



Impact Analysis of Digital Transformation on Corporate Governance

Zhen Zhang

Faculty of Business and Economics, Monash University, Melbourne, Australia
zzha0522@student.monash.edu

Abstract. This research is framed by the concept of digital transformation, the core of which is technology, driven by the Fourth Industrial Revolution. Because of the multiplicity of factors below—such as technological innovation, intensified market competition, evolving consumer demands, and the universalization of globalization, digital transformation fundamentally reconstructs the relation between labor and capital for maintaining a dynamic equilibrium between social productivity and the centrality of human beings through a more systematic implementation of digital technologies. This research is dedicated to the investigation of the influence of digital transformation on the structure of corporate governance. Through the development of a comparative framework of digital and traditional governance models, it will investigate decision-making as well as risk management and organizational evolution systems. The results imply that digital governance catalyzes a rapid response to risks, stabilizes the organization, and offers unprecedented flexibility. On the other hand, it creates other kinds of governance risks, which are monopolization of data. This analysis presents a methodological foundation to produce corporate governance models in the digital world.

Keywords: Corporate Governance, Digital Models, Decision-making Mechanisms, Risk Management Mechanisms, Corporate Governance Structure.

1 Introduction

Corporate governance is one of the principal ways to secure the success of a company in the long run, harmonize the interests of all stakeholders, and achieve its strategy-related goals. The corporate governance framework should protect shareholders' rights and ensure equitable treatment, including minority shareholders. Effective corporate governance reduces systemic risks and supports economic growth by fostering investor confidence [1].

Today, we're seeing the effects of many digital innovations worldwide, which push enterprises toward digital transformation. Digital transformation is a process that aims to improve an entity by triggering significant changes to its properties through combinations of information, computing, communication, and connectivity technologies [2]. In this transition, the policies provide for moving from "informatization" through "digitization" to "intelligence". Varoglu pointed that digital transformation forces corporate

governance systems to restructure decision-making mechanisms (such as algorithmic models replacing traditional hierarchical decision-making), address emerging risks (such as cybersecurity and algorithmic bias), and enhance the transparency of stakeholder participation through digital tools [3].

This study analyses the systemic effects when digital transformation happens. Its vitality is not limited to the growth of knowledge expansion into the boundaries of understanding, increasing the adaptability of governance systems to the digital realities, and leading to the establishment of protection measures to be used against the new challenges to give a guarantee of the digital economy's stability.

2 Impact Analysis

2.1 Transformation of Decision-Making Mechanisms: From Experience-Driven to Data-Driven

Restructuring Decision-Making Foundations: Cyert and March pointed that enterprise decision-making is limited by bounded rationality and relies on organizational practices and historical experience, resulting in adaptive lag and path dependence risks [4]. Therefore, the traditional way of undertaking inventory management in retail is based on quarterly sales reporting, which may be dangerous due to supply-demand mismatches and allocation of resources managed without timely feedback. Conversely, in the digital aspect, the decision-making is data-driven and real-time taking advantage of differently situated IoT sensors, social media analysis, and dynamic supply chains cutting down on decision span from months to hours [5].

Optimization of Decision-Making Processes: The decision-making based on traditional management approach is cumbered with several layers of information transmission, thus causing structural misalignment between decisions and market realities. The intelligent decision hubs use cloud computing and big data to power minute-to-minute decisions in the production and inventory management arenas. Digital models deliver a new structure to centralize decision-making at strategic levels where decisions are made at the operational levels by frontline managers through distributed architectures and algorithmic model settings [6].

AI Algorithms in Decision-Making: AI-powered decision support systems play an important role in strategy making processes, among others, investment optimization and supplier evaluation. To manage these processes, governance leaders must reach a balance between algorithmic capabilities and accountability [6].

Generally, progress in digitalization improves the accuracy of decisions, saves time, and lowers agency costs.

2.2 Increased Complexity in Risk Management

The risk management system of the governing body is going to be remodelled during the time of digital transformation of the corporation. It is the basic governance system that enables easy implementation of e-business. The risk management under the traditional governance system is specified by the feature of "a passive response". Its opera-

tion logic relies solely on the historical data. Inevitably, there is a temporal disconnection between risk detection and recovery in this process. In the digital governance model, through an active risk control approach, reliance on digital technology gives real-time updates about the operations, while the deep learning algorithms from big data perform continuous risk assessment. Along with the digital transformation of governance, a new layer of risk of data copyright infringement will be introduced: the risk of data hegemony; the risk of technological iteration [6].

The temporal dissociation of the enterprise risk management mechanism becomes obvious under the historically tested model of risk management. One of the ways to make assessment is by data collection, its analysis, and the answer. Such a risk assessment model entails a situation where risk identification lacks integration with outbreak mechanisms and where relations between risk assessment and risk elements are poor, causing dual risks. The cloud computing platform helps to formulate a "risk signal detection model," and this is what gives the dynamic risk governance system in telecommunication under digital mode [6]. A new risk governance mechanism could be created for predictive capability in multiple tiers. Using historical data to construct a risk category analysis system allows forecasting the risk of supply chain disruptions throughout the supply chain. Incorporating the digital risk management system, the degree of completeness while making a risk decision is greater for enterprises.

Data Hegemony and Technological Debt: This happens because leading platforms take advantage of API protocols and data standards to control the industry data flows, which consequently leads to asymmetrical control. Tremendous usage of computerized mobile apps, systems, and technologies for decision-making is risky at financial as well as operations level [7].

2.3 Flexibility in Corporate Governance Structures

Digital transformation builds new hierarchies and complicates information flow, decision-making processes, and interpersonally of power, fundamentally making rigid hierarchies give way towards agile architectures.

From Hierarchy to Flat Structures: The traditionalism vertical structure hides the disbalance between the decision makers and the real-time information holders. Digital governance discards the notion of hierarchy with powers of intelligent systems and transfers the authority to front-line managers who hold the decision rights of their managers [8].

Dynamic Governance Mechanisms: When traditional systems involve many levels of approvals (e.g., procurement workflows), it often results in not only delays but also misalignment. On the other hand, digital systems use several innovative solutions such as automatic execution and real-time data sharing to simplify the processes. Moreover, the automation of cumbersome processes results in the less work needed to be done by the workforce.

Risks of Flexibility: During the process of digital transformation of enterprises, the structural imbalance of algorithmic governance rights has given rise to the risk of technological oligopoly, whose essence is the institutional separation between technological power and governance responsibility. Algorithm engineers have gained influence

on the voting rights of the board of directors at key decision-making nodes by holding the right to interpret the technology [9].

3 Recommendations

Establish a Data Governance Framework: Make a commitment to the "strategy-organization-policy-technology" approach to manage data assets. Provide a three-tier governance structure, which outlines the role of each constituent and helps integrate all working parts of the organization and ensure there are checks and balances.

Integrate Technical Advisory Panels: Put in place the practice of including technical advisors both at strategic and operational levels to gain an assurance of ethical and effective digital transformation. Initiate ethics committees to determine the influence of modern technology.

Develop Human-Machine Collaborative Systems: Model a digital twin along with scenario simulations and decision-weighting models to be based on precise historical records [10].

4 Conclusion

The investigation on the enterprise decision-making mechanisms, risk management mechanisms, and enterprise governance organizational structure under the traditional governance model and the digital governance model, comparing and analysing the evolution laws of the two models, reveals that the digital governance model is gaining ground on the traditional one regarding the timeliness of decision-making attributed to the data-driven decision-making mechanism. In addition, it can give risk alerts in advance relying on the smart risk control model and increase the organizational structure's flexibility by reconstructing the enterprise's distribution architecture. Digital governance system has an undeniable superiority as compared to the traditional corporate governance model. It is clear from the findings that the concentration of technological might has bred novel categories of hazards like data imperialism and technique debt, thus showing the insufficiency of the governance accountabilities. A dynamic equilibrium between the technology enabling and the risk management is envisaged by suggesting a technical advisory group and establishing a human-machine collaborative decision-making mechanism.

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