

Research on Financial Digital Transformation Path Based on NVivo Software Analysis and Sharing Mode in China

Jiahui Liang¹, Yinghong Chen^{2*}

¹liang.jiahui@stud.hs-fresenius.de, ^{2*}Corresponding author: 20111304148@gdufs.edu.cn

¹Guangdong University of Finance and Economics, Guangzhou, Guangdong, China

²Guangdong University of Finance and Economics, Guangzhou, Guangdong, China

Abstract—Financial sharing is the foundation of financial digital transformation, and it is also an essential step. In China, finance based on the sharing centre has completed informatization re-engineering, process optimization and organizational change by adopting ERP software. This study uses United Research China's online sample database to issue questionnaires and surveys to the financial departments of hundreds of companies in Beijing and other first-tier cities. The data are sorted and empirically analyzed by NVivo software. It aims to explore the process of financial digital transformation of enterprises under the layout of emerging technologies, discover the challenges and difficulties in the transformation, and propose corresponding solutions.

Keywords-financial digitization; digital transformation; financial sharing centre; Nvivo data analysis

1 INTRODUCTION

In the context of digitization, new technologies such as artificial intelligence, cloud computing, the Internet of Things, and blockchain are constantly emerging. They have also been widely used in the financial field to support the operation and development of enterprises (see **Table**). The rise and progress of digital technology have promoted the realization of extensive mutual communication between people and things, and has given birth to data explosion. The volume of enterprise data has begun to grow exponentially, and new products, new models, and new services based on data continue to emerge. As a key production factor in the digital economy era, data is gradually becoming the core asset of enterprises. How to unlock the value in data is the key to corporate competition. The digital wave is surging, and more and more companies have embarked on the road of digital transformation. Many companies have established financial sharing centres to build financial digitisation, but this is only the starting point, not the end of digital transformation.

TABLE 1. TECHNOLOGY AFFECTING CHINA'S ACCOUNTING INDUSTRY

2020 Rank	Technology	Popularity	(Rank) 2019 Popularity
1	Financial cloud	73.14%	(1) 72.06%

2	Electronic invoice	66.33%	(2) 69.52%
3	Accounting big data	62.44%	New on the list
4	Electronic archives	50.56%	(6) 43.13%
5	RPA	48.41%	(11) 36.50%
6	New generation ERP	47.91%	New on the list
7	Blockchain	45.73%	New on the list
8	mobile payment	43.00%	(3) 50.66%
9	data mining	42.77%	(4) 46.92%
10	Online audit	42.74%	(7) 41.43%

Source: Shanghai National Accounting Institute (2020) [1]

In terms of theoretical development, experts and scholars have gradually matured their understanding of Financial Sharing and digital transformation. Financial Shared Service is a new financial management model, including concept re-engineering, process re-engineering, organization re-engineering, personnel re-engineering and system re-engineering, financial businesses scattered in various business units, with high repeatability and easy standardization are concentrated in the Financial Shared Service Center for unified processing, to reduce costs, improve efficiency, improve service quality, strengthen the internal risk control of the group. According to years of practice, the basis, core and key of enterprise financial digital transformation under the shared service model. Financial transformation begins with sharing. The Financial Sharing Service Center has built a data platform and decision support platform for financial digital transformation [2]. Chen (2019), the chief financial expert of the Kingdee group, has repeatedly stressed that the essence of the financial digital transformation is the evolution of management mode and the improvement of business philosophy due to technological progress. She believes that the core of financial transformation innovation is three points: control to empowerment; Process driven to data driven; The management mode changes from pyramid mode to front, middle and background mode [3].

In terms of enterprises practice, the financial Sharing Service originated in the US. In 1981, Ford established the first financial sharing service centre in Detroit. In China, it started late but has developed rapidly. Moreover, financial digitization has led to the innovation of shared services and technology development in recent five years. It developed rapidly since ZTE established China's first financial sharing service centre in 2005. ACCA (2020) report shows that 54% of 398 enterprises established financial shared service centres in 2017, and 50% of 96 central enterprises have established or are establishing financial shared service centres in 2019 [4].

2 THEORETICAL FRAMEWORK

2.1 Financial digitization

Financial digitization is a product of corporate finance that adapts to the development of the times. It is a process of using information technology to gradually transform financial processing and decision-making from low-efficiency and high-cost offline methods to high-efficiency and low-cost online methods [5]. The digital transformation of finance emphasizes the transformation of intelligence and service integration with the financial sharing centre as the platform.

2.2 The path of financial digital transformation

Financial digital transformation is a complex combination of digital engineering, business administration, personnel training, etc. It requires managers to implement it in a multidimensional and all-around way from consciousness, strategy, and implementation to form a complete framework system. The path of financial digital transformation is threefold:

- At the consciousness level, managers and accounting practitioners can think intelligently about finance and deal with financial digitization
- At the strategic level, enterprise managers should formulate appropriate financial transformation strategies according to pest.
- At the specific implementation level, managers and accounting practitioners should reconstruct the financial structure, establish an intelligent financial centre, combine traditional industries with intelligent finance, cultivate cross-border digital talents and create an intelligent financial ecosystem.

2.3 The importance and inevitability of the digital transformation of the financial sharing centre

Financial work in modern society is not just about financial business processing and accounting. More and more financial accounting talents need to adapt to the changes of the times and transform into management accounting talents. The vigorous development of emerging technologies such as cloud computing, 5G technology, and blockchain has laid the foundation for the digital development of enterprises in the future, and corporate finance will gradually transform to digital. Financial digital transformation needs to go through three stages: The first stage is financial informatization, that is, from the traditional paper-based operation process to the online financial computerized financial business process, and the establishment of a financial sharing centre with standardized business processing procedures. The second stage is financial intelligence—based on building a financial sharing centre, intelligent tools such as artificial intelligence financial robots and one-click report generation are used. The third stage is the digital transformation of finance, i.e. The data of both the internal and external stakeholders is integrated and processed, and the effective data information that is convenient for financial decision-making is output to the enterprise management personnel.

Financial digitization is an important step for enterprises to achieve comprehensive digital development. The financial department needs to take the lead in advancing the development and upgrading of financial digitization in accordance with the company's strategic development plan. Eventually, achieve the goals of business scope from financial accounting services to financial forecasting and decision-making, and the functional scope from single financial services to financial, human resources and other diversified functions.

3 METHODS

3.1 Research design

In order to understand the financial digitization of enterprises, this survey uses the online sample database of United Research China to push questionnaires. The information of the database is filtered and counted by NVivo.

This study summarizes the problems and future trends of accounting digital transformation in China according to the experience and achievements of many enterprises and accounting practitioners by questionnaires and in-depth interviews. It is expected to provide direction and reference for Chinese traditional enterprises to carry out accounting digital transformation.

The data acquisition channel of this study is authorized, and the whole questionnaire and in-depth interview process are conducted, recorded and disclosed with the participants knowing the details of the study.

3.2 Research model

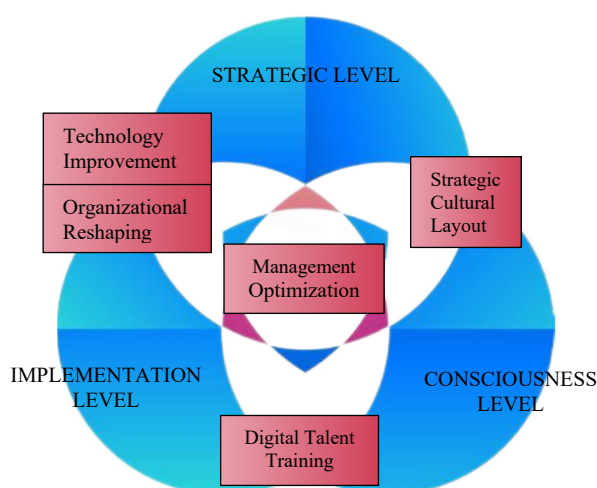


FIGURE 1. THE STUDY MODEL OF THE RESEARCH.

Source: Results of questionnaire survey

Management optimization is divided into three levels: consciousness level, strategic level and implementation level (see Figure 1).

3.3 Participants

The sample size is 280, specifically distributed in four cities: Beijing, Shanghai, Guangzhou, and Shenzhen, with a sample size of 70 in each city. The survey subjects were between 30 and 60 years old, and their positions were all at the level of chief financial officer and above.

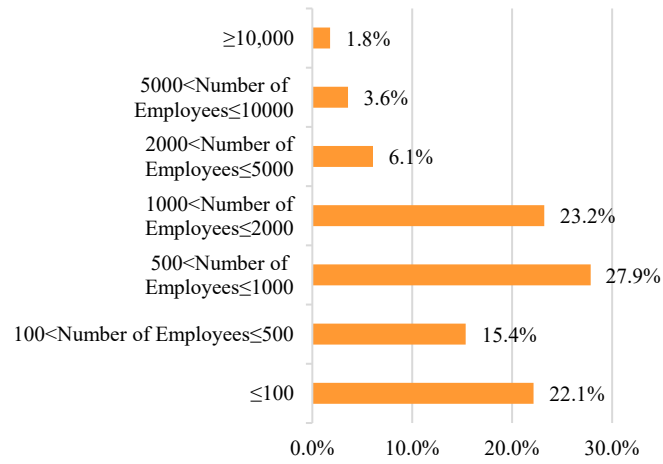


FIGURE 2. INDUSTRY DISTRIBUTION OF PARTICIPANTS

Source: Results of questionnaire survey

From the perspective of industry distribution, the companies in this survey involve 17 industries, and the top three are manufacturing, financial and service industries (see Figure 2).

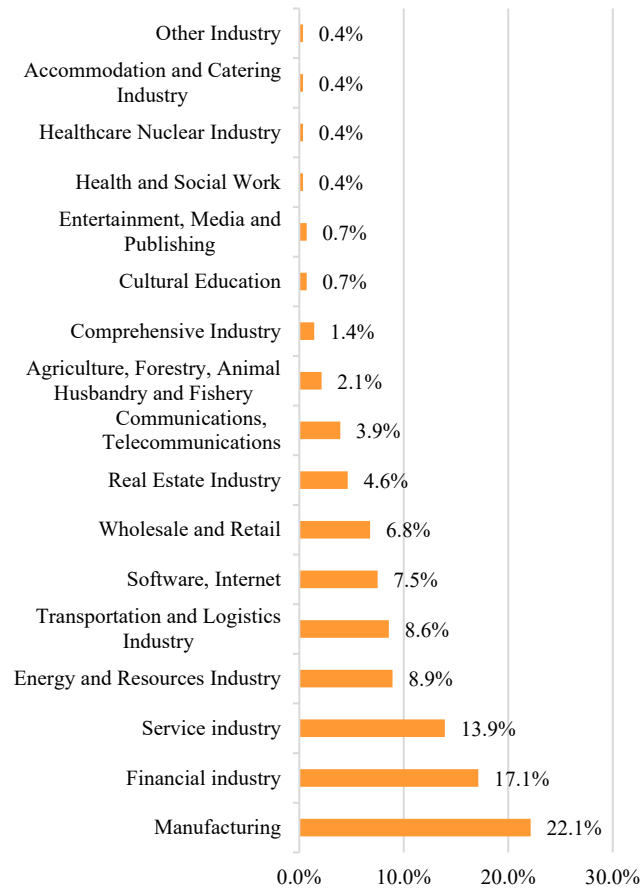


FIGURE 3. Participants' company staff size distribution

Source: Results of questionnaire survey

Among the respondents in this survey, companies with a scale of 500 to 1,000 people accounted for the highest proportion, 27.9%; followed by companies with 1,000 to 2,000 employees and companies with less than 100 employees, accounting for 23.2% and 22.1%, respectively; Companies with more than 10,000 employees accounted for the smallest proportion, at 1.8% (see Figure 3).

4 DATA ANALYSIS

59.3% of the participants believe that the company's profitability is close to the industry average; 30.0% of the participants believe that the industry average is exceeded. The proportion of participants who think it far exceeds the industry average is 2.1%; the proportion of participants

who think it is below the industry average is 7.9%. Only 0.7% of participants believe they are far below the industry average (see **Figure 4**).

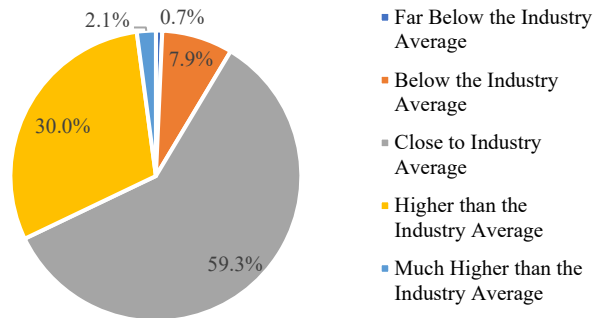


FIGURE 4. THE PROFITABILITY LEVEL OF THE INTERVIEWED COMPANIES.

Source: Results of questionnaire survey

59.6% of participants believe that the degree of corporate financial digitization is close to the industry average; 29.3% of participants believe that they exceed the industry average; 1.8% of participants believe that they are far beyond the industry average; they believe it is lower than the industry average. The average level of participants accounted for 8.2%; the percentage of participants who thought it was far below the industry average accounted for 1.1% (see **Figure 5**).

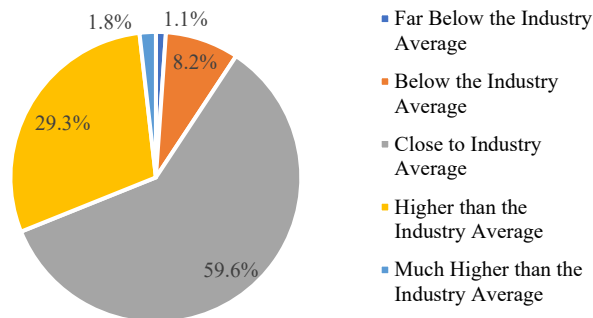


FIGURE 5. DEGREE OF FINANCIAL DIGITIZATION OF INTERVIEWED COMPANIES.

Source: Results of questionnaire survey

It can be seen that the profitability and digitalization of financial management of most of the respondents' companies are relatively high. Therefore, the exploration and judgment of financial digital transformation based on this sample possesses a certain reference value.

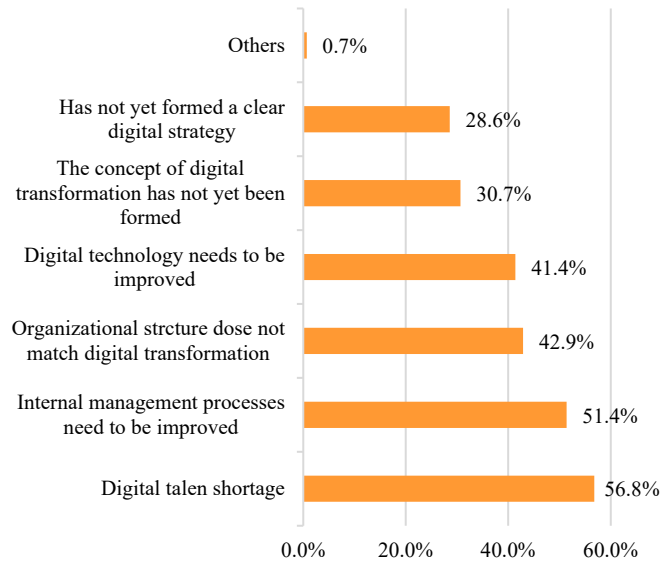


FIGURE 6. THE MAIN CHALLENGES FACING FINANCIAL DIGITAL TRANSFORMATION.

Source: Results of questionnaire survey

In a survey of 280 participants, more than half of them believe that the shortage of digital talents is the primary challenge to achieving digital financial transformation, internal management optimization and process re-engineering, and organizational restructuring and technical capability improvement (see **Figure 6**).

5 SUGGESTIONS OF FINANCIAL DIGITAL TRANSFORMATION

5.1 Building a digital strategy

Research has shown that companies with mature digital strategies and execution plans outperform their peers—income growth is 80% higher than their peers on average, and profitability is 74% higher than their peers on average [6]. Therefore, taking digital transformation as part of an enterprise's development strategy and formulating a clear strategic policy is of great significance to the enterprise's future development and strategic layout. In addition, if an enterprise wants to implement its strategy, it needs to increase its employees' sense of identity and participation in digital transformation and deeply integrate digital concepts into the corporate culture. As a key component of enterprise digital transformation, financial digital transformation needs to be closely integrated with the digital strategy of the entire enterprise group. On this basis, financial future development and transformation planning should be done.

15.6% of the participants said that their companies have a comprehensive financial digitization strategy and plan, 58.9% of the participants said that the companies have begun to explore how to implement financial digitization. Only 4.7% of the participants said that there is no plan related to financial digitization. This shows that most enterprises have already begun or are

implementing financial digital transformation, and financial digitization will become a new trend in the future financial development of enterprises.

5.2 Strengthen talent training

Digital talents are an important force for companies to achieve digital financial transformation. Financial digital transformation requires managers who lead digital transformation at the strategic level and technical experts responsible for the implementation, operation, and maintenance of various digital tools and technologies at the executive level. In addition, with the continuous improvement of the automation of the financial sharing centre, employees in this position will engage in higher value-added work, such as data analysis and business forecasting. Companies should build a sustainable digital talent team and training system based on their development strategy, actively introduce digital talents, strengthen talent training in key professional fields, optimize the talent structure of the workforce, and comprehensively improve the skills and capabilities of employees to respond to digital changes.

5.3 Reshaping the organizational structure

Digital transformation means innovation in business models, and new business models need to be adapted to the new organizational structure in order to maximize their value. The era of the digital economy requires rapid response to customer needs, which requires the transformation of the organization and the establishment of a customer-centric and responsive data-driven organization. However, after an enterprise has reached a certain scale, no matter what type of enterprise it is, it will be difficult to adjust the organization structure in a short period. In order to support the digital transformation of the enterprise, the second set of organizations can be built under the existing organizational system. Organizational systems are business agility organizations. For example, an organization engaged in digital innovation is established, such as a data centre or data operation team. On the one hand, it can quickly respond to changes and decisions, effectively identify and deliver customer value. On the other hand, it can be used as a project team to promote enterprise digital transformation.

5.4 Standardize data governance

The “Opinions on Building a More Perfect Factor Market Allocation System” issued by the Central Committee of the Communist Party of China and the State Council in 2020 proposes that data, land, labour, capital, and technology are juxtaposed as one of the factors of production, which means that data is also the investment needed by companies to create goods or services [7]. Therefore, enterprises urgently need to enrich data accumulation, improve data quality, clarify data assets, ensure data consistency, and lay a solid foundation for digital transformation. In addition, in order to give full play to the advantages of the financial sharing centre, enterprises should bridge the connection between the business system and the financial system, standardize data standards, and realize the simultaneous and online data collection and invocation of all departments of the enterprise to maximize the use of data.

6 CONCLUSION

6.1 Digital talent training

Essentially, an enterprise needs to introduce and train digital talents [8]. The shortage of digital talents will hinder the pace of enterprise transformation to a certain extent. Therefore, companies should introduce suitable digital talents and train existing employees to become digital talents to make up for the talent vacancy is an urgent problem for companies to solve. In addition to corporate managers, corporate chief financial officers and financial personnel also need to reshape their roles and position and continuously improve their personal development to adapt to future digital trends. In addition, companies should also actively create promising and meaningful career development channels for financial personnel and support them in the construction and adaptation of sustainable enterprises in the digital age.

6.2 Management optimization

The core of financial digitization is to drive business decisions with numbers. Digital drive means taking data as the core, after comprehensively sorting out the company's data assets, integrating, sharing, and mining them to help managers simplify complexity and see the business nature behind the complex processes, thereby helping business managers make business decisions. Therefore, companies need to consider how to optimize process re-engineering and management system reshaping, to open up the data channel between the business system and financial system, drive business innovation and lean management, meet the needs of business decision-making and agile actions, and achieve management and optimization of the process.

6.3 Organizational reshaping

Digital transformation requires companies to build agile organizations to quickly respond to customer needs and market changes. Financial department managers need to re-examine the financial talent model and organizational structure model. With the support and promotion of senior leaders, companies need to set up a professional team to be responsible for the entire digital transformation process, and through continuous optimization of the architecture system, to ensure that they are prepared for the approaching transformation and create value for the company.

6.4 Technology improvement

The speed of technology iteration is so fast. Choosing among many technologies, realising the efficient application of digital technology in business scenarios, and using technology to tap deep value is an important reason why many companies still hold a wait-and-see attitude in the face of digital transformation. Companies should take comprehensive consideration of strategic objectives, management requirements, business characteristics and other factors, actively introduce emerging technologies, and dig deeper into digital technology application scenarios, which will not only help companies reduce costs and increase efficiency, but also they can analyze their business faster and more deeply, expand their business value, and create an excellent experience.

6.5 Strategic cultural layout

Digital transformation is a revolution for enterprises. The basic elements for successful implementation of digital transformation are how to deal with technological progress and social changes in the overriding business method, and how to mobilize employees to support digital transformation and ensure effective changes. It is suggested that business managers should pay close attention to digital technology, deepen their understanding among digitization, discover potential digitisation applications in financial functions, and seek transformation opportunities. Managers also need to formulate clear strategic goals and plans, promote the transformation concept from top to bottom, root digitization in the corporate culture, cultivate digital thinking across the enterprise, and lead employees to work together toward common goals to accelerate the digital transformation of the enterprise pace.

REFERENCES

- [1] Shanghai National Accounting Institute. (2020). Top 10 Technology Selection Reports Affecting Chinese Accountants in 2020. Retrieved from Shanghai: <https://www.snai.edu/>
- [2] Tang, Y., & Hu, X. (2019). Gong Xiang Fu Wu Mo Shi Xia Qi Ye Cai Wu Shu Zi Hua Zhuan Xing Tan Tao. [Discussion on digital transformation of enterprise finance under shared service mode]. Friends of Accounting, 08.
- [3] Chen, L. (2019, 12 July). Cai Wu Guan Li Xin Shi Jie. Retrieved from https://www.sohu.com/a/326455098_187871
- [4] Acca. (2020). China's shared services Report in 2019 Based on the Financial Shared Services. Retrieved from <http://www.ztccloud.com.cn>
- [5] Cai, B. (2020). Research on the Digital Transformation of SME Finance under the Background of Big Data. [Da Shu Ju Bei Jing Xia Zhong Xiao Qi Ye Cai Wu Shu Zi Hua Zhuan Xing Yan Jiu]. Chinese Township Enterprise Accounting(12): 208-209.
- [6] Ibm, T. (2018). Unlocking the potential of digital Digital Reinvention in finance. Retrieved from <https://www.frontiersofdigitalfinance.com/fintalk/unlocking-potential-digital-digital-reinvention-finance/>
- [7] Xinhua, N. A. (2020). Opinions of the Central Committee of the Communist Party of China and the State Council on Building a More Complete System and Mechanism for Market-oriented Allocation of Factors. Retrieved from http://www.gov.cn/zhengce/2020-04/09/content_5500622.htm
- [8] Hang, J. (2020). Research on Enterprise Financial Management Transformation under the Background of Big Data. [Da Shu Ju Bei Jing Xia Qi Ye Cai Wu Guan Li Zhuan Xing Yan Jiu]. Market Modernization(10): 181-182.