Research on Corporate Leverage Manipulation Based on Financial Supervision

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Keywords: Financial Supervision; Corporate Leverage; Digital Transformation; Big Data

Abstract: Corporate financial management faces unprecedented challenges and opportunities in the new era. With the rapid development of technologies such as big data, cloud computing, and artificial intelligence, the digital transformation of corporate financial supervision has become an inevitable trend. This paper explores how corporates can utilise these advanced technologies to achieve new changes in financial supervision and how to respond to the challenges it brings, especially the issue of leverage manipulation. This paper presents a theoretical analysis framework to explain how financial supervision and circular mechanisms can collaboratively enhance the high-quality development of corporations. It analyzes the characteristics and behavioural requirements of corporate users, along with the influence of market trends on financial decision-making. In addition, this article also proposes a series of strategies, including strengthening internal control and establishing a quality perception interaction mechanism and evaluation system, to improve corporate finance and satisfaction continuously.

1. Introduction

As a general term for corporate governance, the financial supervision of corporations is one of the primary responsibilities of corporate management. It can be divided into basic and non-basic financial supervision, comprising internal and external audits. Corporations also entrust third-party service agencies to carry out the digital transformation of financial processes to improve efficiency. Since the digital age, data has become the key to financial supervision incorporates, and data analysis has become a criterion for evaluation. Unlike traditional supervision methods, digital supervision emphasises real-time, accuracy, and predictability. Therefore, the issue of digital transformation has been raised, and emerging technologies provide new solutions for financial management.

Corporate financial supervision originates from a governance structure centred on risk control, and its digitisation embodies a data-driven concept and is also a tool for modern management [1]. From the organisational structure perspective, corporates pursue efficiency and compliance and achieve modernisation of financial management by combining internal control systems and data analysis. To this day, corporates have embarked on a unique path of digital transformation. The comprehensive promotion of digital transformation not only rewrites the mode of financial management and reflects technological progress but also rewrites the competitive landscape of corporates and profoundly impacts the market. Therefore, discussing corporate financial supervision must have a forward-looking and global perspective. Thus, digital financial supervision has been proposed in the new era.

In short, digital transformation is the technical condition and guarantee for achieving effective financial supervision. From a practical perspective, corporates have made progress, but there are also shortcomings. The corporation has not yet fully identified a useful path for digital financial supervision and is still striving to move forward.

2. The Integration of Corporate Finance and Supervision Technology Realises the New Reform of Financial Supervision

2.1. The Digital Transformation of Corporate Financial Supervision Content

Corporate financial supervision is a concept that has developed in parallel with corporate

  DOI: 10.25236/icamfss.2024.011

governance. It is imbued with digital concepts, showcasing a data-driven supervision orientation and reflecting the strategic strategies of corporate governance since the digital era. However, it is still challenging to reach a consensus when we attempt to construct the definition and essence of financial supervision using specific digital standards. Under the wave of digitalization, the deep integration of corporate finance and supervision technology is quietly leading a profound transformation in financial supervision. This transformation not only reshapes the internal governance structure of corporates but also challenges traditional financial management methods, marking the arrival of a new era of data-driven supervision. Corporate financial supervision, as an indispensable part of the corporate governance system, has undergone unprecedented expansion in both its connotation and extension under the catalysis of digital technology, demonstrating a more precise, efficient, and transparent regulatory model. The digital transformation of corporate financial supervision content means that traditional paper accounting books and reports are gradually fading out of the historical stage and being replaced by highly integrated information systems and intelligent analysis platforms. These platforms are capable of real-time collection, processing, and analysis of massive amounts of data from both internal and external sources of the corporation, including but not limited to financial transaction records, market dynamics, compliance indicators, and risk assessment reports. Corporates can extract valuable information from complex and diverse data by utilizing advanced data analysis algorithms and models, and provide decision-makers with timely and accurate financial overviews, thereby achieving early warning and control of potential risks [2].

2.2. Big Data, Cloud Computing, and Artificial Intelligence

2.2.1. Corporate User Characteristic and User Behaviour Demand Analysis

Data analysis is an important criterion for corporate decision-making and a quantitative expression of the corporate operation status. Big data and cloud computing have discussed the various definitions of corporate finance supervision from a user behaviour perspective. Some scholars believe that data analysis represents the degree of competitiveness or decision support of corporations. It is because data analysis is more predictive and belongs to the science of business intelligence with decision-making as its purpose, that some scholars believe that data analysis represents the degree of competitiveness of corporations or decision support. The history of data analysis can even be traced back to the era of manual bookkeeping, with data collection and processing activities. The data-driven concept and strategy are closely related to the digital transformation of corporates. Corporations have become an essential responsible entity for self-supervision through data analysis. The main contribution of financial supervision theory in the digital era is real-time monitoring and accurate prediction. Therefore, the concept of data analysis primarily focused mainly on supervisory measurement based on financial standard attributes. The analysis of corporate user characteristics and user behaviour needs is shown in Figure 1 [3].

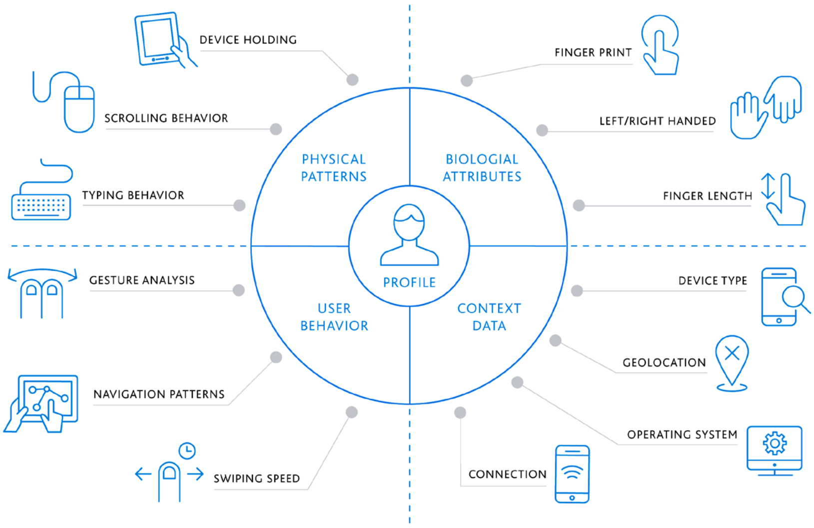

Figure 1: Corporate user characteristic and user behaviour demand analysis

2.2.2. Market Trends Promote Intelligent Financial Decision-making

Compared with traditional financial management, digital financial management emphasizes the interrelationship between data and decision-making and has the characteristics of intelligent decision-making. Although some scholars question the existence of a direct relationship between data volume and decision quality, most scholars advocate that data analysis can provide a rational evaluation of financial decisions. Some studies have proposed classic models for financial decision-making that include key performance indicator elements, which have since become a typical tool for financial decision-making, leading to the development of data-driven concepts. These scholars believe that data analysis is predictive and refers to future finance. Only when data is effectively utilized can corporate finance become healthier. Therefore, data analysis is the result of financial decision-making.Some scholars have summarized data analysis as either statistical-based models or machine learning-based models. The former focuses on historical data analysis, while the latter focuses on pattern recognition and prediction, namely artificial intelligence. Although data analysis has experienced some practical failures, in the long run, it can significantly improve the quality of financial decision-making, and the data-driven concept has gradually become a consensus in corporate research and practice [4].

3. Corporate Challenges Brought by Financial Supervision Technology

3.1. Chaos of Financial Supervision: the Excessive Dependence on Supervision Technology Leads to the Imbalance of the Financial System

The excessive reliance on supervisory technology leads to an imbalance in the financial system. The financial supervisory technology is focused on risk management issues. Supervision technology is the application of digital thinking in financial management. It has entered the research field as a new alternative model: a data-driven supervision framework to overcome the shortcomings of traditional supervision methods. The basic concept of this framework is that supervisory technology should ensure the effective implementation of financial data; set professional standards for financial report output, capture abnormal financial activities through technologies such as big data, and use machine learning methods to measure financial indicators. The data-driven supervision framework has restructured the financial supervision process, emphasizing the need to enhance real-time monitoring and build transparency, efficiency, stability, and predictability in the financial system.

3.2. Corporate Constraints: the Excessive Supervision of Corporate Financial Operations Under the Influence of Technology

3.2.1. Mistakes in Corporate Decision-making and Supervision Deviation in Management

Corporate decision-making is a major component of strategic planning, which focuses on reflecting the corporation's goals and directly reflects the efficiency of market conditions and business results through data analysis. Although digital technology has brought many advantages to corporate financial supervision, it still faces challenges in practical application, for example, how to effectively integrate information from different sources while ensuring data security; How to balance automation and personalized needs, and how to avoid a "one size fits all" supervision model; And how to cultivate professional talents with digital skills to adapt to the constantly changing technological environment. These issues need to be jointly discussed by business leaders and industry experts, and through the formulation of reasonable policies and practical guidelines, promote continuous innovation and development in financial supervision. Some components of corporate decision-making development are gradually taking shape, and data analysis and various evaluation systems are also receiving increasing attention. However, from a practical perspective, some corporates remain in the experiential stage, which contradicts the data-driven logical framework and generation mechanism, leading to the problem of decision bias.

3.2.2. Supervision and Financial Risk

From the risk management perspective, financial supervision is the fundamental link of corporate governance and the core manifestation of internal control. Therefore, corporate governance is primarily generated through risk control logic. Internal control is the main goal of corporate governance and the key subject of financial supervision. Corporates enhance internal control from the risk management perspective, with three forms: The first is to develop risk policies, which refers to clarifying the consistency of risk control between strategic planning and daily operations; The second is to establish risk standards, which refers to achieving standardized control of risk management by establishing risk assessment standards, risk response standards, and disclosing risk information to stakeholders; The third is the process reengineering of internal audit. In recent years, corporate governance and other means have been used to improve internal control and financial supervision efficiency through process optimization. However, compared to the ideal state, the internal control of the current corporation still needs to be further improved [5].

3.3. The Birth of Derivative Risks Under the Control of Supervision Technology

The fundamental difference between supervision technology and traditional supervision methods lies in their technical attributes. The technical standards and operational guidelines for monitoring technology are aimed at data, and technological development mainly reflects automation and intelligence. In the framework of data-driven supervision, accurate data collection, data storage, data analysis, and decision support are the core values and highest criteria for the development of supervision technology. The diversity of current technology types and differences in operations have led to a complex situation in supervisory technology. Despite technological progress, since technology is still not perfect enough, the supervisory technology itself lacks a self-correction mechanism. Therefore, technological shortcomings have affected the efficiency of supervision. During the process of digital transformation, supervision technology, with its unique technological attributes, is reshaping the pattern of corporate supervision in an unprecedented manner. Compared with traditional supervision methods, the core driving force of supervision technology lies in the collection, storage, analysis, and decision support of data, which constitute the cornerstone of its technical system. The development trend of automation and intelligence has enabled the exponential growth of data processing capabilities in the supervision process, providing strong support for real-time monitoring, risk warning, and strategy optimization. However, the double-edged sword nature of technology has also given rise to new risks and challenges in this process. The diversity of technology and the differences in operations make the implementation and application of supervision technology exceptionally complex. Faced with a dazzling array of technological solutions in the market, corporates often need to invest a large amount of resources in screening and integration to build a supervision system that suits their own needs. This process not only tests corporations' technical judgment but also puts higher requirements on their organizational and coordination abilities. In addition, the rapid iteration of technology makes corporates face the pressure of continuous updating and upgrading. How to maintain the progressiveness and stability of the supervision system within a limited budget has become a difficult problem.

4. The Coping Strategies of the Corporate Development Process Under the Challenge of Financial Supervision Technology

4.1. Two-Way Integration: Corporates Get Rid of the Challenge of Supervision Technology

4.1.1. Intelligent Improvement of Corporate Finance to Achieve High-Quality Migration

From the perspective of technological development, traditional finance cannot accurately provide the real-time data needed by modern corporates to achieve high-quality migration through the intelligent improvement of corporate finance. The main form of corporate supervision on financial data is satisfaction evaluation, but traditional methods lack relevant information and prediction model mechanisms for big data analysis. The core of this problem may be technological backwardness. In the digital age, financial management has served as "data-driven", with its support for corporate decision-making directly reflecting market dynamics [6]. However, traditional finance mostly focuses on historical information and lacks forward-looking analysis. Usually, real-time financial data is difficult to obtain or measure. Asymmetric information and imperfect analytical models have led to decision-making obstacles.

4.1.2. Financial Upgrading of Corporates Under the Domestication of Supervisory Technology

From a management perspective, human supervision has long constrained the financial capabilities of corporates. Since the 21st century, financial supervision technology that integrates automated supervision has reshaped financial analysis through machine learning. However, the drawbacks of traditional supervision methods still constrain financial efficiency. Not only due to technical limitations but also the influence of human errors, the efficiency of supervision still needs to be improved. Under the premise of digital supervision, data mining is seen as a direct way to improve efficiency. However, the actual role of traditional supervision incorporated with new technologies remains to be discussed. Meanwhile, due to difficulties in technical implementation, there is a lack of effective tools for corporate supervision. Therefore, technology introduction does not always seem to achieve the expected goals. Technological integration is not only a technical challenge but also faces management challenges [7].

4.2. Joint Supervision: the Optimization of Corporate Response System and Supervision and Governance

Undoubtedly, corporate supervision cannot avoid being a "core element" of corporate governance in risk management. In modern corporate mechanisms, supervisory technology is a standardized and effective management tool that plays an important role in corporate operations, which also makes supervisory technology a technical and strategic concept. Therefore, a data-driven supervision mechanism has become a key mechanism for corporate governance. The practical interpretation of corporate supervision is generally a management path gradually formed based on technological progress, although this path involves continuous attempts. From traditional supervision to digital supervision, corporate supervision has been closely focused on data management. However, corporates should strive for technological innovation to adapt to market changes. However, the amplification of technical supervision has brought about a dilemma: excessive supervision. Overall, there is still room for improvement in the application of technology and other aspects of corporate supervision, and its efficiency needs to be further improved, which is also an important task of corporate governance [8].

4.3. Supervision Reversion: Rectify Corporate Finance and Restore the Financial Nature

When building a financial supervision system, there are usually two types of relationships to start with financial data and financial analysis. Financial data can be directly extracted from raw data, while financial analysis requires complex calculations on existing data to obtain, and this relationship can reveal deeper dynamics between entities. The construction process includes: building a single-layer data analysis at the entity level of financial statements, building a single-layer real-time supervision at the entity level of financial processes, building a single-layer predictive model at the entity level of financial strategies, and multi-level financial supervision for the overall corporate. After constructing multi-level financial supervision, it is necessary to make correct judgments and quality evaluations on the entities in the field that have joined the supervision to ensure that the constructed supervision system has high accuracy [9]. Compared to single-level supervision, multi-level financial supervision is more complex in structure, able to store more entities, and has more complex entity relationships. Therefore, data mining can be used for validation, which is a shared variable analysis tool with smaller parameter sizes and higher application advantages compared to other technologies. In the application stage, this technology can combine entities and relationships in corporate data to complete the representation from entity to relationship. In addition, this technology can score entities under the influence of data analysis functions, select the model with the highest score as accurate prediction and multiple link predictions can improve supervision accuracy, thereby verifying that the constructed supervision system has high accuracy.

5. Conclusion

Financial supervision technology has significantly influenced the development of corporates, presenting new challenges and requirements for corporate management. Financial supervision technology is not only a symbol of modernization in corporate governance and an important tool for enhancing corporate efficiency, but also a critical requirement for achieving corporate objectives and ensuring corporate stability. Essentially, it reflects the inherent requirements of sustainable development for corporates. Financial supervision technology is precisely guided by technological progress, constructing a theoretical analysis framework and practical mechanism for corporate supervision. In recent years, modern information technologies such as big data and cloud computing have enhanced corporate supervision, empowering the accuracy and scientific rigour of corporate decision-making and risk management through data-driven approaches. Its value aligns with the internal logic of corporate strategy. Therefore, technological integration also provides a new path for corporate supervision. In short, sustainable improvement and development of financial supervision technology can help better serve corporates and promote them towards higher levels of governance and operational efficiency.

References

[1] Kirkpatrick G. The corporate governance lessons from the financial crisis[J]. OECD Journal: Financial market trends, 2009, 2009(1): 61-87.

[2] Zhou Z, Li Z. Corporate digital transformation and trade credit financing[J]. Journal of Business Research, 2023, 160: 113793.

[3] Tzafilkou K, Protogeros N, Karagiannidis C, et al. Gender-based behavioral analysis for end-user development and the ‘RULES’attributes[J]. Education and Information Technologies, 2017, 22: 1853-1894.

[4] Ren S. Optimization of Enterprise Financial Management and Decision-Making Systems Based on Big Data[J]. Journal of Mathematics, 2022, 2022(1): 1708506.

[5] Li Z, Crook J, Andreeva G, et al. Predicting the risk of financial distress using corporate governance measures[J]. Pacific-Basin Finance Journal, 2021, 68: 101334.

[6] Roeder J, Palmer M, Muntermann J. Data-driven decision-making in credit risk management: The information value of analyst reports[J]. Decision Support Systems, 2022, 158: 113770.

[7] Wang J. From aperture satellite to" Internet finance": Institutionalization of ICTs in China's financial sector since 1991[J]. Telecommunications Policy, 2018, 42(7): 566-574.

[8] Brown I, Steen A, Foreman J. Risk management in corporate governance: A review and proposal[J]. Corporate Governance: An International Review, 2009, 17(5): 546-558.

[9] Geddes A, Schmidt T S. Integrating finance into the multi-level perspective: Technology niche-finance regime interactions and financial policy interventions[J]. Research Policy, 2020, 49(6): 103985.