ISSN 2616-5902 Vol. 7, Issue 9: 8-14, DOI: 10.25236/AJBM.2025.070902

Corporate Digital Transformation and Risk-Taking Behavior: An Exploration of Influencing Factors and Optimization Strategies

Chufeng Deng

Business School, University of Shanghai for Science and Technology, Shanghai, China
cfdeng7@163.com

Abstract: *With the rapid development of information technology, the process of corporate digital transformation has accelerated, profoundly reshaping enterprises' operational models and strategic decision-making. Among these changes, the impact on risk-taking behavior is particularly critical. This study focuses on corporate digital transformation and risk-taking behavior, elaborates on the connotation of digital transformation and the theoretical basis of risk-taking, and conducts an in-depth analysis of the intrinsic relationship between the two as well as the factors through which the former influences the latter. It also comprehensively explores the role of internal and external corporate factors in risk-taking behavior during digital transformation. Based on this, the paper proposes optimization paths, aiming to help enterprises grasp risks to better conduct corporate governance and provide theoretical and practical guidance for promoting digital transformation and sustainable development.*

Keywords: *Digital Transformation; Risk-Taking; Influencing Factors; Optimization Strategies*

1. Introduction

In the contemporary era, the intricate interweaving of accelerated globalization and relentless technological advancement has profoundly reshaped the landscape of corporate operations. Digital transformation has emerged as a pivotal driving force for enterprise development, fundamentally altering how businesses create value and compete. From the automation of production lines through robotics and IoT systems to the intelligence of supply chains via predictive analytics and real-time tracking, and further extending to the optimization of precision marketing through big data insights and AI-driven customer relationship management, the pervasive wave of digitalization has revolutionized enterprise operations comprehensively. This revolution transcends mere efficiency gains—it represents a paradigm shift that compels organizations to rethink their core strategies and restructure their operational frameworks toward agile, data-centric models.

Risk-taking behavior, as the cornerstone of corporate strategic decision-making, plays a decisive role in enterprise growth and value creation. Moderate and calculated risk-taking can stimulate breakthrough innovation, facilitate market expansion, and catalyze business model upgrading, enabling enterprises to secure competitive advantages in dynamic markets. Conversely, excessive or poorly managed risk exposure may lead to operational instability, financial distress, and strategic misalignment.

Against this backdrop, exploring the intrinsic connection between corporate digital transformation and risk-taking behavior is of critical theoretical and practical importance. Digital transformation, with its rich data resources, enhanced information processing capabilities, and flexible organizational responsiveness, fundamentally reshapes enterprises' risk perception frameworks and decision-making paradigms. Simultaneously, an organization's risk appetite and risk management capacity significantly constrain or propel its digitalization trajectory. This bidirectional relationship creates a complex interplay that demands systematic investigation.

Therefore, conducting an in-depth analysis of this dynamic interaction mechanism—identifying key influencing factors across technological, organizational, and environmental dimensions—and exploring evidence-based optimization pathways can significantly enrich corporate strategic management theories. More importantly, such research provides actionable guidance for enterprises navigating digital transformation. By developing sophisticated risk intelligence systems and adaptive governance frameworks, organizations can achieve steady development in volatile business environments, ultimately realizing sustainable value maximization amidst ongoing technological and market disruptions. This

ISSN 2616-5902 Vol. 7, Issue 9: 8-14, DOI: 10.25236/AJBM.2025.070902

research thus bridges theoretical innovation with practical solutions for the digital age.

2. Literature Review

Existing research on corporate digital transformation has a relatively early start and has yielded fruitful results. Bharadwaj et al. pointed out that digital transformation can reshape enterprises' business models and value creation processes. Through the analysis of cases across multiple industries, they found that enterprises can integrate industrial chain resources, achieve business expansion and innovation, and thereby enhance market competitiveness by leveraging digital technologies[1]. In terms of risk-taking behavior, Faccio et al., through empirical research on a large number of enterprise samples, revealed that factors such as management characteristics and corporate governance structures have a significant impact on the level of corporate risk-taking. For instance, management's age, gender, and educational background determine, to varying degrees, enterprises' risk preferences in investment decisions, market entry, and other aspects[2]. Meanwhile, scholars such as George have begun to focus on the connection between digital transformation and risk-taking, proposing that the increased information transparency of enterprises in the digital environment may change their risk-taking strategies. When facing digital opportunities, enterprises tend to take moderate risks to obtain potential benefits, but they also adjust their overall risk-taking behavior due to new risks such as cybersecurity and data privacy[3].

However, existing research on the relationship between corporate digital transformation and risk-taking behavior exhibits notable limitations that warrant deeper investigation. Three critical gaps remain underexplored: First, the dynamic evolution of corporate risk-taking behavior throughout digital transformation journeys lacks systematic analysis. Current studies often treat risk appetite as static, overlooking how it shifts across different transformation phases—from initial adoption to scaling and optimization. Second, the underlying mechanisms through which digital capabilities influence risk decision-making require clearer theoretical articulation. While correlations are observed, the mediating roles of data-driven culture, algorithmic governance, and digital leadership in recalibrating organizational risk thresholds demand rigorous examination. Third, there is insufficient exploration of evidence-based management strategies to optimize risk-taking during digital transformation. Crucial questions remain unanswered: How can enterprises balance innovation-driven risk appetite with operational stability? What governance frameworks effectively mitigate digitalization risks while enabling strategic boldness?

These research voids—spanning behavioral dynamics, causal mechanisms, and practical optimization—represent significant opportunities for scholarly advancement. Addressing them will yield both theoretical contributions to strategic management literature and actionable insights for organizations navigating digital disruption. This study therefore positions itself to systematically investigate these uncharted dimensions, advancing understanding of how digital transformation reshapes the very calculus of corporate risk.

3. Influencing Factors of Risk-Taking Behavior in the Context of Corporate Digital Transformation

3.1 Internal Trait Factors of Enterprises

A variety of internal traits and capability factors within enterprises exert a crucial influence on risk-taking behavior amid digital transformation. Management characteristics determine the orientation of risk decisions: younger management teams with higher educational qualifications tend to possess more adventurous and innovative traits, driving high-risk transformation attempts; whereas those with rich experience are better at seizing opportunities in a steady manner[4]. The scale and resource status of enterprises shape the foundation for risk-taking. Large enterprises, endowed with abundant resources, are capable of carrying out diversified layouts and launching large-scale digital projects. Although small and medium-sized enterprises are constrained by limited resources, they can leverage their flexible organizational structures to make precise efforts in niche areas. However, they are generally restricted by resource bottlenecks.

Corporate cultural atmosphere serves as a foundational element that profoundly influences enterprises' attitudes and responses toward risk. A dynamic and innovation-driven culture not only encourages employees to think creatively and experiment boldly but also enhances the organization's overall appetite for strategic risk-taking. Such an environment supports iterative learning and allows enterprises to pursue disruptive innovation with greater confidence and capability.On the contrary, a conservative and rigid

ISSN 2616-5902 Vol. 7, Issue 9: 8-14, DOI: 10.25236/AJBM.2025.070902

cultural climate tends to emphasize stability and avoid uncertainty, which can significantly inhibit transformational initiatives and reduce the organization's ability to respond agilely to external changes. In such settings, risk aversion often dominates, leading to missed opportunities in fast-evolving markets, particularly in the context of digital transformation.

These internal cultural dynamics do not act in isolation; rather, they interact with other organizational factors—such as leadership vision, governance structure, and historical precedents—to collectively shape the extent and mode of enterprise risk engagement. Together, they form an inherent logic that underpins corporate decision-making in risk-taking scenarios. Moreover, corporate culture directly affects the trajectory of digital transformation by influencing how enterprises allocate resources, adopt new technologies, and manage operational shifts. It helps define the pace, scope, and strategic direction of digital initiatives, ultimately serving as either an enabler or a barrier to sustainable innovation and competitive adaptability. Therefore, understanding the cultural underpinnings of an enterprise provides critical insights into its risk behavior and digital transformation journey, highlighting the necessity of cultivating a cultural environment that balances stability with a capacity for calculated risk-taking.

3.2 External Environmental Driving Factors of Enterprises

The dynamic changes in the external environment drive enterprises' risk-taking behavior in digital transformation from multiple dimensions. Industry competition is a direct external pressure source: fierce competition prompts enterprises to accelerate digital transformation and proactively take risks to gain market advantages, such as the intense rivalry in the smartphone industry. In contrast, enterprises in a less competitive environment have weaker motivation for transformation and tend to be conservative in risk-taking[5]. The policy and regulatory environment possesses a dual nature, embodying both incentivizing and constraining attributes. On one hand, supportive measures such as subsidies, tax incentives, and financial preferential policies effectively lower the costs associated with transformation, thereby encouraging enterprises to engage in innovative and risky ventures with greater confidence. These incentives not mitigate perceived uncertainties but also stimulate proactive strategic investments. On the other hand, regulatory frameworks establish clear boundaries and compliance requirements, compelling enterprises to standardize their risk-taking behaviors and internal controls. This structured oversight ensures that corporate risk strategies are developed within a lawful and prudential framework, balancing ambition with accountability. Together, these complementary mechanisms shape a guided yet flexible environment where enterprises can pursue digital transformation and innovation in a manner that is both dynamic and disciplined.

The ongoing trend of technological development creates a landscape in which opportunities and challenges coexist. Enterprises that proactively embrace technological trends may encounter technical risks and uncertainties; however, by leveraging first-mover advantages, they can significantly enhance their expected risk-adjusted returns. Conversely, organizations that neglect or resist these trends risk being left at a competitive disadvantage. Delayed transformation may lead to increased operational vulnerability, reduced market share, and ultimately, a passive risk dilemma wherein the costs of inaction far exceed the risks of innovation.

4. Optimization Paths of Digital Transformation for Corporate Risk-Taking Behavior

4.1 Formulation of Risk Management Strategies Based on Digital Transformation

4.1.1 Innovation in Risk Identification and Assessment Methods

In the digital era, enterprises must actively leverage cutting-edge technologies such as big data, artificial intelligence, and machine learning to construct intelligent risk identification and assessment systems. By integrating multi-source information—including internal business operations data, external market intelligence, and broader industry datasets—organizations can break down data silos and achieve a holistic view of potential risk factors. For example, financial institutions can employ big data analytics to monitor dynamic changes in customer credit profiles, real-time market transactions, and macroeconomic indicators. When combined with machine learning algorithms, these data streams enable the development of sophisticated risk prediction models capable of detecting early signals of credit risk, market volatility, liquidity crises, and other critical threats. Such systems also facilitate real-time quantification of both the likelihood of risk events and their potential impact.

Compared to traditional risk assessment methods, these digital tools excel at processing high-volume,

ISSN 2616-5902 Vol. 7, Issue 9: 8-14, DOI: 10.25236/AJBM.2025.070902

high-variety datasets at speed, uncovering non-linear correlations and subtle patterns that would be imperceptible through manual analysis. As a result, organizations can identify and respond to emerging risks more rapidly and accurately. This enhanced analytical capability allows enterprises to design and implement preemptive risk mitigation strategies, thereby significantly strengthening their overall risk management framework throughout the digital transformation journey. With greater situational awareness and predictive insight, companies can navigate uncertainties with more confidence, calibrate their appetite for risk in a rational manner, and ultimately foster a more resilient and adaptive organizational structure.

4.1.2 Digital Implementation of Risk Response Measures

Enterprises can utilize digital platforms to transform risk response strategies into automated, executable processes and rule-based systems, thereby achieving both timeliness and precision in risk management. By embedding predefined rules and adaptive algorithms into operational workflows, organizations can enable real-time identification, analysis, and reaction to risks without relying heavily on manual intervention.A representative example can be found in supply chain management. Manufacturing enterprises, for instance, increasingly deploy Internet of Things (IoT) technologies to continuously monitor critical activities including raw material procurement, production line progress, and logistics transportation. Sensors and connected devices generate streaming data that feed into centralized risk control platforms, where anomalies such as delays, quality deviations, or supplier disruptions are instantly detected. Based on predefined rules, the system can autonomously trigger countermeasures—such as switching to backup suppliers, adjusting production schedules, or rerouting shipments—thereby mitigating impacts before they escalate.This digitized approach not only improves the speed and accuracy of risk response but also enhances operational resilience and strategic agility across the entire business ecosystem.

Once potential supply disruption risks are detected—such as supplier production failures or logistics delays—the digital system can automatically trigger emergency plans. These may include adjusting production schedules, activating backup suppliers, or optimizing logistics routes, ensuring the continuity of production activities and reducing the impact of supply chain risks on enterprise operations. Meanwhile, through digital simulation and emulation technologies, enterprises can test the effectiveness of different risk response strategies in a virtual environment. Based on simulation results, they can optimize actual response plans, thereby improving the success rate and efficiency of risk response[6]. This digital implementation method not only reduces errors and delays caused by human intervention but also enables real-time adjustment of response measures according to the dynamic changes of risks. This equips enterprises with stronger risk resistance capabilities in complex and volatile market environments, thereby enhancing their confidence in taking risks during digital transformation, promoting active expansion of business fields, and seizing more development opportunities.

4.2 Optimization of Internal Corporate Governance Structure

4.2.1 Improvement of Risk Management Organizational Structure

In the context of digital transformation, enterprises should establish specialized digital risk management departments or teams, endowed with clear independent status and well-defined responsibilities within the organizational framework. This allows them to oversee and coordinate all aspects of risk control throughout the company's digital evolution.These units should bring together professionals from diverse business and technical backgrounds—such as risk management specialists, data analysts, IT engineers, and compliance officers—enabling the organization to identify, assess, and respond to digital risks through a multi-faceted and interdisciplinary approach.Within large enterprise groups, the digital risk management team is tasked with formulating group-level digital risk strategies and policies. It monitors the execution of digital initiatives across subsidiaries and business departments, conducts regular risk assessments, reports directly to senior management, and facilitates cross-functional collaboration to ensure seamless risk-related communication and information sharing group-wide.

Through this integrated organizational model—which combines centralized leadership with deep functional specialization—companies can establish a holistic, systematic, and highly efficient digital risk governance framework. The centralized function provides strategic alignment and consistent oversight across the organization, while distributed experts contribute granular technical and business insights, allowing for more agile and informed risk decision-making.This dual-layered structure significantly reduces areas of undefined responsibility and minimizes coordination failures between departments. As a result, it closes critical gaps in risk coverage, strengthens end-to-end risk resilience, and enhances the

ISSN 2616-5902 Vol. 7, Issue 9: 8-14, DOI: 10.25236/AJBM.2025.070902

organization's ability to anticipate and adapt to emerging digital threats.

Ultimately, such a governance approach not safeguards ongoing digital transformation initiatives but also creates a sustainable foundation for innovation and growth in an increasingly complex and volatile digital landscape[7].

4.2.2 Strengthening Internal Control and Supervision Mechanisms

Enterprises can leverage advanced digital tools to automate and standardize internal control processes, thereby significantly enhancing the accuracy, consistency, and efficiency of their internal control mechanisms. By implementing integrated digital platforms—such as Enterprise Resource Planning (ERP) systems, automated office suites, and robotic process automation (RPA)—companies can embed essential internal control procedures into a seamless digital workflow. Key activities including financial approvals, procurement operations, contract management, and compliance checks are systematically integrated into a unified framework, reducing human intervention and minimizing discretionary errors.

These platforms can be systematically programmed with clearly defined approval hierarchies, multi-level verification processes, and rule-based validations, which collectively ensure that all business operations are executed within a compliant and pre-authorized structure. Through automated workflow engines, each transaction or operation is routed according to predefined business rules, requiring necessary approvals and checks at each stage. This structured digital oversight minimizes discretionary deviations and ensures adherence to internal policies and external regulations.As a result, organizations can substantially mitigate a spectrum of operational and integrity risks, including internal fraud, operational failures, human errors, and procedural non-compliance. The automation of control procedures reduces reliance on manual interventions, thereby lowering the chances of both unintentional mistakes and intentional misconduct. Furthermore, the transparency and traceability offered by such systems enhance accountability across departments and functions.By embedding robust control mechanisms directly into digital workflows, companies not fortify their risk management posture but also gain greater operational efficiency, improved audit trails, and strengthened governance frameworks—laying a solid foundation for sustainable and secure business growth.

Moreover, by incorporating big data analytics and machine learning algorithms, enterprises can continuously monitor and intelligently analyze large volumes of internal control data in real time. These technologies help identify subtle anomalies, such as irregular financial transactions, atypical user behaviors, or deviations from standard process patterns, which may indicate emerging risks or control breaches. Upon detection, the system autonomously triggers alerts and notification mechanisms, enabling management to swiftly investigate and implement corrective measures. This proactive and intelligent approach not only strengthens operational oversight and risk responsiveness but also fosters a culture of continuous improvement in control environments. Ultimately, it empowers organizations to build a more resilient, adaptive, and secure operational foundation, supporting sustainable growth in an increasingly complex and digital business landscape.

4.3 Establishment of External Support and Cooperation Mechanisms

4.3.1 Industry-University-Research Cooperation and Technological Innovation Alliances

Enterprises should actively establish close industry-university-research collaboration partnerships with universities and scientific research institutions to jointly promote technology research and innovation projects aligned with digital transformation. Such partnerships enable enterprises to leverage the substantial resources of academic circles—including rich pools of scientific research talent, cutting-edge technological discoveries, and advanced R&D equipment—which can provide critical technical support and stimulate innovative thinking.

For example, enterprises can collaborate with computer science departments or engineering schools within universities to establish joint laboratories aimed at tackling specific technical challenges. These partnerships may focus on issues such as optimizing artificial intelligence algorithms, improving big data processing efficiency, enhancing cybersecurity protocols, or developing IoT-based smart solutions. Through such targeted collaboration, enterprises can co-create practical digital solutions that directly address real business needs, while also accelerating the iteration and application of emerging technologies[8].

Furthermore, enterprises are encouraged to participate in technological innovation alliances initiated by industry associations or leading firms. These alliances provide a platform for cooperation and exchange among upstream and downstream players within the industrial chain, and even among

ISSN 2616-5902 Vol. 7, Issue 9: 8-14, DOI: 10.25236/AJBM.2025.070902

competitors. By engaging in these ecosystems, companies can achieve resource sharing, complementary advantages, and collaborative problem-solving, thereby collectively addressing common technical bottlenecks and market risks inherent in digital transformation.

Through involvement in these innovation networks, enterprises gain exposure to the latest industry trends and technological advances. They also contribute to the formulation of industry-wide technical standards and norms, which helps mitigate the risks associated with selecting flawed technological paths. Ultimately, these cooperative mechanisms enhance the organization's capability for technological innovation, allow for more informed and higher-level risk-taking, and strengthen its overall market competitiveness and capacity for sustainable development in a rapidly evolving digital economy.

4.3.2 Government Policy Support and Industrial Synergetic Development

Governments play a crucial guiding and supportive role in facilitating the digital transformation of enterprises. It is essential for businesses to actively monitor and take full advantage of various industrial support policies introduced by government bodies, such as special subsidies for digital transformation, tax incentives, and scientific and technological innovation funds. These policy instruments can significantly alleviate the financial burden on enterprises during digital transition, lower the associated costs and risks, and stimulate greater motivation and initiative in undertaking digital projects.

For instance, to encourage traditional manufacturing enterprises to pursue intelligent upgrading, many local governments have established dedicated digital transformation special funds. These provide eligible enterprises with subsidies covering a certain percentage of project investment. As a result, companies can allocate more resources toward purchasing advanced production equipment, constructing digital systems, and providing technical training for employees. Such support not only accelerates the pace of digital transformation but also enhances the enterprises' capacity for strategic risk-taking.

Furthermore, governments promote industrial synergy and collaborative development by establishing industrial parks and public service platforms. Enterprises should actively integrate into local industrial ecosystems, strengthen cooperation with upstream and downstream partners, leverage supporting service providers, and engage with firms within related industrial clusters. This participation fosters a cooperative environment conducive to shared innovation, resource optimization, and overall regional economic resilience.

5. Conclusion

This study briefly analyzes the close connection between digital transformation and corporate risk-taking behavior, revealing that digital transformation exerts an impact on risk-taking through multiple factors. The optimization strategies constructed accordingly provide practical guidance for corporate practice. Looking ahead to future research, it is necessary to conduct in-depth interdisciplinary exploration, meticulously analyze the micro-mechanisms underlying the relationship between the two, and thereby provide more scientific and precise decision-making support for enterprises amid the surging wave of digitalization. This will help enterprises achieve sustained and stable development, further improve the relevant theoretical system, and comprehensively enhance their comprehensive capabilities and adaptability in responding to the complex and ever-changing market environment.

References

[1] EMORY UNIVERSITY, BHARADWAJ A, EL SAWY O A, et al. Digital business strategy: Toward a next generation of insights[J]. MIS Quarterly, 2013, 37(2): 471-482.
[2] FACCIO M, MARCHICA M-T, MURA R. Large shareholder diversification and corporate risk-taking[J]. Review of Financial Studies, 2011, 24(11): 3601-3641.
[3] GEORGE G, HAAS M R, PENTLAND A. Big data and management[J]. Academy of Management Journal, 2014, 57(2): 321-326.
[4] GONG C, RIBIERE V. Developing a unified definition of digital transformation[J]. Technovation, 2021, 102: 102217.
[5] MA S, GUO J, ZHANG H. Policy analysis and development evaluation of digital trade: An international comparison[J]. China & World Economy, 2019, 27(3): 49-75.
[6] BOELLIS A, MARIOTTI S, MINICHILLI A, et al. Family involvement and firms' establishment mode choice in foreign markets[J]. Journal of International Business Studies, 2016, 47(8): 929-950.
[7] CAGGESE A. Entrepreneurial risk, investment, and innovation[J]. Journal of Financial Economics,

ISSN 2616-5902 Vol. 7, Issue 9: 8-14, DOI: 10.25236/AJBM.2025.070902

2012, 106(2): 287-307.
[8] VERHOEF P C, BROEKHUIZEN T, BART Y, et al. Digital transformation: A multidisciplinary reflection and research agenda[J]. Journal of Business Research, 2021, 122: 889-901.