

Distinctive Development and Regional Integration: Pathways for Digitally Empowered Governance in Local Finance and Economics Universities

Doudou Ren

*Massey Institute at Nanjing University of Finance and Economics, Nanjing, China
9220200023@mufe.edu.cn*

Abstract: Amid the global wave of digital transformation, the governance of local universities is undergoing a paradigm shift from “experience-driven” to “data-driven” models. As an important subset of local institutions, finance and economics universities face a number of challenges in their digital transformation efforts, including fragmented governance, data silos, and technological disconnects. Focusing on these institutions, this paper proposes that enhancing their governance systems and capacity through digital empowerment requires a core logic of “distinctive development and regional integration.” By coordinating institutional innovation, technological application, and security oversight, these challenges can be effectively addressed. The study argues that finance and economics universities should leverage their disciplinary strengths to build a governance ecosystem that links data, institutions, and regional collaboration—ultimately achieving greater governance efficiency and connotative development.

Keywords: Local universities of finance and economics, Digitalization, Governance pathways, Distinctive development, Integrated innovation

1. Introduction

With the deepening of global digital transformation, the field of higher education is undergoing a governance revolution centered on a shift from “experience-driven” to “data-driven” models. Local universities, as crucial engines of regional economic and social development, must modernize their governance systems and capabilities—not only to meet national educational strategy goals but also as a key path to achieving high-quality institutional development. In particular, finance and economics universities are closely aligned with regional economic needs due to their disciplinary characteristics. Therefore, it is urgent to enhance governance efficiency through digital means. The national strategic document China Education Modernization 2035 explicitly calls for “accelerating educational reform in the information age,” providing strong policy support for the digital transformation of universities. In fact, modernizing university governance through educational digitalization has become an integral part of national strategy. Under this context, digital empowerment of university governance holds significant practical implications: Digitalization enables precision governance by facilitating the sharing and analysis of massive datasets, thus optimizing resource allocation and decision-making processes. It reinforces the trend of distinctive development among local universities, enhancing the professional advantages of finance and

economics institutions and promoting deeper integration between higher education, industry, and regional collaboration. It helps overcome traditional governance bottlenecks by addressing inefficiencies and information silos, paving the way for flatter, more dynamic governance structures.

2. Theoretical background of digital empowerment in local university governance

Traditionally, research on university governance has been grounded in a wide array of complex theoretical frameworks. Stakeholder theory emphasizes that university governance should account for the interests of multiple stakeholders, including government bodies, faculty and staff, students, and enterprises. This provides theoretical support for building a governance model based on multi-party collaboration. Proponents of this approach advocate for governance structures that involve the joint participation of government, universities, enterprises, and society, achieving co-governance through power-sharing and benefit coordination. Such a model helps mobilize diverse stakeholder engagement while enhancing the scientific and democratic nature of decision-making. New Public Management (NPM) theory proposes the introduction of market mechanisms to improve administrative efficiency and service quality, offering new ideas for governance reforms in local universities. New Institutionalism, on the other hand, focuses on how institutional environments influence organizational behavior. It emphasizes path dependency and legitimacy mechanisms in institutional change, thereby contributing to a more nuanced understanding of the complexity and gradual nature of governance reforms in local universities. In addition, governance theory and principal-agent theory have also provided important analytical tools and theoretical perspectives for research on university governance. Collectively, these theories complement one another and form the foundational theoretical framework for studying governance in local universities.

In contrast, research on digital empowerment of governance in local universities mainly focuses on the following three aspects: 1) Information technology as a tool for administrative practice. Studies in this area are primarily concerned with the application of smart campus technologies and big data analytics in decision-making processes. These works typically adopt a digital governance model that leverages modern information technologies—such as big data and artificial intelligence—to improve efficiency and decision-making accuracy, making governance processes more transparent, precise, and intelligent. 2) Exploring institutional transformation through digitalization. Research in this category seeks effective methods to transition from bureaucratic governance structures to holistic, data-driven governance models. For example, within the framework of holistic governance theory, British scholar Perri 6 has argued that data sharing is key to breaking down bureaucratic barriers [1]. 3) Practice-oriented explorations of university governance. These studies have begun to integrate digital tools into university governance practices, aiming to solve real-world problems, reshape governance concepts, reengineer operational processes, and foster new models of higher education. Each of these research directions has its own emphasis, collectively offering diverse options for governance reform in local universities.

A review of the literature reveals that most existing research on digital empowerment in university governance focuses on comprehensive universities, with insufficient adaptation to specific disciplinary contexts. The unique needs of finance and economics institutions remain largely unaddressed. Internally, universities often face departmental data silos and a lack of inter-regional collaboration mechanisms, resulting in data-sharing barriers. Meanwhile, issues such as data privacy protection, algorithmic bias, and frequent data breaches remain unresolved, posing serious challenges in terms of security and ethics.

3. Foundational logic of governance in finance and economics-oriented local universities

The modernization of the governance system and governance capacity in finance and economics-oriented local universities must center around two core dimensions: disciplinary characteristics in finance and economics, and regional service functions. The former focuses on the construction of specialized disciplines—such as economics, finance, and management—and on building practical training platforms that integrate industry and education. The latter emphasizes serving local economic development and industrial upgrading by aligning with regional demands in sectors like finance and commerce, thereby advancing collaborative innovation among universities, local governments, and enterprises. On this basis, such institutions should actively respond to the national strategy of digital transformation in higher education. They should harness digital tools (e.g., AI technologies) to optimize core operational processes such as financial auditing and risk assessment, thereby promoting deep integration of digital technologies into all elements, scenarios, and processes of university governance. For example, Inner Mongolia Normal University, through the development of an “AI+” professional cluster, has dynamically adjusted its discipline setup, achieving deep integration between technology and education—offering a valuable reference for finance and economics institutions.

In this process, finance and economics-oriented local universities must adhere to three basic principles: demand-driven development, supply-side reform, and ecosystem-based evolution. Specifically, they should leverage their disciplinary strengths to gain a deep understanding of the internal logic and core demands of regional economic development, adjusting discipline structures in response to the needs of regional finance, commerce, and other industries. At the same time, universities must optimize their faculty composition based on institutional realities, cultivating interdisciplinary teaching teams that combine digital technologies with finance-related expertise. Furthermore, universities should follow an “ecosystem evolution” approach, forming a governance feedback loop of data collection – data analysis – data feedback, thus promoting the sustainable enhancement of both governance systems and governance capacity.

4. Practical challenges in the governance of finance and economics-oriented local universities

Finance and economics-oriented local universities bear important responsibilities in serving regional socio-economic development and cultivating application-oriented talent. The fulfillment of these functions is heavily dependent on the quality of their governance systems and governance capacity. In reality, several challenges persist: First, these institutions—especially those located in central and western China—often face inherent resource constraints, with governance concepts and methods lagging behind. This makes it difficult to meet the demands of modern higher education reform and development. Second, given their close ties to regional socio-economic development, these universities must actively seek collaborative opportunities with local governments and industries. However, existing decision-making mechanisms lack democratic engagement, scientific reasoning, and forward-looking planning. Third, a mature governance culture has yet to be established. Traditional administrative mindsets often clash with modern governance concepts, and both faculty and students demonstrate limited enthusiasm and initiative in governance participation. Channels for their engagement remain underdeveloped, making it difficult to effectively address the increasingly complex governance environment. As such, universities must explore innovative and distinctive governance paths through reform and experimentation.

(1) Data Barriers and Fragmented Governance

In practice, finance and economics-oriented local universities often suffer from data fragmentation and lack of interoperability, driven by performance assessment pressures and limited digital literacy. Inconsistent data standards across departments and between administrative offices and academic units

lead to duplicated resource input and delayed decision-making. These issues frequently manifest as “information islands” and “scenario silos,” where digital resources are underutilized [2]. This fragmentation can be categorized into three forms: Vertical fragmentation: Discrepancies in data standards between university-level and college-level units result in repetitive manual reporting and inefficient workflows. Horizontal fragmentation: Differences in statistical standards and content among internal departments (such as academic affairs, finance, and research) increase coordination time and communication costs. External fragmentation: The absence of data-sharing mechanisms between universities or between universities and local enterprises hampers flexibility in responding to external environmental changes, severely limiting governance efficiency in complex scenarios.

(2) Mismatches in Technology Supply and Demand

In recent years, informationization has become a key metric in evaluating the high-quality development of higher education. However, due to the complexity of educational scenarios and the uncertainty of digital technologies [3], finance and economics-oriented local universities often fall into pitfalls during digital transformation. These include blind adoption of IT systems, neglect of integration capabilities, and hierarchical or rigid system configurations [4]. Driven by development pressures and performance assessments, these universities frequently benchmark against comprehensive institutions without clearly defining their own educational positioning or development goals. As a result, their governance practices lack distinctive features and strategic guidance. The functionality of current digital systems is often either insufficient or redundant, failing to address the core needs of practical training or research collaboration in finance and economics disciplines. Moreover, constrained by institutional development positioning, resource limitations, and talent shortages, local universities often lack clear application scenarios for digital governance. Existing data governance tools suffer from low adoption and limited coverage, and there is an overreliance on traditional administrative models, inhibiting the formation of a scientific and democratic governance culture.

(3) Security Risks and the Digital Divide

In the era of digitalization and intelligence, information security has become a critical concern for all organizations. In the governance of finance and economics-oriented local universities, risks arise from lagging management awareness, outdated technological capabilities, and incomplete information management systems. Meanwhile, digital literacy among faculty and students remains uneven, and frequent data breaches have further hampered the pace of digital transformation.

5. Governance pathways based on characteristic development and regional integration

In the course of digital development, finance and economics-oriented local universities should base their strategies on institutional realities, regional development characteristics, and disciplinary strengths. They should actively explore distinctive governance models aligned with their institutional positioning, talent cultivation goals, scientific research priorities, and social service functions. This involves upholding connotative development, empowering institutional features through digitalization; prioritizing institutional reform, deeply integrating digital tools into organizational design; emphasizing result-oriented approaches, using digital technologies to support scientific decision-making; and strengthening supervision, safeguarding the boundaries of digital security.

(1) Upholding Connotative Development: Digitalization Serving Institutional Characteristics

Promoting connotative and high-quality development in higher education is a key aspect of educational informatization. By constructing specialized data platforms and embedding digital thinking into institutional development, finance and economics-oriented local universities can achieve sustainable, high-quality growth. This includes strengthening partnerships with local governments, leading enterprises, and distinguished alumni to build an open and collaborative governance framework. Universities can access data from local government statistics and corporate

recruitment platforms to dynamically adjust academic programs in line with real societal demands. In collaboration with outstanding enterprises, they may jointly develop regional economic databases to support research on local industrial policy and assist with regional industrial upgrading. Furthermore, institutions should set talent development goals in alignment with market needs, co-establish digital training bases with enterprises, and promote seamless alignment between curricula and job requirements—realizing integration of internship and employment, and deepening both industry-education integration and industrial linkage. This will cultivate versatile talents with practical and innovative capabilities.

(2) Prioritizing Institutional Reform: Empowering Organizational Design with Digitalization

Optimizing organizational structure is essential for enhancing governance capacity in local universities. Institutions must continuously improve internal governance frameworks by establishing a two-tier “university–college” governance system, granting more autonomy to colleges, and improving democratic institutions such as academic committees and faculty congresses to ensure meaningful faculty and student participation in governance. However, traditional organizational structures often suffer from multiple decision-making steps, long cycles, and low efficiency. Online decision-making, virtual discussions, and transparent, visualized review processes can effectively mitigate these inefficiencies and the opacity often found in administrative operations. In practice, universities can establish a university-level digital governance committee to coordinate data standards and process specifications, ensuring consistent policy guidance. On this foundation, incentive mechanisms should be refined by incorporating the effectiveness of digital applications into departmental performance evaluations and encouraging cross-departmental collaboration.

(3) Emphasizing Result-Oriented Governance: Digital Technologies Supporting Scientific Decision-Making

Digitalization forms the technological foundation for characteristic development and regional integration in finance and economics-oriented local universities. However, due to the inherent complexity of higher education environments, the application of digital technologies must respect the sector’s unique developmental logic. On one hand, institutions must adopt a demand-driven approach to address real operational challenges. For instance, smart campus construction should be accelerated by upgrading infrastructure and software systems and optimizing business process management. Blockchain and smart contracts can be used to automate and audit research funding processes, while data visualization tools can be deployed to monitor the input-output efficiency of teaching and research. On the other hand, universities should explore broader information-sharing mechanisms to enhance governance practices. The massive and accurate data generated by digital systems ensures more scientific, democratic, and rational decision-making. Predictive governance models based on information sharing can bridge interdepartmental data gaps, and big data analytics can be used to monitor regional economic trends and dynamically adjust enrollment quotas in specific academic disciplines.

(4) Strengthening Supervision: Safeguarding Digital Security Boundaries

In the digital era, information security is an ever-evolving and critical concern. As universities undergo digital transformation, it is imperative to enhance data protection efforts and prioritize digital security throughout the process [5]. While digital tools can empower governance and promote the modernization of governance systems and capacities, it is equally important to safeguard data security. This can be achieved by building comprehensive and end-to-end digital supervision mechanisms to ensure the validity and legality of data collection, processing, and usage. Furthermore, universities should establish digital ethics committees, raise ethical awareness, strengthen ethics education, and ensure the protection of faculty and student rights.

6. Conclusion

Empowering the governance of finance and economics-oriented local universities through digitalization is not a matter of simple technological overlay. Rather, it requires grounding in distinctive disciplinary strengths and alignment with the socio-economic development needs of the region. By integrating institutional innovation with technological application, a new governance paradigm can be constructed—one that features data-driven decision-making, institutional safeguards for operations, and security as the bottom line, ultimately achieving a comprehensive enhancement of governance effectiveness. Looking ahead, the governance of local universities should contribute to the modernization of the national governance system and governance capacity. First, it is essential to strike a balance between technology and humanity in digital transformation—enhancing efficiency while safeguarding educational humanism, strengthening governance culture, cultivating modern governance concepts, and improving faculty and student awareness and capacity for participation in governance to mitigate the risks of digital alienation. Second, universities should explore the construction of cross-sectoral, regionally coordinated governance models for data sharing. This includes strengthening informatization infrastructure, promoting cross-administrative "digital university alliances", and overcoming administrative barriers to data circulation by leveraging new technologies to improve governance performance. Third, it is important to persist in the development and refinement of dynamic evaluation systems, establishing comprehensive and cyclical evaluation indicators that cover the entire process from resource input to process management to outcome effectiveness.

Acknowledgment

This study was supported by the university-level research project of Nanjing University of Finance and Economics titled "Research on the Modernization of Governance in Finance and Economics-Oriented Universities from the Perspective of Digitalization" (Project No. XGFB3202307), and represents one of its key research outcomes.

References

- [1] Perri 6. (2002). *Towards holistic governance: The new reform agenda*. New York: Palgrave.
- [2] Luo, Y., Liu, C., & Han, X. (2024). Digitalization empowers integration of local universities and cities in talent cultivation: Dilemmas and strategies. *China Educational Informatization*, 30(12), 33–43.
- [3] Wang, J., & Cai, G. (2024). The logic, challenges, and practical approaches of the digital transformation of higher education. *China Educational Informatization*, 30(08), 41–51.
- [4] Jian, S., Wang, Y., & Kang, N. (2023). Modernization dilemmas and holistic governance pathways in the internal governance system of local universities. *Higher Education Forum*, (03), 67–72.
- [5] Zhao, F., & Dai, Y. (2024). Macro trends, key technologies, and development scenarios of higher education digital transformation: An interpretation of the 2024 EDUCAUSE Horizon Report (Teaching and Learning Edition). *China Educational Informatization*, 30(12), 44–57.