

A Review of Research on Corporate Digital Transformation and Its Capital Market Effects

Yi Peng¹, Yanan Chen^{2*}

¹School of Economics, Shenzhen Polytechnic University, Shenzhen, 518055, China

²School of Management, Guangzhou City University of Technology, Guangzhou, 510800, China

*Corresponding author: chenyanantina@163.com

Abstract: Digital transformation is a general project that combines digital technology with the real economy, and it has begun to affect the pricing efficiency and resource allocation functions of capital markets. Systematically explore the concept, measurement methods and transformation paths of corporate digital transformation in this paper; and then present the impact of this on the capital market in terms of stock prices, cost of capital and information disclosure quality. With the development of digitalisation, both the environment of information and the structure of corporate governance have changed; thus, stock price synchronicity, crash risk and mispricing have also been affected. All of the above can help to improve the disclosure of information and strengthen internal control; at the same time, innovation can also be introduced to reduce the cost of equity and debt financing. In short, digitalisation will improve the quality of information disclosure, and thus, the positive effect of "information governance" can be achieved to prevent illegal disclosure of information and enhance the accuracy of earnings forecasts.

Keywords: digital transformation, capital market effects, stock price, cost of capital, information disclosure

Introduction

In the era of the digital economy, data has become a new factor of production and is changing the basic logic of economic development. Corporate digital transformation is no longer only a problem of technology; it has become a whole-picture project that includes strategic reform, organisational change, innovation in the value chain, etc., and its economic impact has begun to attract the attention of scholars. With the continuous development of digital technology, many enterprises have started to change their basic forms of production, organisation and competition by going digital.

As the main platform for fund distribution, the price efficiency and information transparency of the capital market directly affect the extent to which financial services can support the development of the real economy. According to the efficient market hypothesis, in an efficient and fair market, stock prices should reflect all relevant information about a company promptly and completely. China's capital market has long been relatively policy-driven in its operation, and stock price fluctuations contain a large amount of irrational noise; therefore, they are not very reflective of changes in the fundamental information of listed companies, and the information content of stock prices still needs to be improved. This problem will harm both the price-discovery function and the allocation efficiency of the capital market, increase the cost of capital for enterprises, and reduce the benefits of investment decisions. Therefore, how to improve the pricing efficiency of the capital market, reduce corporate capital costs, and enhance the market information environment are now urgent problems that need to be solved. The development of digital technology has also offered some new theoretical ideas and practical solutions to the problem above.

Therefore, this paper will take the subject of "corporate digital transformation and its impact on the capital market" and systematically review the related literature. First, the three areas of research in this paper are the definition of the concept, measurement methods and transformation paths of digital. Second, this paper only examines the effect on the capital market and summarizes the main results and controversial issues of existing research at the three levels of stock price, cost of capital and information disclosure quality. Based on the summary of the research results above, some directions for future research will be proposed in this paper to provide references and inspiration for later studies.

1. Research on Digital Transformation

Corporate digitalisation is a typical case of the deep integration of digital technology and the real economy, and it has attracted the attention of scholars for study. The three types of the above studies are concepts and connotations, measurement methods, and transformation paths.

1.1 Definition of Corporate Digital Transformation

The first kind of change is the entire change in a company resulting from the use of digital technology. Verhoef and others (2021) have put forward that the three stages of digital transformation are digitalisation, digitisation and digital transformation. Quantisation is the conversion of continuous signals or data from the real world into discrete numbers. Digitalisation is the application of digital technology to change the form of business and life, thereby raising the level of economic and social development. Organised projects that will change the basic structure of a company's system by using a cluster of digital technologies are called digitalisation projects. Zhong Xiaolong and others (2024) believe that with the integration of all kinds of technologies, such as artificial intelligence, big data and cloud computing, the concept of digital transformation has changed from the old idea of value creation to building an operating model; thus, all aspects of innovation and reform in strategy, organisation, operation, product systems and value delivery have been altered.

Generally speaking, the three main connotations of corporate digital transformation in the literature can be divided into product and business digitalisation, organisational structure digitalisation, and corporate strategy digitalisation. Wu Fei and others (2021) believe that, in terms of product and business digitalisation, digital transformation is the application of digital technology to change traditional production models, modify old business processes, build new business platforms and improve existing products. Xie Zhichun (2022) thinks that, in terms of organisational structure digitalisation, digital transformation is the use of digital technology to change the internal and external production and operation environment of a company; thus, it can improve the management and organisational functions of the company and optimise the organisational structure to meet the demands of the digital economy era. Zhang Zhengang (2022) thinks that, in terms of a company's strategy for digitalisation, digital transformation is the application of digital technology to improve the company's ability to predict decisions and thereby promote continuous change and innovation in its strategy.

1.2 Measurement Methods for Corporate Digital Transformation

As more people have learned about the concept of corporate digital transformation, research on how to measure it has also begun to increase in China. The four main ways that have been used in the literature to measure the level of corporate digital transformation are the scale method, the index method, text analysis and maturity model.

The first group of people to collect information systematically are those who use scales. Nasiri and others (2020), as well as Chi Maomao and others (2022), have developed scales for corporate digital transformation in their studies, and the items in their questionnaires are specific pieces of information on the extent of digitalisation in a company. Scholars often take the corresponding data from the financial statements of a company to build a proxy indicator. Qi Huaijin and others (2020) took the proportion and change of digital economy-related assets from the detailed list of intangible assets as the measurement basis, and Liu Chang and others (2023) focused on the investment amount in digital transformation projects and considered it an important index for the degree of digitalisation. Recently, the method of text analysis has been applied to many other areas as well. Barnewold and others (2020) have built word-frequency matrices of digitalisation to determine the level of digitalisation in a company, and Wu Fei and others (2021) have also done so. Other groups of scholars have also made full use of new technologies, such as Jin Xingye and others (2024) and Hu Zhongyi and others (2025), to apply generative artificial intelligence technology and obtain a large amount of data on patterns and deep associations in text by parsing digital expressions. Application of the Maturity Model: Construction of an Effective Evaluation System by Scholars. Liu Shuchun and others (2025) have created an index system to show the stages of development and the level of achievement in the digitalisation process for enterprises, and thus help these enterprises identify shortcomings along the way of digitalisation.

1.3 Paths to Corporate Digital Transformation

At all levels, digitalisation of enterprises is being promoted in recent years. It will go in one direction, and at the same time, there will be cooperation among technology, business and organisation. Most research on this subject has been in the form of technology application, new business models and organisational change.

The Goal of using technology is to promote change in the company. Yu Feifei and others (2022) also believe that in order to improve operating efficiency, enterprises should integrate data resources, digital technology and production conditions, and then make full use of them in the organisational system. The way forward for business model innovation is to restructure and rebuild the business logic in the digital era. Wang Ziyang and others (2020) believe that this innovation is not only the modification of a single link but also requires all-encompassing restructuring of the business model through all-encompassing reorganization of business integration and process reengineering. Warner and others (2018) believe that, in terms of technology empowerment, the new digital technologies of artificial intelligence and cloud computing can change business processes, improve the efficiency and quality of services, promote business simplification, and thus give rise to new business models. The Aim of Organisational Change and Innovation is to improve the structure and culture of the entire organisation. Zhang Mingyuan (2022) thinks that cross-functional digital teams can improve the efficiency of corporate innovation and the speed of market response, so some enterprises have begun to establish Chief Digital Officer positions to lead the transformation strategy.

2. Research on the Capital Market Effects of Digital Transformation

Digital transformation has many types of effects on the capital market, and as a result, it has changed the pricing efficiency and resource allocation functions of the capital market in all kinds of ways, such as restructuring the information environment, strengthening governance institutions and regulatory bodies, and altering market expectations.

2.1 Digital Transformation and Stock Price

The three directions in which scholars have studied the effect of digital transformation on stock prices are stock price synchronicity, stock price crash risk and stock mispricing. Due to changes in the information environment and governance structure, digitalisation has changed the information content and volatility characteristics of stock prices, according to the academic community.

The direction of change in individual stock prices due to the impact of digitalisation is not always the same as that in the entire market. Niu Biao and others (2025) believe that, in accordance with the theory of signals, the information disclosed by companies in the process of digitalisation is specific to the company and can be reflected in stock prices by the market; thus, fluctuations in the market will have little effect on stock prices. Zou Xiaofeng and others (2023) believe that due to noise trading, the information asymmetry in the stock market has been reduced; therefore, stock prices will be closer to the fundamental conditions and show more synchronicity.

Research on the problem of stock market crash risk has shown good results so far. Wen Jun and others (2026) believe that digitalisation will increase the stock price fluctuations of listed companies due to higher business risks and more insider trading. Yue Xiaotong (2024) has increased the unit of analysis from individual companies to the industry level and found that the imitation and diffusion of digital transformation among peer companies can reduce the risk of a future stock price crash by easing financing constraints and improving governance.

Stock mispricing is a problem in the field of stock prices. Most studies are in favour of the idea of correction in digitalisation. Li Wenfei (2023) and Cao Wenjian (2024) have conducted empirical research and found that by enhancing the quality of information disclosure, drawing more attention from analysts, strengthening internal control and digitalisation can reduce the deviation of stock prices from their intrinsic values. Xu Gang (2024) holds the contrary view and believes that digitalisation has indeed boosted stock prices by drawing the attention of more public and investors.

2.2 Digital Transformation and Cost of Capital

Research on the impact of digital transformation on the cost of capital has generally studied how

digitalisation affects the cost of capital, the transmission channel and all kinds of heterogeneous effects. Scholars believe that digitalisation will reduce the cost of capital, but it has not been determined how much this cost will be reduced and in what form.

Based on the above, many studies have found that the general effect of digitalisation on the cost of capital is a reduction in this cost. Li Wendan (2024) and Sheng Mingquan, et al. (2024) used the data of A-share listed companies to find that raising the level of corporate digitalisation can significantly reduce the cost of equity capital, and this result is consistent with the other robustness checks. Liu Ting (2023) has extended the analysis to the debt side and found that digitalisation can reduce the cost of debt financing, but the effect on equity is relatively small.

At the level of mechanisms, scholars believe that information transparency is the main intermediary. Chen Weiliang (2024) and Chai Xingtong (2024) believe that, in light of agency theory, to reduce capital costs, one should strengthen internal control to prevent earnings management and thus address the principal-agent problem. Qiu Yan and others (2024) have built a complete explanation system and proposed that the reduction of information asymmetry, the promotion of the innovation momentum and the improvement of internal control quality are all ways in which digital transformation affects the cost of capital, and that there is a considerable superposition effect among these factors.

Analysis of heterogeneity is the upper bound of the results of this study. Li Wendan (2024) believes that in a poor environment with little wealth, there will be intense competition among enterprises and slow market-oriented reforms; therefore, the effect of digitalisation in reducing the cost of equity capital will be limited. Chen Weiliang (2024) has found that digitalisation has had a stronger positive effect on the development of high-growth companies because they have better resource integration abilities and can respond more flexibly to changes in the market.

2.3 Digital Transformation and Information Dissemination Quality

Most studies have found that, due to the improved ability to process information and strengthened internal control, many of the digitised enterprises are now disclosing high-quality information and have achieved good information governance. Xu Yali and others (2023) used A-share data to find that digitalisation can increase the openness of corporate information and thus raise the risk-taking ability of listed companies; that is to say, information transparency is a mediating factor. Liu Beibei and others (2024) have added that, due to the attractiveness of analyst site visits and a reduction in information asymmetry, the general level of information disclosure quality for listed companies has risen. Xu Ziyao and others (2023) believe that, from the company's side, the process of digitalisation will improve the regularity of information disclosure by strengthening internal control and promote financial stability.

Some scholars have also looked at the problem from the perspectives of information disclosure violations and governance. Ma Defang and others (2023) have found that digitalisation can reduce corporate information disclosure violations, and the main reason for this governance effect is the improvement in the transparency of accounting information and the strengthening of the internal control system. Song Haitao (2025) has built an organised system for the quality of information disclosure by combining accounting information, earnings forecasts and forward-looking statements into a single analysis system, and has found that digital transformation has improved all aspects of information disclosure in an irregular manner, forming a "U" shape.

3. Research Conclusions and Prospects

A relatively organised body of work has been produced by the previous studies on digital transformation and capital markets. The three types mentioned in the study are changes in products and services, restructuring of the organisation, and modification of corporate strategy. The ways of measurement are scale assessment, indicator calculation, text mining and the maturity model. The three ways are to add technology, change the business model and modify the organisation. Digitalisation has altered the structure of information in the capital market and thus affected stock prices. The three ways digitalisation can reduce financing costs are to increase the openness of information disclosure, improve internal control and promote innovation. The positive information governance dividend of digitalisation is to improve the quality of information disclosure, curb illegal disclosure, and enhance the reliability of earnings forecasts.

In the future, some of the above research will also be further developed. First, in the future, we will investigate in more detail how all the links of digital transformation affect stock price synchronicity

under different market structures and clarify the boundary conditions for the dual functions of incorporating idiosyncratic information and reducing market noise. Second, in the future, we need to systematically divide all the mediating paths for the impact of digital transformation on the cost of capital and study the interactive superimposition effects of them to build a complete analytical system. Thirdly, the following studies will examine in more detail the effect of digital transformation on the quality of information disclosure.

Acknowledgement

Guangdong Province Philosophy and Social Sciences Project(GD24XYJ42) “Can digital transformation improve the information environment of capital markets?—— Based on the perspective of stock price informativeness”, Shenzhen Polytechnic University Key projects in social sciences (6024310001S) “Research on the Impact and Countermeasures of Heterogeneous Environmental Regulations on the High Quality Development of Marine Economy in the Guangdong Hong Kong Macao Greater Bay Area”

References

- [1] Wen Jun, Gao Pengfei, Hu Jian. *Enterprise Digital Transformation and Stock Market Stability from a Resilience Perspective*. *Economic Dynamics*, 2026, (01): 159-180.
- [2] Liu Shuchun, Li Yang. *Research Progress on Measurement of Enterprise Digital Transformation*. *Economic Dynamics*, 2025, (09): 192-208.
- [3] Huang Yihui. *A Study on the Motivation, Path and Performance of Digital Transformation of Beidahuang Group*. Master's thesis, Guangdong Polytechnic Normal University, 2025.
- [4] Niu Biao, Du Yuqing. *Digital Transformation Signal, Investor Interaction and Stock Price Synchronicity*. *Economy and Management*, 2025, 39(03): 75-83.
- [5] Liu Jiajia, Ren Lijun, Wang Shouyang. *How Can Enterprise Digital Transformation Effectively Reduce the Cost of Equity Capital*. *Management Review*, 2025, 37(07): 249-261.
- [6] Qiu Yan, Wang Zhi, Jiang Yuan. *Can Digital Transformation Reduce Corporate Capital Costs*. *Finance and Economics Theory and Practice*, 2024, 45(01): 83-90.
- [7] Liu Beibei, Chen Menglu, Guan Wenna, et al. *The Information Governance Effect of Digital Transformation: Evidence from Information Disclosure Quality of A-Share Listed Companies*. *Journal of Central University of Finance and Economics*, 2024, (04): 52-65.
- [8] Zhong Xiaolong, Li Huihui. *Enterprise Digital Transformation: Concept Definition, Main Digital Technologies and Measurement Methods*. *Financial Economy*, 2024, (02): 60-69+100.
- [9] Xu Ziyao, Pang Yuewei, Zhang Lisha. *Does Digital Transformation Improve the Quality of Information Disclosure of Listed Companies?*. *Journal of Nanjing Audit University*, 2023, 20(02): 33-42.