HISTORICAL INSTITUTIONAL DEVELOPMENT AND DIGITAL TECHNOLOGIES IN CORPORATE GOVERNANCE: THE UZBEKISTAN CASE

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Abstract: *Uzbekistan's rapid digitalization is reshaping how companies design governance systems, allocate accountability, and control risks. In corporate governance, digital technologies are no longer limited to operational automation; they increasingly influence board oversight, disclosure quality, internal control, stakeholder engagement, and ESG management. This article proposes an organizational architecture for applying digital technologies in corporate governance, combining board-level governance principles with IT governance standards and Uzbekistan's national digital policy priorities. The analysis links macro-level drivers of digital growth to micro-level corporate structures, emphasizing a "digital governance stack" that includes data governance, cybersecurity governance, digital compliance, and technology-enabled transparency. Based on international governance principles and Uzbekistan's strategic frameworks, the article outlines a practical model for integrating digital tools such as ERP, GRC platforms, e-procurement, analytics, and AI into governance processes, while strengthening risk management and accountability.*

Keywords: *Digital corporate governance; organizational structure; IT governance; GRC; data governance; cybersecurity; ESG; Uzbekistan; Digital Uzbekistan–2030; board oversight.*

Uzbekistan's digital transformation has created a new context for corporate governance, where transparency, speed of decision-making, and risk control increasingly depend on digital infrastructure and data-driven management. National policy sets ambitious goals for accelerating digital development across sectors through the Strategy "Digital Uzbekistan–2030," approved by the Presidential Decree (PF/DP-6079, 5 October 2020), which focuses on broad adoption of ICT in the economy and public administration and systematic digital transformation programs in regions and sectors[1].

At the macro level, measurable growth in the ICT sphere supports the argument that digital capacity is expanding and can be embedded into corporate systems. For example, public reporting on Uzbekistan's IT-sector development notes that gross value added in "information and communications" doubled from 4.4 to 8.8 trillion soums since 2016, while the volume of services in the "information and communication" activity type doubled from 6.3 to 12.9 trillion soums[2]. These dynamics matter for corporate governance because they indicate a broader availability of digital services, platforms, and competencies that companies can incorporate into governance and control functions.

Corporate governance, in its core meaning, refers to the structures and processes for the direction and control of companies and the relationships among shareholders, boards, management, and other stakeholders[3]. As corporate activities become digitally mediated, governance must address not only classical agency problems and disclosure, but also technology risk, data integrity, cybersecurity, algorithmic accountability, and digital ethics. The G20/OECD Principles of Corporate Governance (revised in 2023) emphasize effective governance frameworks, shareholder rights, disclosure and transparency, and board responsibilities, providing a globally recognized benchmark that can be operationalized through digital tools[4].

In Uzbekistan, the Corporate Governance Code (2015) provides voluntary recommendations for joint-stock companies, aiming to improve transparency, accountability, and fair business conduct[5]. However, the contemporary challenge is not only to "follow" governance recommendations formally, but to build an internal organizational architecture where digital technologies continuously support compliance, internal control, stakeholder communications, and ESG reporting.

A practical approach is to treat digitalization in corporate governance as a structured system that links governance bodies, management functions, and technology-enabled control mechanisms. At the top, the board of directors or supervisory board should formalize digital oversight as part of its fiduciary duties, because technology decisions now affect strategy, risk appetite, and stakeholder trust. This can be institutionalized through a dedicated board committee (technology and digital transformation committee, or a combined risk and technology committee), ensuring that digital initiatives are evaluated not only by cost and speed but by governance quality, resilience, and ethical compliance. International IT governance logic supports this approach. ISO/IEC 38500 frames IT governance as a domain of organizational governance (including corporate governance), focusing on how governing bodies evaluate, direct, and monitor current and future use of IT[6].

Below the board level, the organizational structure should include a clearly mandated "digital governance layer." This layer typically combines the Chief Digital Officer (CDO) or digital transformation office with the Chief Information Officer (CIO), while ensuring independence of control functions such as compliance, internal audit, and risk management. The key idea is functional separation with strong coordination: digital transformation teams drive innovation and process redesign, while control functions verify integrity, legality, and risk alignment.

A recommended corporate architecture includes a Digital Transformation Office responsible for enterprise-wide digital roadmaps, process reengineering, platform integration, and change management. This office coordinates with business units and ensures that digital initiatives are measurable and linked to strategic objectives. At the same time, a Data Governance Office (often led by a Chief Data Officer role or a data governance committee) defines data ownership, data quality standards, metadata policies, and rules for data access. This is essential because transparency and reporting depend on reliable corporate data.

Cybersecurity governance should be institutionalized as a separate, empowered function because cybersecurity incidents can rapidly become governance crises affecting financial stability and reputation. The cybersecurity unit must coordinate with risk management and internal audit, while maintaining operational capabilities such as threat monitoring, incident response, and vendor security assurance.

Digital compliance and internal control require a modern toolset. Governance, Risk, and Compliance (GRC) platforms can integrate policy management, risk registers, internal controls testing, audit trails, and regulatory reporting. This is consistent with enterprise risk management approaches that stress the integration of risk with strategy and performance, emphasizing governance and culture, information and reporting, and continuous review [7]. Digital compliance also includes automated monitoring of procurement, conflicts of interest declarations, related-party transactions screening, and whistleblowing channels, which can improve the real functioning of governance norms rather than leaving them as formal documents.

Digital technologies become most valuable in corporate governance when they are mapped onto concrete governance processes. Strategy and board oversight benefit from dashboards and analytics that convert operational and financial data into governance-relevant indicators, including risk appetite metrics, ESG performance, and compliance status. Disclosure and transparency can be strengthened through integrated reporting platforms that standardize financial and non-financial data collection, enabling consistent stakeholder communications. Decision-making becomes more traceable when board materials and committee workflows are managed through secure digital board portals with version control and audit trails.

In operational governance, ERP systems integrate finance, procurement, inventory, and HR data, reducing fragmentation and enabling a single source of truth for internal control. E-procurement platforms reduce corruption risks by standardizing tender processes, maintaining digital logs, and enabling oversight by compliance and audit functions. In complex supply chains, blockchain-based traceability can support integrity of ESG claims, although it requires careful cost-benefit analysis and strong data governance to avoid "garbage in, garbage out."

Artificial intelligence and advanced analytics can support governance through anomaly detection in transactions, predictive risk modeling, and monitoring of policy compliance patterns. Yet AI also introduces new governance duties: boards and executives must ensure that algorithmic systems are transparent enough for accountability, that models are tested for bias and reliability, and that sensitive data is protected. This implies that companies should adopt internal policies for responsible AI, including model governance, approval procedures, and independent validation.

A governance-ready digital architecture should also reflect stakeholder expectations and ESG priorities. ESG reporting increasingly depends on data quality, auditability, and standardized measurement. Digital ESG platforms can consolidate emissions data, labor and safety indicators, compliance incidents, and supply chain metrics, enabling integrated ESG

governance at board and management levels. Aligning this with global corporate governance principles supports investor confidence and improves access to capital[8].

Implementation requires phased organizational change rather than one-time IT purchases. The first phase is governance design, where the board defines digital oversight responsibilities, approves a digital governance policy, and assigns accountable executives and committees. The second phase is process and data standardization, establishing data governance and harmonizing core business processes to prevent digital fragmentation. The third phase is platform integration, deploying ERP, GRC, cybersecurity tools, and reporting systems with interoperable architecture. The fourth phase is continuous improvement, where internal audit and risk management evaluate digital controls, incident response readiness, and reporting reliability, while management upgrades capabilities as technology and regulation evolve.

For Uzbekistan's corporate sector, the relevance of this model is strengthened by the combination of national digital strategy priorities and corporate governance reform tools. The "Digital Uzbekistan–2030" strategy frames digital transformation as a systemic national goal, while the Corporate Governance Code provides the normative foundation for transparency and accountability in joint-stock companies[9].Together, they justify a corporate shift from "digitalization as automation" toward "digitalization as governance capacity," where technology becomes a mechanism of stronger board oversight, better disclosure, and more effective risk control.

Conclusion: Digital technologies can significantly improve corporate governance when they are embedded into an organizational architecture that assigns clear responsibilities, protects the independence of control functions, and converts data into transparent oversight mechanisms. For Uzbekistan, the most effective approach is to align corporate digital governance with national digital transformation priorities and established corporate governance standards. Technology-enabled governance should focus on board-level digital oversight, robust data governance, cybersecurity governance, digital compliance, and integrated reporting, including ESG indicators. When implemented systematically, digital governance strengthens accountability, reduces operational and compliance risks, and improves the quality of stakeholder trust, which is increasingly central to competitiveness in a digital economy.

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