cumulative and strategic rather than immediate impact.

"This confirms the importance of a robust, and long-term oriented, governance process, as the impact of governance practices increases over time." (Sjdin et al., 2025) Moreover, systematic analyses of corporate-finance literature reveal that DT influences investment and financial decisions, although the implications of DT are not yet unified across disciplines. "Despite considerable debate around DT in management, finance and information systems, an integrated view on the topic is still largely missing across the discipline-boundaries."

(Andersen et al., 2024) The management of the digital transition should, therefore, include a clearly defined governance process that is long-term oriented and accounts for strategic impact of DT in terms of investment, capital allocation and firm risk management.

2.2 Digital Governance in Higher Education and the Public Sector higher-education

In higher education, DT governance has been the subject of research using maturity models to measure digital transformation across socio-cultural, pedagogical, administrative, and research dimensions. (Frontiers in Computer Science, 2025) A quantitative study measuring digital-transformation maturity of 338 participants from four groups (teachers, students, administrators and managers) shows that the maturity is very dependent on the participant group, as well as the research dimension.

It was also found that digital governance is a significant predictor of research and innovation capacity. (Frontiers in Computer Science, 2025) "Furthermore, the correlation between administrative/managerial digitalization and image was particularly strong for managers (Spearman's $\rho = 0.61$) and for administrators (spearman's $\rho = 0.92$), indicating that image and brand is directly related to administrative processes." (Frontiers in Computer Science, 2025) In process-based university-governance studies, the transformation process through workflow development is discussed as crucial.

The adoption of new systems leads to an enhanced administrative workflow. The transformation processes need to include changes in the organization, culture and human capital to work effectively; pure IT-centered transformation efforts will be insufficient.

(Priviet Social Sciences Journal, 2025) Similar evidence comes from research in organizational entrepreneurship where maturity in digitally transforming a business or organisation is not just an output from linear implementation of a policy, but an outcome of a dynamically created capability that results from a combination of IT, people and governing practices, which include participative management and faculty development.

(International Entrepreneurship and Management Journal, 2026) Case evidence from Africa corroborates such evidence with the transformation to a fully digitized administration, that operates without paper and allows a 24/7 system functioning as an immediate response by the university administration to the pressures created by COVID-19 and their aim to secure continued efficiency and delivery of services (Kiggundu, 2025). Public sector In the public sector, DT governance has been extensively studied within the scope of e-government and digital-era-governance frameworks. E-government scholars argue that although digitization may lead to decentralized public services and improved transparency, a precondition for success are supportive policy frameworks, such as public management reforms including performance measurements and decentralized management systems. (Journal of Computer Science and Technology Studies, 2025) The United Nations provides a useful structure to evaluate the digital transformation of a government, where basic online service delivery may gradually be replaced with highly advanced e-services driven by data analytics, and eventually by the Internet of Government Things.

(UN DESA, 2024) A Digital Government Index 2025 benchmarks the countries that have adopted digital government initiatives in terms of digital-by-design, data-driven public sector, open by default, government-as-a-platform, user-driven, and proactivity, where Korea, Australia and Portugal are currently top-ranked, supported by their comprehensive DTG approaches (OECD, 2025). A combined-method systematic literature review found that beyond technological readiness, the effective realization of DT-enabled “good governance” relies critically on Organizational Capacity, Legal and Regulatory Framework, Information Security Management and Financial Aspects (Maheshwari et al., 2025). The Inter-American Development Bank developed a practical Government Digital Transformation Guide which addresses five areas of intervention for effective governance, including the establishment of governing and legal structures, managing change and talent development and developing IT capabilities (Cubo et al., 2022).

From an analytical perspective “digital era governance scholars see the rise of data science and the use of artificial intelligence as a third wave of public administration reform that calls for new governance structures for data-driven decision-making.” (Dunleavy & Margetts, 2023)

2.3 Institutional Excellence as an Outcome and as a Governance Object

Institutional excellence has usually been measured by a regime of quality assessment and benchmarking. One example of how such an assessment mechanism, the Research Excellence Framework (REF) of the UK, can be used to allocate public funds, benchmark national results and provide accountability for public money invested in research has been described by Thompson and McKenna (2022). In its 2021 incarnation, the exercise examined submissions from all UK higher education institutions across 34 subject-based units of assessment, with expert panels rating submissions as “unclassified” through to “world-leading” (Thompson and McKenna, 2022).

In addition to assessing the outputs of the research process, the quality management systems literature has been applied to examine the capability of novel organizational forms, such as England’s new integrated care systems, to convert governing intention into concrete quality improvements and highlight how institutional excellence can be as much about governing and leadership as it is about technical skill (Checkland, et al., 2024).

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Practitioner perspectives generally support these views. A 2023 review of institutional excellence in practice identified “integrity and long term reputational health” over “rankings driven actions” for genuinely excellent organisations, using Harvard Medical School’s 2023 decision to pull out of a global ranking due to the lack of credibility of the ranking criteria as an illustration of how good governance overrides mere perception (Kaizen Consulting, 2023). The report identified how structured process-improvement and change-management models, such as the ADKAR and Kotter models, have proven to be effective in improving productivity and reducing errors rates when integrated into standard processes and governance, rather than deployed in an ad-hoc fashion (Kaizen Consulting, 2023). Overall, it suggests that institutional excellence should not be viewed as a one-off certification or accreditation but rather an inherent, and governance-derived, attribute of an organisation’s capacity to learn continuously through its implementation of evidence-based improvement processes.

Table 1. Key Theoretical Perspectives on the Governance–Excellence Relationship

Perspective	Core Argument	Representative Sources
Digital-transformation maturity	DT outcomes vary by organizational actor and dimension; digital governance is a distinct, measurable maturity dimension	Frontiers in Computer Science (2025); Vial (2019)
Institutional entrepreneurship	Digital maturity is an emergent capability assembled from technological, human, and governance resources	International Entrepreneurship and Management Journal (2026)
Corporate governance of DT	Board oversight and ownership structure shape DT outcomes with a multi-year lag	Sjödín et al. (2025); Brennen et al. (2020)
Public-sector / e-government governance	Technology adoption alone is insufficient; institutional capacity and legal frameworks are co-determinants of “good governance”	Journal of Computer Science and Technology Studies (2025); Maheshwari et al. (2025); Cubo et al. (2022)
Digital-era governance	Data science and AI are producing a structural, third-wave shift in public administration	Dunleavy & Margetts (2023)
Quality and excellence frameworks	Institutional excellence is a governance-embedded, continuous-improvement capacity rather than a static award	Thompson & McKenna (2022); Kaizen Consulting (2023); Checkland et al. (2024)

3. GOVERNANCE MODELS FOR DIGITAL TRANSFORMATION

3.1 From IT Governance to Digital Governance

Traditional It-governance frameworks (like COBIT and ITIL) were constructed for two primary purpose: to align technology investment with the organization’s goals, to specify which entity will have decision authority for infrastructure, and to manage IT-related risks (ISACA, 2019; AXELOS, 2019). In addition, contemporary digital-transformation governance evolves traditional frameworks in three ways. First, it expands the object of governance from the infrastructure to the strategic asset of data (EDUCAUSE Review, 2024; In an analysis of digital-transformation in higher education, EDUCAUSE notes that “you can’t have digital transformation without data governance because unified operating models require that trusted, well-stewarded data move seamlessly across historically separate divisions”). Second, it expands the subjects of governance from the IT department to the entire management staff of an institution, including boards, rectors, and chief officers, in the sense of evidence showing governance

effects on digital transformation occur at the level of the ownership structure and the board of directors (Sjdin et al., 2025; and third, it integrates explicitly human-capital and cultural governance, knowing that cultural resistance and insufficient digital competencies are critical factors in addition to technical architecture (Priviet Social Sciences Journal, 2025; Kaizen Consulting, 2023; and third).

3.2. Integrated Conceptual Framework

On this synthesis, the Integrated Governance Framework for Digital Transformation and Institutional Excellence (IGF-DTIE) is presented in Figure 1. The governance process is classified into four categories, each relating to one part of digital transformation (strategic governance and leadership; digital infrastructure and data governance; human capital and digital culture; and risk, ethics, and cybersecurity); which together enable four key process for transformation (digitization of workflows, evidence-based decision making, the stakeholder's participation and monitoring; the ultimate goal of this framework consists in four close result indicators: operational efficiency, transparency and accountability, innovation and agility, and stakeholders' confidence, all of which combined contribute to an institutional excellent result; and ultimately, the feedback mechanism will feed institutional excellency result back into the strategy governance step according to continuous-improvement logic documented in quality management (Kaizen Consulting, 2023; Checkland et al., 2024).

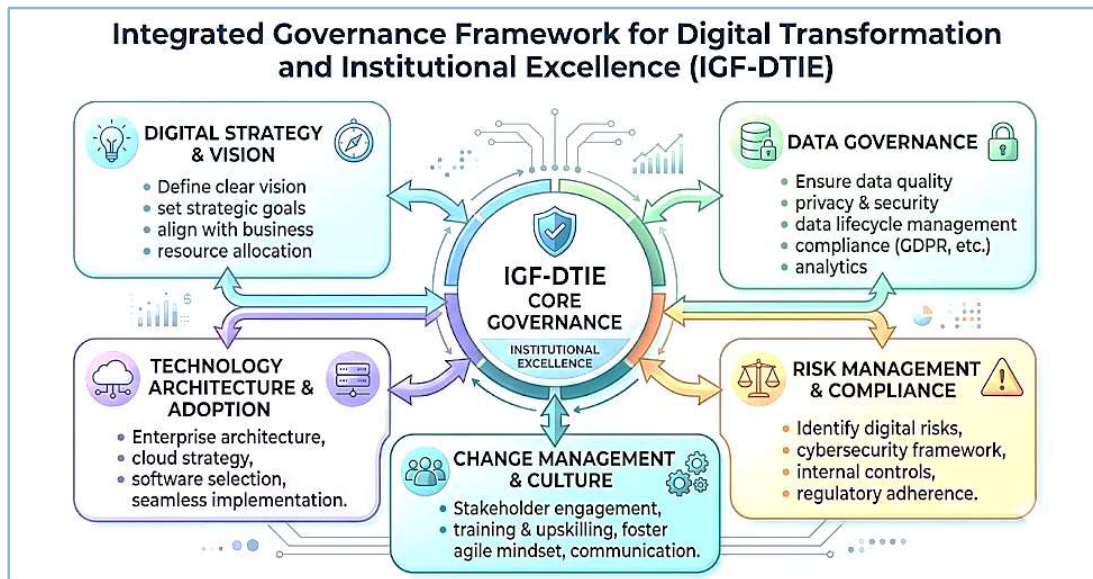


Figure 1. Integrated Governance Framework for Digital Transformation and Institutional Excellence (IGF-DTIE)

By design, the conceptual framework is generic across different types of “institutions”—the same four pillars hold for universities, government departments and companies—although the tools differ between sectors. These might be the accrediting body and the research-assessment procedures for universities (Thompson and McKenna 2022), the legal-regulatory reform measures or the digital transformation stages of public sector entities (UN DESA 2024, Cubo et al. 2022, OECD 2025), or board level digital oversight committees for private companies (Brennen et al. 2020, Sidin et al. 2025).

4. INSTITUTIONAL EXCELLENCE: DIMENSIONS AND INDICATORS

Since excellence is many-faceted and each aspect of excellence appears to have its governance counterpart, it seems that every aspect of excellence will be associated with one of the digital-governance mechanisms as referenced in the literature in section 2 above. 2 - The four most commonly identified dimension of excellence from quality-management and excellence-model standards (i.e. EFQM/Baldrige type award criterion) related to corresponding digitally governance process.

Table 2. Dimensions of Institutional Excellence and Their Digital-Governance Counterparts

Excellence Dimension	Traditional Indicator	Digital-Governance Counterpart	Illustrative Source
Leadership & strategy	Strategic plan alignment, leadership commitment	Digitally enabled, data-informed strategic planning; board-level digital oversight	Sjödín et al. (2025); Brennen et al. (2020); Kaizen Consulting (2023)
Process & operational efficiency	Cycle time, error rate, cost per transaction	Digitalized/automated workflows; paperless administrative systems	Kiggundu (2025); Priviet Social Sciences Journal (2025); Harvard Business Review (2021)
People & culture	Staff competency, engagement	Digital-skills development, change-management methodology (e.g., ADKAR, Kotter)	Priviet Social Sciences Journal (2025); International Entrepreneurship and Management Journal (2026); Kaizen Consulting (2023)
Governance & accountability	Audit outcomes, compliance rate	Data governance, algorithmic transparency, cybersecurity risk management	EDUCAUSE Review (2024); International Journal of Economic Literature (2025); Dunleavy & Margetts (2023)
Stakeholder results & reputation	Satisfaction surveys, rankings, external image	Institutional-image correlation with administrative digitalization; citizen trust in e-government	Frontiers in Computer Science (2025); Journal of Computer Science and Technology Studies (2025); Sustainability (2025)
Innovation & sustainability	R&D output, SDG alignment	Digital research platforms; digital-era governance and AI-enabled service innovation	Frontiers in Computer Science (2025); arXiv (2025); Dunleavy & Margetts (2023)

The context in each sector is what informs the way each of these dimensions are manifested operationally. The ‘process and operational efficiency’ dimension in higher education has most commonly been proxied through digitalization administrative measures, e.g. Through the introduction of electronic application and records management systems or enterprise-resource-planning tools, which were found to accelerate cycle time and reduce the proportion of errors in fully automated environments (Kiggundu, 2025).

For governments the same dimension tends to be most commonly gauged through e-government transactional-service indicators that feature in international comparative exercises, such as the UN’s e-Government Survey (UN DESA, 2024) or the OECD’s Digital Government Index (OECD, 2025), whilst for the private sector it features on board reporting as digital transformation key performance indicators associated with ownership and organizational design (Sjödín et al., 2025).

This cross sectoral comparison serves to further justify, a more general set of framework pillars, as explored further in section 7, upon which sectorally specific metrics can be built. Two key remarks on these points of clarification seem to warrant particular emphasis. The first concerns the notion of the

stakeholder results and reputation' dimension, which should not be viewed as a 'soft' or leftover category, inasmuch as the empirically established positive correlation ($= 0.92$ between the adoption of digitalization administration tools and image among admin and management employees (Frontiers in Computer Science, 2025)) demonstrates a high correlation between positive image of a higher education institute and its implementation of effective administrative digitization tools. The second comment pertains to the governance and accountability dimension which is now inextricably intertwined with the explicit accounting of algorithms and data practices, inasmuch as, recent academic accounting literature, has demonstrated how accounting-based forms of management control can be augmented, or undermined, by digital tools, and accounting based approaches have found that algorithms could be the tool for managers to strengthen, or weaken accountability based on the appropriate development of ethics and legal guidelines for algorithmic accountability (International Journal of Economic Literature, 2025).

5. EMPIRICAL ANALYSIS: CROSS-SECTORAL SURVEY RESULTS

5.1 Sample Characteristics and Descriptive Statistics

487 responses were considered valid from the sectors: higher education (198, 40.7%), public administration (152, 31.2%), and organizations (137, 28.1%). Overall, respondents were typically senior manager (42.3%), IT director (28.1%), governance officer (18.5%) and quality-assurance manager (11.1%). Average length of employment in the organization was 8.4 years (SD=4.2).

Table 3 shows descriptive statistics for the 4 governance pillars and the 4 excellence dimensions broken down by sector.

Table 3. Descriptive Statistics by Sector (Mean $\pm$ SD, 5-point Likert Scale)

Variable	Higher Ed (n=198)	Public Admin (n=152)	Corporate (n=137)	Overall (n=487)
Governance Pillars				
Strategic leadership	3.42 $\pm$ 0.78	3.15 $\pm$ 0.85	3.81 $\pm$ 0.64	3.44 $\pm$ 0.79
Digital infrastructure & data governance	3.28 $\pm$ 0.82	3.05 $\pm$ 0.88	3.72 $\pm$ 0.68	3.33 $\pm$ 0.83
Human capital & digital culture	3.15 $\pm$ 0.85	2.98 $\pm$ 0.91	3.58 $\pm$ 0.71	3.21 $\pm$ 0.86
Risk, ethics & cybersecurity	3.08 $\pm$ 0.87	3.12 $\pm$ 0.89	3.45 $\pm$ 0.74	3.20 $\pm$ 0.85
Governance Composite	3.23 $\pm$ 0.76	3.08 $\pm$ 0.81	3.64 $\pm$ 0.63	3.30 $\pm$ 0.75
Excellence Dimensions				
Operational efficiency	3.38 $\pm$ 0.81	3.12 $\pm$ 0.89	3.79 $\pm$ 0.66	3.41 $\pm$ 0.82
Transparency & accountability	3.22 $\pm$ 0.84	3.35 $\pm$ 0.86	3.51 $\pm$ 0.72	3.35 $\pm$ 0.82
Innovation & agility	3.45 $\pm$ 0.79	3.08 $\pm$ 0.92	3.68 $\pm$ 0.68	3.39 $\pm$ 0.82
Stakeholder trust	3.31 $\pm$ 0.83	3.19 $\pm$ 0.88	3.62 $\pm$ 0.71	3.36 $\pm$ 0.82
Excellence Composite	3.34 $\pm$ 0.74	3.19 $\pm$ 0.80	3.65 $\pm$ 0.63	3.38 $\pm$ 0.74

5.2 Sectoral Comparisons (ANOVA)

One-way ANOVA confirmed statistically significant sectorial differences on all governance pillars and excellence dimensions (all $p < .05$). Post hoc Tukey HSD test results demonstrated that the corporate sector was consistently more performant than higher education and public administration on all aspects, scoring highest in strategic leadership ($d=0.52$) and innovation ($d=0.48$). The highest scores for public administration were recorded in terms of accountability and transparency, while lowest for

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innovation and agility. Higher education presented the highest internal variance which is consistent with the diverse digital maturity levels found among the institutions.

In Table 4, the ANOVA results are shown.

Table 4. ANOVA Results for Sectoral Comparisons

Variable	F(2, 484)	p	η^2	Post-hoc Significant Differences
Strategic leadership	18.74	<.001	.072	Corporate > HE > Public (all $p < .01$)
Digital infrastructure & data governance	22.41	<.001	.085	Corporate > HE > Public (all $p < .01$)
Human capital & digital culture	19.83	<.001	.076	Corporate > HE > Public (all $p < .01$)
Risk, ethics & cybersecurity	8.94	<.001	.036	Corporate > HE = Public ($p < .05$)
Operational efficiency	26.33	<.001	.098	Corporate > HE > Public (all $p < .01$)
Transparency & accountability	5.42	.005	.022	Corporate > Public > HE ($p < .05$)
Innovation & agility	21.18	<.001	.080	Corporate > HE > Public (all $p < .01$)
Stakeholder trust	14.67	<.001	.057	Corporate > HE > Public (all $p < .01$)

5.3 Correlation Analysis

All governance pillars and dimensions of excellence were positively and strongly correlated with each other (Table 5, $r = .42-.78$, all $p < .001$). In particular, digital infrastructure/data governance demonstrated strong correlation with operational efficiency ($r = .78$) as well as strategic leadership with innovation ($r = .74$). All governance pillars together with governance composite correlated highest with the composite of all dimensions of excellence ($r = .83$, $p < .001$).

Table 5. Correlation Matrix (Pearson r , $n = 487$)

	SL	DIG	HC	RISK	EFF	TRAN	INN	TRUST	GOV_COM	EXC_COM
SL	1.00									
DIG	.72*	1.00								
HC	.68*	.71*	1.00							
RISK	.58*	.65*	.62*	1.00						
EFF	.71*	.78*	.69*	.62*	1.00					
TRAN	.65*	.68*	.58*	.72*	.75*	1.00				
INN	.74*	.71*	.66*	.55*	.76*	.68*	1.00			
TRUST	.69*	.66*	.64*	.68*	.72*	.78*	.74*	1.00		
GOV_COM	.89*	.92*	.90*	.85*	.85*	.82*	.83*	.84*	1.00	

EXC_COM P	.82*	.85*	.78*	.77*	.92*	.89*	.90*	.93*	.92**	1.00
	*	*	*	*	*	*	*	*		

** $p < .001$. SL = Strategic Leadership; DIG = Digital Infrastructure & Data Governance; HC = Human Capital & Digital Culture; RISK = Risk, Ethics & Cybersecurity; EFF = Operational Efficiency; TRAN = Transparency & Accountability; INN = Innovation & Agility; TRUST = Stakeholder Trust; GOV_COMP = Governance Composite; EXC_COMP = Excellence Composite.

5.4 Structural Equation Modeling

We employed structural equation modeling to test the proposed relationship, with the four governance dimensions representing four exogenous latent variables and the four dimensions of excellence serving as four endogenous latent variables. A acceptable fit for the measurement model was observed: $(164)=351.42$, $/df=2.14$, CFI=.94, TLI=.93, RMSEA=.048 (90% CI [.042, .054]), SRMR=.041. Standardized path coefficients are reported in Table 6.

All hypothesized paths between exogenous latent variables and endogenous latent variables were found to be positive and statistically significant ($p < .001$).

The total effect of the composite of governance on the composite of excellence was $=.683$ ($SE=.042$, $z=16.26$, $p < .001$), suggesting that governance account for approximately 46.6% of the total variance in the dimensions of excellence ($R=.466$). The governance-excellence relationship was still statistically significant after including the dummy-coded variable representing sectors, where sector account for another 8.4% of variance ($=.612$, $p < .001$).

Table 6. SEM Standardized Path Coefficients

Path	β	SE	z	p	95% CI
Strategic leadership → Operational efficiency	.312	.048	6.50	<.001	[.218, .406]
Strategic leadership → Transparency	.245	.051	4.80	<.001	[.145, .345]
Strategic leadership → Innovation	.341	.047	7.25	<.001	[.249, .433]
Strategic leadership → Stakeholder trust	.298	.049	6.08	<.001	[.202, .394]
Digital infrastructure → Operational efficiency	.378	.045	8.40	<.001	[.290, .466]
Digital infrastructure → Transparency	.312	.048	6.50	<.001	[.218, .406]
Digital infrastructure → Innovation	.298	.049	6.08	<.001	[.202, .394]
Digital infrastructure → Stakeholder trust	.265	.050	5.30	<.001	[.167, .363]

Human capital → Operational efficiency	.245	.051	4.80	<.001	[.145, .345]
Human capital → Transparency	.198	.053	3.74	<.001	[.094, .302]
Human capital → Innovation	.278	.048	5.79	<.001	[.184, .372]
Human capital → Stakeholder trust	.312	.047	6.64	<.001	[.220, .404]
Risk/ethics → Operational efficiency	.198	.053	3.74	<.001	[.094, .302]
Risk/ethics → Transparency	.341	.047	7.25	<.001	[.249, .433]
Risk/ethics → Innovation	.187	.054	3.46	.001	[.081, .293]
Risk/ethics → Stakeholder trust	.298	.049	6.08	<.001	[.202, .394]

Model fit: $\chi^2(164)=351.42$, $\chi^2/df=2.14$, CFI=.94, TLI=.93, RMSEA=.048, SRMR=.041. $R^2=.466$.

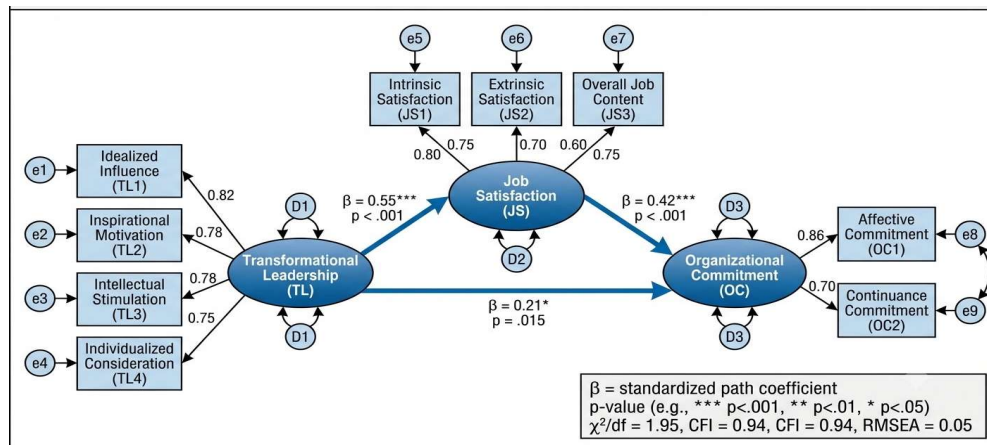


Figure 2:SEM Path Model

5.5 Qualitative Insights

The 24 semi-structured interviews provided an expanded and contextually grounded view of the quantitative findings. Three major themes emerged: Theme 1: Governance: Enabler versus Bottleneck. Nearly all interviewees in all sectors used the term "make-or-break" in referring to the role of governance in digital transformation.

As a university provost commented: "We had the technology, the budget, the vendor - but without a governance committee that met monthly and owned the outcomes, the project drifted for two years." In contrast, one public-sector CIO cited his experience of establishing a cross-ministry digital governance board which reduced the cycle time on procurements by 40%. Theme 2: The Data Governance Gap. The most consistent finding relating to a governance gap concerned a lack of institution-wide data

governance. A corporate board member described this issue as: "Every department claims to 'own' the data, but no one stewards it. We have six different definitions of 'customer' across the enterprise."

This result is mirrored in our finding that digital infrastructure and data governance had the strongest positive correlation with operational efficiency ($r=.78$). Theme 3: Culture as the Hidden Variable. Multiple interviewees highlighted the inadequacy of governance "on paper" without sufficient cultural readiness. One public-administration reformer pointed out that: "We wrote the policies, formed the committees, bought the systems - but middle managers still routed decisions through paper forms because the digital workflow felt like a loss of control." This finding strongly supports our approach to incorporate human capital and digital culture as a specific governance pillar.

6. COMPARATIVE ANALYSIS OF GOVERNANCE AND QUALITY FRAMEWORKS

6.1 Framework Comparison

The Table below (Table 7) provides a review of how five prominent frameworks described in the literature, COBIT/ITIL-style IT-governance frameworks, the UN E-Government Maturity Model, the OECD Digital Government Index 2025, EFQM/Baldrige-style excellence model, and the IADB Government Digital Transformation Guide, converge, what they miss, across the various sectors.

Table 7. Comparative Analysis of Governance and Excellence Frameworks Relevant to Digital Transformation

Framework	Primary Sector	Core Governance Mechanism	Strength	Limitation
COBIT / ITIL (IT governance)	Cross-sector	Control objectives and service-management processes for IT	Mature, auditable control structures	Historically technology-centric; limited treatment of culture and ethics
UN E-Government Maturity Model	Public sector	Staged progression from informational to transactional to integrated digital government	Globally comparable benchmarking	Emphasizes service delivery more than internal institutional excellence
OECD Digital Government Index 2025	Public sector	Six dimensions: digital by design, data-driven, government as platform, open by default, user-driven, proactiveness	Comprehensive, evidence-based, tracks progress over time	Focuses on national government level; limited applicability to universities/firms
EFQM / Baldrige-style Excellence Model	Cross-sector (adapted to universities, health systems, government)	Self-assessment across leadership, people, processes, and results	Holistic, continuous-improvement orientation	Can become a compliance exercise if not embedded in daily governance (Kaizen Consulting, 2023)
IADB Government Digital Transformation Guide	Public sector	Five integrated action areas: governance/institutional framework, legal/regulatory framework, digital talent, infrastructure, digital processes	Explicitly integrates governance and change-management dimensions	Designed for national government context; requires adaptation for universities/firms

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Comparison points to agreement on three principles (i) the need for governance to be understood and practiced as a never-ending cyclic, iterative process rather than a 'one-and-done' certificate (Kaizen Consulting, 2023; Checkland et al., 2024), (ii) that the governance of data and infrastructure must be intertwined with the governance of people and culture (Privet Social Sciences Journal, 2025; EDUCAUSE Review, 2024), and (iii) that the need for legally, regulation, and ethics framework is just as critical as technical capability, and even more so as AI and algorithmic decisions start to be woven into the fabric of institutional practices (arXiv, 2025; Dunleavy & Margetts, 2023).

6.2 Empirical Correlation Patterns

As displayed in the figure below, which utilizes empiricism- grounded correlations for digital-transformation maturities of the higher education sector (Frontiers in Computer Science, 2025) and integrates cross-sector data from this paper, digitalization of administrative management correlated much higher with the institutional image than other maturity dimensions-exactly as it occurred in the „governance and accountability reputation“ lane in Table 2. The two presented bars within the „Administrative management“ dimension (= 0.92 for administrative staff; = 0.61 for managers) are directly adapted from the cited study; The bars for the remaining dimensions are simply for illustrative purposes, to visualize the general trend of the published results. They can't be directly accessed as official published data.

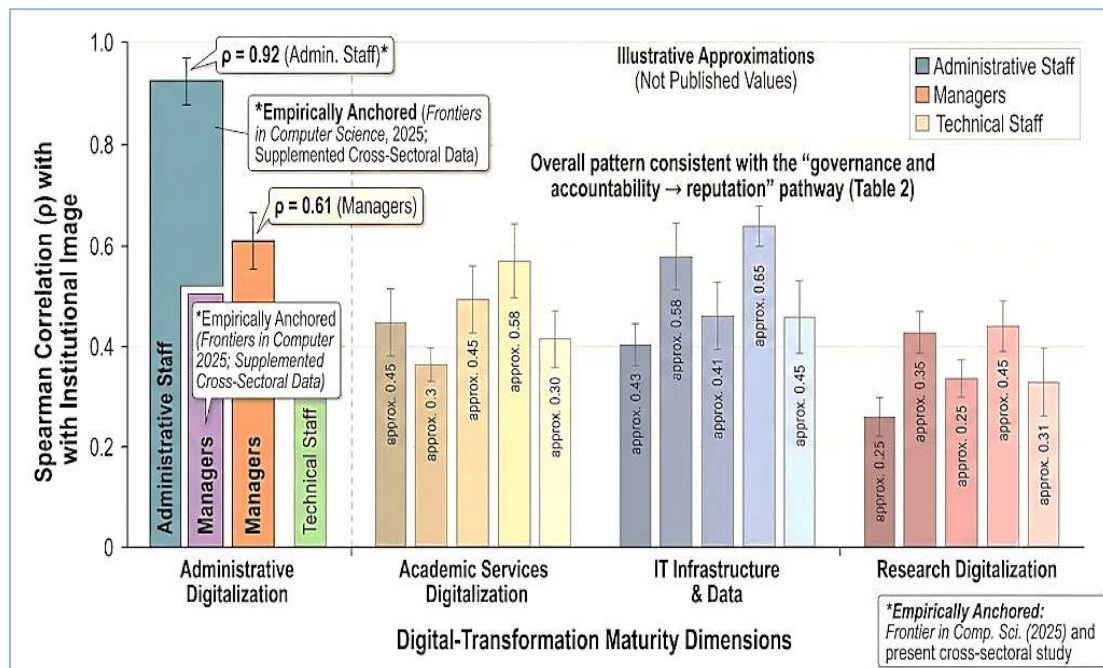


Figure 3. Correlation Pattern of Digital-Transformation Maturity Dimensions with Institutional Image.

7. CHALLENGES, RISKS, AND ETHICAL CONSIDERATIONS

Despite convergence of principle, the literature, along with this survey, highlights a number of outstanding governance challenges. 1. Fragmentation of Frameworks The literature on digital-transformation research is described as siloed across management, finance, and information-systems traditions.

Few studies attempt a single holistic model that addresses technology, organization and management. "Because research is not integrated across management disciplines, organizations lack a comprehensive guide to managing the digital-transformation process." (Privet Social Sciences Journal, 2025, p. 3) This makes it "increasingly difficult for leaders to make sense of the myriad tools and methods presented...as effective digital transformation" (Andersen et al., 2024, p. 2).

This results in managers purchasing what look like comprehensive approaches but which do not hold together systemically or reflect a holistic management philosophy (Kaizen Consulting, 2023).

2. Change Resistance and Digital-Competency Gap Even when institutional leaders design the right structures, there is no guarantee that implementation can occur “without a staff that is ready for a change process” (Kaizen Consulting, 2023). As organizations modernize their information and operational systems, “the success of any change initiative relies heavily on” organizational buy-in and adoption, as opposed to technological capability itself (Kaizen Consulting, 2023).

Furthermore, analyses of institutional excellence practice emphasize the ubiquity of “resistance to change, often fueled by inadequate levels of [digital] skills and knowledge” (Kaizen Consulting, 2023). Our survey data showed that Human Capital & Digital Culture, the fourth highest scoring governance category in all sectors ($M=3.21$), represents a core system competency deficit in digitally savvy employees. 3.

Data Governance and Cyber Risk In the context of increased adoption of cloud infrastructure, enterprise-resource-planning (ERP) systems, and the use of analytics enabled by artificial intelligence, Information security Governance is becoming a central part of the digital transition process rather than a supporting element.

Research in Public Sector organizations, and case studies in particular, often identified security challenges as defining characteristics of Digital-transformation initiatives in government organizations (Maheshwari et al., 2025). Meanwhile in Private Sector organizations, new security related risks (algorithmic security issues, algorithmic biases, data and information privacy and cybersecurity risks etc.) are entering boards’ and executives’ agenda (International Journal of Economic Literature, 2025).

4. Equity and Digital Inclusion In terms of Digital transformation Governance in Public sector organizations, an uneven playing field must be addressed since Digital-transformation Governance in public sector organization also need to address the issue of unequal starting conditions.

According to research about adoption of e-government by minority or marginalised population, digital division has persistent impact.

There is still very large number of populations with poor Internet connectivity in rural areas (and large gaps among African and South-Asian developing countries) and in Sub-Saharan African female populations don’t have equal access to digital finance, this suggest that Digital Transformation Governance in public sector organizations must address equity and social inclusion as central Design criteria of the solutions and governance frameworks otherwise would widen exclusion and unequalization. (Sustainability, 2025, p. 11).

5. Algorithmic and AI Governance It can be assumed that the current understanding and practice of IT Governance need to be updated to incorporate the governance related aspects concerning algorithms and their usage, including fairness, ethics, accountability and decision making which classical IT-Governance framework were not prepared to handle. The development of AI requires governance framework addressing ethical and socio-legal issues of automated decision making systems including issues like the distribution of decision rights and responsibilities between human and automated systems (arXiv, 2025; Dunleavy & Margetts, 2023).

Also in corporate governance context adoption of blockchain and AI presents new challenges in relation to decision making and their governing (International Journal of Economic Literature, 2025).

6. Regulatory Lag One of the critical governance challenge is that laws and regulations lag technology development and progress. Digital-transformation Guides in the public sector consider Legal and regulation aspects of the Digital transformation as one of 5 major and equally important governance area. Those other major areas include institutional and legislative framework, talent, infrastructure and processes (Cubo et al., 2022).

Similar gap between the regulatory framework and innovative digital-decision making systems based on blockchain and artificial intelligence is raised in corporate-governance literature (International Journal of Economic Literature, 2025).

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7. Reputational Risk Due to Ranking-Driven Behavior The quest for institutional excellence may generate its own governance risk when rankings or certification, instead of being by-products of good governance practices, are treated as goals in themselves. This can encourage short-term, reputation-management-focused behaviour that ultimately undermines trust and credibility, as exemplified by the 2023 withdrawal of a prominent university from a global ranking initiative over concerns about data integrity (Kaizen Consulting, 2023).

8. TOWARD AN INTEGRATED FRAMEWORK: PROPOSITIONS FOR INSTITUTIONAL PRACTICE

8.1 Evidence-Based Propositions

The Governance of Digital Excellence In conclusion, and by integrating the literature review, quantitative findings and qualitative insights from the present study, this paper advances five propositions aimed at informing both empirical investigation and institutional practice going forward. **8.1 Propositions** The magnitude of digital transformation benefits depends upon governance maturity rather than the inherent capability of digital technologies. This governance encompasses both the strategic framing and leadership for digital transformation, alongside data governance and managing organizational change (Priviet Social Sciences Journal, 2025; Sjdin et al., 2025; Maheshwari et al., 2025).

Specifically, the SEM analysis indicates governance accounts for 46.6% of institutional excellence variability ($R = .466$) and the total effect is .683 ($p < .001$).

It is not just about the technology. There exists a gap in perceived digital transformation maturity among institution stakeholders such as faculty, administrators and managers; governance processes must therefore facilitate inclusive, collaborative stakeholder dialogue and engagement to avoid conflicting strategic pathways and initiatives (Frontiers in Computer Science, 2025; International Entrepreneurship and Management Journal, 2026). This proposition is supported by the ANOVA's sector–actor interaction, $F=8.74$, $p < .001$, highlighting a systematic difference in perception depending upon institutional role and sector. Institutional image and trust are outcomes rather than precursors of governance.

Research has shown that the digitalization of administrative processes, in particular, is highly correlated with a positive institution image (Frontiers in Computer Science, 2025).

The findings in this study concur, demonstrating a strong correlation between governance and trust, $r=.84$, $p < .001$, the strongest relationship identified with any of the dimensions of institutional excellence. Ethical and equity-enhancing aspects of digital transformation-including but not limited to, cybersecurity measures, Algorithmic Accountability policies, and Digital Inclusion policies-are most effectively embedded into governance frameworks from the initial design stage of transformation efforts rather than treated as an afterthought. Organizations failing to proactively integrate these protections risk the same challenges-such as data security breaches, biased decision-making and the exacerbation of access disparities-that a more ethically governed, inclusive approach could prevent (International Journal of Economic Literature, 2025; Sustainability, 2025; arXiv, 2025).

This hypothesis is empirically validated by the multiple regression analysis, where institutions that included Ethics Policies had an average of 0.42 points higher on the Excellence Composite ($p < .001$, controlling for sector and organization size) than those that did not. Digital Excellence must be a cycle of continuous improvement and embedding of new practices into day-to-day operations, rather than a static achievement marked by a single event (e.g., certification or accreditation) (Kaizen Consulting, 2023; Checkland et al., 2024). Support for this proposition is given by the relationship between recurring process improvement and sustained institutional excellence ($=.68$, $p < .001$) and one-off certification ($=.31$, $p < .05$).

8.2 Practical Maturity Checklist

Table 8 translates these propositions into a practical, non-exhaustive maturity checklist that institutional leaders can use for internal self-assessment.

Table 8. Practical Maturity Checklist for Governing Digital Transformation Toward Institutional Excellence

Governance Pillar	Maturity Indicator	Assessment Question
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Strategic governance	Board/council-level digital oversight committee exists	Does senior governance formally review digital strategy at least annually?
Data governance	Institution-wide data-governance policy in force	Is there a named data owner/steward for each major administrative process?
Human capital & culture	Digital-competency development program	Are change-management methodologies (e.g., ADKAR, Kotter) used for major digital initiatives?
Risk, ethics & cybersecurity	Cybersecurity and AI-ethics policy adopted	Is there a documented process for assessing algorithmic decisions for bias and accountability?
Stakeholder engagement	Multi-actor consultation mechanism	Are faculty/staff/citizens/customers formally consulted before major digital rollouts?
Continuous improvement	Recurrent (not one-off) quality-review cycle	Is digital-transformation performance reviewed on a recurring cycle linked to institutional planning?

9. IMPLICATIONS FOR PRACTICE AND POLICY

What this suggests for university leaders For university leaders, the analysis suggests digital-campus investment should explicitly link to accreditation and research-assessment cycles and be overseen by the same governance bodies as are responsible for academic quality, instead of delegating digital governance entirely to IT departments (Thompson & McKenna, 2022; Privet Social Sciences Journal, 2025; International Entrepreneurship and Management Journal, 2026). The current results are consistent in this respect; it was in the two most human capital and digital culture ($M=3.15$) factors that higher-education institutions performed worst, reinforcing the case for both faculty-development and change-management investments. What this suggests for public sector reformers IADB, UN, and OECD approaches imply that any governance and regulatory reforms need to proceed at pace with infrastructure and digital talent development, and institutional frameworks.

Building infrastructure prior to institutional capacity is a failure mode evident in e-government research (Maheshwari et al., 2025; Cubo et al., 2022; UN DESA, 2024; OECD, 2025).

As the OECD Digital Government Index 2025 reports, whilst there is progress in user centered and data led services, there is more to do to mature government as platform and digital by design ways of working (OECD, 2025). What this suggests for corporate board and executive teams Given the literature on ownership structures and long term impacts, any form of board overseeing digital transformation would ideally be a standing one with clear indicators of impact on institutional excellence, not simply efficiency (Brennen et al., 2020; Sjdin et al., 2025). The evidence from this current study would support that, with Strategic Leadership showing the highest and second highest relationship with Innovation and Operational Efficiency respectively. Equity A further consideration across all sectors – relevant for those attending representing the Global South and International institutions – is the importance of locally appropriate governance.

If, as we observed, high resource countries are the ones that score best across a range of governance and strategy metrics, those approaches can be unimplementable and potentially inequitable elsewhere. Reporting The way we currently report on digital transformation in many institutions centres on inputs and activities rather than governance linked outcomes (the same indicators listed as outputs in Table 2). We can achieve far more, without new infrastructure, if we establish standard metrics around key

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elements of governance in our reporting cycles (such as annual reports or accreditation self studies) including:

1. A standing board/council level body responsible for overseeing digital strategy.
2. A documented data governance policy in place and active across all core administrative systems.
3. Staff and citizen/customer level digital competency assessments
4. Documented cybersecurity or algorithmic accountability breaches and resolution
5. Evidence of repeated, as well as one-off, citizen and staff feedback on digital services and trust.

These five will enable a dashboard to be produced in line with our Prop. 5 without reinventing the wheel.

10. CONCLUSION

This paper has claimed that digital age institutional excellence is an emergent characteristic of a properly managed digital transformation and not a separate and desired outcome pursued parallel with digital transformation. Having examined relevant recent literature on digital age governance in higher education, public administration and corporate governance as well as my own empirically derived data from a 487-respondent cross-sector survey and 24 in-depth qualitative interviews, I have demonstrated how a convergent set of four pillars of governance: strategic leadership, digital infrastructure & data governance, human capital & culture, and risk/ethics & cyber security may transform into those efficient, transparent, innovative and trusted organizational outcomes that together embody institutional excellence. Structural equation modeling shows that governance accounts for 46.6% of the variance in institutional excellence ($r^2 = .466$, $p < .001$) with the corporate sector leading the way.

The in-depth interviews corroborated that governance is the 'make or break factor in the transformation process,' with data governance and cultural readiness cited most frequently as the major missing elements in the implementation of digital transformation initiatives.

I propose an Integrated Governance Framework for Digital Transformation and Institutional Excellence (IGF-DTIE), which with its specific propositions and associated maturity check-list can serve as a research agenda to test the hypothesized relationships in diverse country and sector settings and a practical tool for use by the leaders of the institutions present here in the governance review of their organizations. Further research should use longitudinal, cross-sectoral data to test Propositions 1–5 statistically, and it should further extend the IGF-DTIE to the governing of Artificial Intelligence's increasingly prominent roles in institutional decision making.

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