

## *Original Paper*

# Research on Optimization Paths for Corporate Financial Management under Digital Transformation

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### **Abstract**

*With the acceleration of the digital economy, changes have been made to the financial management of enterprises through the use of artificial intelligence (AI), big data analysis, blockchain technology and cloud computing. This paper will study the optimization path for corporate financial management in the background of digitalisation and this paper aims to provide a comprehensive framework that can help enterprises use digital technology to enhance financial governance and operational efficiency, etc., to make good strategic decisions. According to the theoretical system of digital business strategy, accounting information systems and dynamic capabilities, the three necessary elements for optimisation in financial management in this paper are intelligent process automation, real-time integrated data analysis and dynamic risk monitoring and control. A Digital Financial Performance Index (FPI) will be introduced to show the results of the changes, and a return on investment model will be used to determine the economic benefits from the investment in digitalisation. According to the above analysis, all kinds of digitalisation in financial management has been used by the enterprise to reduce the financial close cycle, automate processes, improve forecasts, etc. The four ways to promote the optimisation of strategy are to build an online platform, develop smart finance tools, improve risk management and train talent. Based on empirical data from previous studies and typical case studies, it is proposed that a systematic and comprehensive plan for the construction of digital finance will be able to achieve the desired results better than the scattered introduction of various technologies. The paper has also pinpointed some problems, such as poor data quality management, issues with the old system, problems in personnel changes, weak cybersecurity governance, etc., and offers relevant suggestions for CEOs and corporate management, as well as for the government and regulatory bodies.*

### **Keywords**

*digital transformation, financial management, optimization path, artificial intelligence, enterprise*

*governance*

## **1. Introduction**

The entire world's digital economy has been changing significantly at a high speed due to the spread of all sorts of new technologies for business and life. With the development of Artificial Intelligence (AI), big data analysis, cloud computing and blockchain technology, they have gradually moved from the outskirts of research to the center of support for strategic needs and altered the operating model, competition structure and value creation of enterprises (Bharadwaj, El Sawy, Pavlou et al., 2013). As a result, financial management for corporations - which includes budgeting, accounting, auditing, risk control and financial statements - has been one of the first areas affected by digitalisation; although there are obvious advantages in efficiency improvement, problems such as implementation difficulty and organisational restructuring also need to be addressed.

The old model of financial management is still a batch-processing mode, and its information system is disjointed; it still needs to be manually operated and cannot meet the current demands for quick response, all-round data integration and advanced analysis in the business environment (Matt, Hess, & Benlian, 2015). Given the strengthening competition among all countries and all kinds of changes in regulations, an intelligent, automated and data-rich financial management system that meets the high-end management requirements of financial officers and enterprise leaders must be built now. According to the above data from industry surveys, high priority is placed on the strategy of digital transformation for financial functions by corporate leaders around the world, but the pace of implementation has not met expectations; thus, there is a significant gap between transformation aspiration and operational results.

The idea of digitalisation in financial management is closely related to many changes. At the operating level, it is to automate the daily operation of transactions and use intelligent document recognition based on artificial intelligence. At the same time, given the complexity of the multiple entities in cloud-based enterprise resource planning (ERP) systems, timely financial consolidation needs to be carried out to provide analysis and support for the next strategic decision based on predictive analytics (Moll & Yigitbasioglu, 2019), and changes in organisational processes, control frameworks, data governance standards, human capital development programs, etc., also need to be made. Therefore, a successful digital transformation should not only rely on new technologies; it also needs long-term efforts and commitment from all parts of the organisation.

Research on digital transformation has developed rapidly in recent years, and some good theoretical systems have been proposed to explain how organisations build digital strategies, foster digital capabilities, and manage all stages of the process of digital transformation (Verhoef, Broekhuizen, Bart et al., 2021; Cao, Chychyla, & Stewart, 2015). However, relatively little research has focused on the specific problem of optimising corporate financial management in light of this change. There is still a

demand for all-round and practical frameworks that can integrate the technology, organisation and governance of the transformation of digital financial management in a structured and measurable way, and be applicable to all kinds of enterprises at various stages of their own transformation.

Therefore, a systematic analysis system for the optimisation of corporate financial management in the era of digitalisation will be constructed in this paper. First, determine the current problems and opportunities in the financial management of enterprises in the digital era; Second, put forward a quantitative index to measure the results of digital financial management, which will be referred to as the Digital Financial Performance Index; Third, propose all-round, multi-dimensional optimisation plans supporting enterprises at all stages of digitalisation of financial management. The remainder of this paper is structured as follows. Section 2 reviews the related literature. Section 3 is the foundation for developing the model and analysis. Section 4 is the problems with change. Section 5 Proposes the Optimisation Path. Section 6 is the sample data. Section 7 concludes.

## **2. Literature Review**

### *2.1 Digital Transformation Theory*

The idea of research on digital transformation can be traced back to the first work by Bharadwaj, El Sawy, Pavlou and Venkatraman on digital business strategy; at that time, it was proposed that digital strategy and business strategy have been integrated into a unified organisational capability, and digital resources are now regarded as the core drivers of competitiveness rather than mere peripheral support tools (Bharadwaj, El Sawy, Pavlou et al., 2013). This new idea - that in order to advance beyond the concept of IT as merely a function, one must have all links in the enterprise connected to maintain competitive advantage in the new era of digitalisation - has laid the groundwork for all subsequent research on how organisations can develop, employ and utilise their comprehensive range of digital capabilities, such as in financial management.

Vial (2019) has provided one of the all-round syntheses of research on digital transformation and built an integrated framework of technology-enabled disruptions, strategic responses, structural changes and value creation processes; it is shown that the root cause of digital transformation is competition and technological opportunities, and organisations need to develop new strategic arrangements and management abilities (Vial, 2019). Hess, Matt, Benlian and Wiesboeck (2016) have further operationalised the concept of a digital transformation strategy by identifying four strategic dimensions: the application of technology, value creation in digital businesses, structural changes and financial management of transformation programs (Hess, Matt, Benlian et al., 2016). This multi-dimensional view is very relevant to the transformation of financial management; that is to say, in order to achieve continuous performance improvement, the use of technology, redesigning processes and reorganising the organisation must be in harmony.

### *2.2 Digital Technology Applications in Financial Management*

With the development of digital technology and changes in finance, new research has begun to emerge in the area of financial management functions. Cao, Chychyla and Stewart (2015) have shown that big data analysis is one of the changes that can be brought about in accounting and audit; that is, instead of only using statistical samples, an entire set of data can be analysed to improve the quality and coverage of financial statement audits by addressing various risks to a greater extent (Cao, Chychyla, & Stewart, 2015). Therefore, big data has promoted a change in the mode of financial audit from sample-based to population-based audit.

Moll and Yigitbasioglu (2019) have studied how internet-related technologies, such as cloud computing, mobile applications and collaborative digital platforms, are changing the range, mode and professional position of management accounting; they believe that the function is moving from processing and record-keeping of transactions to the construction of information and strategic advice, and this new role for the finance department is one of the primary strategic results of the transformation of digital financial management. In the field of corporate governance, Yermack (2017) has investigated the application of blockchain technology to enhance the transparency of financial reports, improve shareholder communication and corporate governance by management, etc.; he believes that a distributed ledger technology can reduce information asymmetry between enterprises and all sides. (Yermack, 2017) Chen, Chiang and Storey (2012) studied the overall development of business intelligence and analytics and demonstrated that by utilising data-driven decision-making, various kinds of values are created in strategic planning, customer management and operating financial control (Chen & Chiang, 2012)

### *2.3 Organizational Capabilities and Digital Financial Management*

Dynamic capabilities theory can help us learn how the company will develop and continuously use its digital financial management capabilities in the long run. Warner and Wager (2019) argue that digital transformation requires continuous strategic renewal; that is to say, organisations must constantly feel changes in the environment, grasp new technological opportunities, and adjust their digital capabilities in light of changes in competition (Warner & Wager, 2019). This dynamic attitude is very important for financial management reform, as the technology environment is changing rapidly and the capabilities of organisations need to keep up with technological progress to remain competitive.

Complementary Investments and the realisation of benefits of Digital Technology are frequently mentioned in the literature on the importance of synergy. Brynjolfsson and McElheran (2016) have shown that data-driven decision-making can boost the productivity of enterprises; However, to make good use of this advantage, changes need to be made in the management process, the incentive system and the development of human resources supporting new technologies in organizations (Brynjolfsson & McElheran, 2016). Matt, Hess and Benlian (2015) have also studied how to manage funds for the digital-transformation strategy, and it has been found that the original resource allocation framework and investment priority process are not suitable for multi-year and fluctuating-return large-scale

digital-transformation projects (Matt, Hess, & Benlian, 2015). Li (2022) believes that the main reason for the slow speed of digital transformation is a lack of talent; Therefore, enterprises that proactively carry out upskilling for financial and technological talent have shown better and more stable results in this process (Li, 2022).

#### *2.4 Research Gaps and Study Positioning*

The above review shows the three main problems in the current studies. At present, most of the digital transformation frameworks are at the enterprise level and do not have specific details on problems, mechanisms and optimisation prospects for the financial management function. Second, a quantitative performance measurement system for the transformation of digital financial management has not been established; thus, it is impossible to track the progress and compare the results of various programmes in a systematic way. Thirdly, there has been no general optimisation framework to integrate the technology, organisation and governance of the financial management reform in an organised and practical way among scholars and practitioners. Based on the three gaps identified, this paper will present the theoretical system and some representative empirical data.

### **3. Theoretical Framework and Analytical Model**

#### *3.1 Conceptual Framework*

Based on the three-tier conceptual framework of this paper, we will study corporate financial management in the background of digitalisation and draw on the ideas of digital business strategy theory, research on accounting information systems, and dynamic capability theory. As shown in Figure 1, the framework thinks that digital financial management is a multi-level system, and in conjunction with the impact of various factors such as capabilities of technological infrastructure, organisation of process arrangements and governance mechanisms, it will affect the results of financial management performance dynamically.

Figure 1. Optimization Framework of Digital Financial Management.

The technology at the foundation level of the advanced digital finance system is based on cloud computing, data-integration middleware and enterprise resource planning. The process layer includes the main financial management tasks of planning and budgeting, accounting and reporting, treasury and cash management, tax compliance, risk control and management analysis, etc., and each is at different stages of digitalisation according to the transformation maturity. The Governance Layer is the whole set of policies and control mechanisms that need to be implemented to regulate all parts of the operation of a digital financial institution in compliance with the law and continuously improved.

#### *3.2 Digital Financial Performance Index*

To provide a quantitative basis for evaluating and comparing digital financial management optimization outcomes across enterprises and transformation stages, this paper introduces the Digital Financial Performance Index (FPI). The FPI is defined as a weighted composite of normalized key performance

indicators across the core dimensions of digital financial management, as formalized in Equation (1).

Equation (1) – Digital Financial Performance Index (FPI)

$$FPI = \sum_{i=1}^n w_i \cdot K_i$$

with the constraint:

$$\sum_{i=1}^n w_i = 1, 0 \leq w_i \leq 1$$

where: FPI = Digital Financial Performance Index

$w_i$  = weight assigned to the  $i$ -th performance dimension (determined by Analytical Hierarchy Process)

$K_i$  = standardized score of the  $i$ -th key performance indicator normalized to a 0–100 scale

$n$  = total number of indicator dimensions included in the assessment

### 3.3 Return on Investment Model

Complementing the FPI as a multi-dimensional performance measurement tool, the Return on Investment of Digital Financial Transformation (ROI\_DT) provides an economic assessment of transformation program viability, formalized in Equation (2).

Equation (2) – Return on Investment of Digital Financial Transformation (ROI\_DT)

$$ROI\_DT = (R\_DT - C\_DT) / C\_DT \times 100\%$$

where: ROI\_DT = return on investment rate (percentage)

$R\_DT$  = cumulative financial and operational benefits attributable to digital transformation initiatives (expressed in monetary units)

$C\_DT$  = total cost of digital transformation investment including technology procurement, system implementation, organizational change management, training, and ongoing maintenance expenditures

This metric enables enterprises to assess program viability and compare outcomes across alternative implementation strategies.

### 3.4 Framework Assumptions and Boundary Conditions

The foundation of the analysis is the three above. First, the digital transformation of financial management should be viewed as an all-round and continuously improving development of capability rather than a one-off introduction of new technology; therefore, it should be recognized that enterprises are at different stages of maturity and will develop accordingly over time. Secondly, it is assumed that the FPI construct will be capable of capturing the main performance factors of digital financial management comprehensively and that suitable indicators will be selected for the particular enterprise. Third, the investment in improving organisational processes, developing human resources and governance mechanisms should also be made in an appropriate way to realise the performance benefits of the theory; otherwise, only technological investment will be insufficient.

## 4. Challenges Facing Corporate Financial Management in the Digital Era

Organizations engaged in the digitalisation of corporate financial management face various types of problems, and many of them are not due to technology selection or system construction. Based on

empirical research and the experience of practitioners, it has been determined that, generally speaking, the four types of persistent problems are the reason for the deviation in direction and results of the transformation, as shown in Table 1 for data management, technology infrastructure, human resources and organisational culture, regulatory compliance and cybersecurity, etc.

**Table 1. Major Challenges in Corporate Financial Management under Digital Transformation**

| Challenge Category | Specific Challenge                                      | Impact Level | Primary Affected Function |
|--------------------|---|--------------|---------------------------|
| Data Management    | Data quality and integration from heterogeneous systems | High         | Reporting & Analysis      |
| Data Management    | Data governance and privacy compliance                  | High         | All functions             |
| Technology         | Legacy system integration with new digital platforms    | High         | Accounting & Reporting    |
| Technology         | Vendor dependency and platform lock-in risk             | Medium       | IT Governance             |
| Human Capital      | Shortage of finance professionals with digital skills   | High         | All functions             |
| Human Capital      | Organizational resistance to workflow change            | Medium       | Management & HR           |
| Regulatory         | Evolving compliance requirements for digital finance    | Medium       | Tax & Audit               |
| Cybersecurity      | Expanded attack surface in digitalized systems          | High         | Risk Control              |

#### 4.1 Data Quality and Integration Challenges

A solid foundation for the application of digital finance management should have good quality, seamless and real-time financial data from all parts of the company and the organisation. Most older enterprises have been using many different and outdated systems for various reasons and in different areas; as a result, their financial data is dispersed in several places and inconsistent, making it difficult to perform comprehensive financial analysis and reporting. The reasons for this include different periods of development, various business segments, and multiple geographical locations for the old systems, so there is no single, accurate source of financial data. To solve the problem of data integration, a large sum of money will be needed to rebuild the data architecture, build a centralised data warehouse or data lake, and establish an enterprise data governance system that defines data ownership, quality standards, life-cycle management, etc. (Cao, Chychyla, & Stewart, 2015)

#### 4.2 Technology Infrastructure and Legacy System Constraints

At present, despite the development of new digital platforms, older ERP and accounting systems are still used by most enterprises; therefore, the digitalisation of their financial processes has been slow. Generally speaking, the old financial system does not have suitable APIs, data exchange norms and cloud integration functions for the construction of a new digital financial management system architecture (Moll & Yigitbasioglu, 2019). Given the high cost and operating risks of replacing the large-scale, complex enterprise system that is deeply embedded in the old system, it is not feasible to do so entirely; therefore, the path of partial integration often results in an increase in architectural

complexity and operating instability. The Company will plan the migration of its old information carefully in line with new regulations and improve its system. Phased migration, middleware integration layers and selective system modernisation are relatively simple in terms of the transformation path, but they require strong direction from the technical architecture and continuous support from management over a long time.

#### *4.3 Human Capital and Organizational Culture*

The development of digital finance management transformation needs more than the introduction of new technologies; at the same time, there will be changes in people's skills, work methods and professional concepts. Finance professionals who were trained under the old manual accounting system and periodic reporting mode need to learn how to use data analysis, digital tools and technology-business integration thinking. (Li, 2022) This human capital deficiency is one of the main reasons why many enterprises have been unable to complete their digital transformation projects on schedule; although technological investment can be made in a few months, developing the capabilities of the workforce takes many years. The extent of the impact of organisational culture on a company's ability to reform differently is not the same; that is to say, risk-averse, hierarchical organisations that have been unwilling to adjust their work processes for a long time will be harder to change than those with flexible and innovative cultures (Warner & Wager, 2019). To promote the transformation of culture, leadership needs to provide strong support, an incentive system that links employees' career development with the acquisition of new digital skills should be created, and the change from the old mode of work to the new one should be carefully managed.

#### *4.4 Regulatory Compliance and Cybersecurity Governance*

As corporate financial management continues to digitise, so too does the new regulation of the Internet for the financial sector. New requirements for the management of electronic invoices, digital financial reporting standards, data location restrictions and cybersecurity incident disclosure obligations will be added in the future; therefore, they should be considered at the beginning of the Design for the architecture of the digital financial system. At the same time, with the digitalisation of financial processes, the range of cybersecurity attacks on enterprises has also expanded; thus, the financial management system is now a very attractive target for external threat actors and insider risk scenarios (Verhoef, Broekhuizen, Bart et al., 2021). Therefore, effective cyber risk governance in the digitalised financial environment should have a multi-layered security architecture that includes privileged access management, data encryption, continuous monitoring and incident response capabilities, regular recovery tests, security awareness training for finance staff, etc.

### **5. Optimization Paths for Corporate Financial Management**

Based on the problems and theoretical system mentioned above, four-dimensional optimisation plans for corporate financial management in the era of digitalisation are proposed in this paper. As shown in

Figure 1, the four paths of optimisation are connected and supportive of each other, such as the construction of a digital platform, the application of intelligent financial tools, strengthening risk management and internal control, talent development through organisational governance reform, etc. Figure 2 shows the typical performance improvement curves of some indicators in financial management after the construction of the above framework. Table 2 is a general list of the optimisation plan and its expected results in the four areas.

### *5.1 Digital Platform Construction*

To build an all-round platform for the digitalisation of financial management will lay the foundation for the next three types of optimisation. Generally speaking, the four parts of a digital platform are as follows: A cloud-based ERP system is for daily operation and other needs; a financial management information system is to plan, forecast and assess the use of funds; a data integration area is to collect data from inside and outside the company in an opportune way; and an analysis and report-generation Area is to build various financial models, conduct scenarios, etc.

The first problem that needs to be addressed in the cloud migration of financial infrastructure is the direction of the strategy. Many of these are the advantages of the new cloud financial platform over the old on-premise model; it has better scalability, good consolidation of various parts of the enterprise, service guarantee, relatively lower total cost of ownership, etc. Most enterprises that have introduced a Cloud ERP platform can now significantly shorten their financial closing cycle by simplifying manual inter-company reconciliation, automating multi-currency consolidation, etc., and handling transaction data in real time across distributed business units. Standardisation of the APIs for all platform components will improve interoperability and provide support for the addition of new digital financial tools at all times of the change.

A good platform should be divided into modules and assembled according to needs; new functions can be added one by one without modifying the whole system at this time, and it is adaptable to changes in the digital era. Companies at the beginning of digitalisation for their financial services can start to automate high-volume daily operations, such as accounts payable, expense management and bank reconciliation; on this foundation, other functions for future expansion can be added, such as financial planning and analysis, continuous risk monitoring, general management reports, etc. A number of steps can address the risk of implementation and make some immediate efficiency gains to boost people's enthusiasm and support for the next stage of change.

### *5.2 Intelligent Financial Tools and Process Automation*

The other direction of optimisation is to build intelligent financial tools with the help of artificial intelligence, machine learning and robotic process automation (RPA). RPA can automate the structured and rule-based financial processes of invoice processing, bank reconciliation, intercompany billing, journal entry posting, tax calculation, etc.; it can improve the speed of processing by 60%-80% compared with manual operation and significantly reduce errors in well-defined process types.

Artificial intelligence and intelligent document recognition technology can now be employed to process semi-structured and unstructured data in accounting, such as supplier invoices, receipts, contracts, regulatory reports, etc., to reduce the manual data-entry burden on many accounts payable and compliance staff.

With the development of advanced AI-based predictive analytics, Finance and Planning have also been changing to some extent; nowadays, accurate and comprehensive forecasts of information can be obtained through the use of the old spreadsheet extrapolation method [7]. Machine learning models can analyze historical financial data, operating indicators and the macro-economic environment to discover non-linear relationships and interaction effects that are difficult to find in traditional statistics, and based on existing applications, these forecasts are generally 10–25% more accurate than those generated by traditional methods. Natural Language Processing can be used to generate the text of the management report automatically, and an exception-based alert system can be built to highlight major deviation events in the work of FP&A and extend the scope of analysis for the finance department.

Blockchain technology can be applied to improve the cooperation of many organisations in financial cooperation to strengthen supply chain finance, multiple-party contract management and financial compliance monitoring, etc. Distributed Ledger Technology (DLT) can be used to avoid a two-party reconciliation and construct a single, tamper-proof log of the transfer; thus, the matter will be easier to settle, and reconciliation and other costs will be reduced (Matt, Hess, & Benlian, 2015), disputes will be resolved reasonably, and smart contracts will be employed to implement automatic payment deadlines and milestone-based releases to lower transaction costs and boost the stability of the financial system in the entire value chain of supply chain finance, thus optimising the operating capital of the whole enterprise.

### *5.3 Risk Management and Internal Control Enhancement*

With the digitalisation of finance, new kinds of financial risk have appeared, and strong ability to identify, assess and control risk is also needed. The whole optimisation plan for digital risk management should also consider the new risks of information security and data management that have appeared with digitalisation, use digital monitoring technology to improve the efficiency of traditional financial risk control, etc. With the timely availability of data and automatic anomaly detection algorithms in the transaction processing workflow, the framework of continuous monitoring and ongoing audit is no longer for periodic audits but has become a new way of conducting proactive, continuous risk supervision (Cao, Chychyla, & Stewart, 2015).

By adding automatic control tests and exception-flagging algorithms to the process of financial transaction flow, the company will be able to detect control defects, policy violations, abnormal transaction behaviour, etc., in a few days instead of a week or more after a regular audit. Instead of a reactive audit, it will be continuous proactive observation in the future to promptly correct any errors in the company's financial statements or fraud risks. Given the integration of various components and

systems in the new digital economy, various types of risks have arisen, such as IT operation risks, cyber security risks, concentration risks of third-party suppliers, compliance risks in digital finance, etc., which are easily connected and can spread across the whole.

#### 5.4 Talent Development and Organizational Governance

Addressing the human capital challenge identified in Section 4 requires a systematic and sustained talent development strategy targeting the capability gaps between traditional finance competency profiles and the requirements of digitally-enabled financial management roles. Finance talent development programs should adopt a tiered capability-building approach: delivering digital literacy and core tool proficiency training across the entire finance function as a universal baseline; developing specialized data analytics and financial modeling competencies among planning, controlling, and risk management professionals; and cultivating an advanced cadre of hybrid talent combining deep financial domain expertise with technology design and integration competencies. (Li, 2022)

At the organizational governance level, establishing a digital finance center of excellence (CoE) provides a structural mechanism for coordinating transformation initiatives, developing and maintaining digital financial standards, managing vendor relationships and technology evaluation processes, and driving continuous performance improvement across financial management functions. (Warner & Wager, 2019) Clear transformation governance structures—with defined roles, responsibilities, decision rights, and accountability mechanisms—ensure sustained momentum and strategic alignment through the extended multi-year horizons typically required for comprehensive digital financial management transformation. Governance frameworks that align individual incentives with transformation objectives through performance metrics, capability-based progression criteria, and visible leadership recognition of digital innovation contributions are particularly effective in sustaining transformation energy across organizational levels.

**Table 2. Digital Financial Management Optimization Strategy Framework**

| Optimization Dimension | Key Strategies  | Expected Outcomes  | Priority    |
|------------------------|---|--|-------------|
| Digital Platform       | Cloud ERP migration; API integration; Modular architecture      | Unified data; Real-time reporting; Reduced close cycle     | High        |
| Intelligent Tools      | RPA automation; AI analytics; Blockchain integration            | 60–80% process efficiency gain; Improved forecast accuracy | High        |
| Risk Management        | Continuous auditing; ERM framework update; Cyber controls       | Reduced fraud risk; Improved compliance performance        | Medium-High |
| Talent Development     | Digital literacy training; Analytics upskilling; CoE governance | Capability alignment; Sustained transformation momentum    | Medium      |

## 6. Empirical Discussion and Case Analysis

To show the actual application of the proposed optimisation framework, a case study will be presented here based on the analysis of existing empirical studies and some typical data from a large Chinese manufacturing company (Enterprise A). All the numbers in this analysis are examples based on simulated assumptions that are consistent with the performance ranges of documented data in the literature; they are not original primary research data.

Enterprise A is a large-scale manufacturer covering the 12 provinces in China and has had an annual revenue of more than 15 billion yuan (illustrative); therefore, it has launched a comprehensive digital financial management improvement plan based on the four optimization directions mentioned in Section 5. In Year 1, the company has rolled out the whole-system cloud ERP and unified accounts payable. By Year 2, the AI-based FP&A tools and continuous audit and monitoring had begun to be used. By Year 3, the foundation for changing the basic financial management process of the company via blockchain technology had been laid. Table 3 is the selected financial management performance indicators of Enterprise A in the transformation period.

**Table 3. Illustrative Digital Financial Management Performance Metrics (Enterprise A)**

| Performance Metric             | Year 0 (Baseline) | Year 1 | Year 2 | Year 3 |
|--------------------------------|-------------------|--------|--------|--------|
| Financial close cycle (days)   | 15                | 12     | 8      | 5      |
| AP automation rate (%)         | 12                | 45     | 68     | 85     |
| Forecast accuracy (%)          | 71                | 74     | 82     | 89     |
| Compliance violation incidents | 8                 | 5      | 2      | 1      |
| Finance cost as % of revenue   | 2.3%              | 2.1%   | 1.9%   | 1.6%   |
| FPI Score (0–100 scale)        | 52.3              | 58.7   | 68.4   | 78.6   |

*Note.* All figures are illustrative/simulated and do not represent actual enterprise data.

As shown in Table 3, the company has improved all the above indicators over the past three years. The length of the financial closing period has been reduced from 15 days to 5 days, and we will better adapt to the changes in the market. Automation of accounts payable has risen from 12% to 85%, lower manual operating expenses have been reduced, payment accuracy has improved, and the quality of supplier relations has also been enhanced. The accuracy of the financial forecast has increased from 71% to 89%, and now the AI-powered FP&A tool can predict the future better than the old spreadsheet (Matt, Hess, & Benlian, 2015; Moll, & Yigitbasioglu, 2019).

The Digital Financial Performance Index (FPI) of Enterprise A was according to Equation (1), and based on the company's strategy, the weights of the indicators were set as follows: financial efficiency (30%), accuracy and timeliness (25%), risk management (25%) and compliance performance (20%). The FPI rose from 52.3 in Year 0 to 78.6 in Year 3, an increase of about 50.3 per cent in the general level of digital financial management performance (illustrative calculation). The ROI of the transformation program is shown in Equation (2), and over the three years of the program, the total

investment (C\_DT) was about 120 million yuan (illustrative), and the cumulative benefits (R\_DT) resulting from the transformation included labour cost reduction, error reduction, working capital optimisation, strengthening of risk management, etc., amounting to approximately 186 million yuan (illustrative); thus, an ROI\_DT of 55% was achieved.

Figure 2. Comparison of Key Indicators Before and After Transformation (Illustrative Data)

Figure 2 provides a visual comparison of key performance indicators before and after digital transformation implementation, illustrating the magnitude of improvements achieved across the principal performance dimensions. The results are consistent with outcomes documented in empirical research on digital financial transformation by Matt et al. (2015), Moll and Yigitbasioglu (2019), and Verhoef et al. (2021), which collectively document comparable patterns of performance improvement across enterprises implementing structured digital financial management optimization programs.[2,3,4] These findings support the proposition that comprehensive, framework-guided digital financial transformation programs generate substantially larger and more sustainable performance improvements than ad hoc or technology-driven approaches without commensurate process and organizational investment.

## 7. Conclusion

In light of the background of the digital economy, this paper has explored the path to optimise corporate financial management and put forward a comprehensive analytical framework, a quantitative performance measurement model, and a system of optimisation strategies based on existing theory and empirical studies.

The four main results of the study are as follows: First, the successful optimisation of digital financial management needs to be done in a broad way, and many things should be improved at once; that is, the digital platform infrastructure, intelligent tool deployment, risk management framework enhancement, targeted talent cultivation, etc., all need to be strengthened; otherwise, simply adding technology alone will not achieve systemic change. Second, the problem landscape of digital financial management transformation is composed of four main parts: data quality and integration, technology infrastructure and legacy problems, human resources and culture, and regulatory compliance and cybersecurity; all these need to be dealt with at the same time in the transformation plan. Third, the Digital Financial Performance Index (FPI) in this paper is a simple quantitative tool for measuring and monitoring the degree of optimisation in digital financial management; it can help enterprises compare their own performance with that of other enterprises, determine areas where to strengthen investment, and report the results of the transformation in a simple and uniform way. Fourthly, by analysing typical cases, it can be seen that enterprises that have implemented organised optimisation programmes for digital financial management have achieved good results in improving the efficiency of the financial closing cycle, the rate of process automation, forecast accuracy and compliance performance, and have

generated positive returns on transformation investment over the past few years.

With the continuous accumulation of research on the digital transformation of certain areas of functional management, this paper has added some new materials to construct an all-encompassing theoretical system connecting the theory of digital strategy, studies of accounting information systems and organisational management. Operationally speaking, the construct of FPI can provide strong theoretical support and is also used in practice by enterprises; therefore, it has solved the problem of lacking quantitative assessment tools for the reform of digital financial management.

In practice, the paper offers some directions for improvement in digital financial management policies that can be adopted by Chief Financial Officers, Chief Digital Officers, etc. The four-dimensional optimisation framework has provided an excellent basis for the transformation roadmap, and at the same time, according to the typology of challenges and risks, these can be identified in advance, countermeasures and management plans for them can be developed, and a performance measurement model has been introduced to enhance programme governance and justify investment.

The following are some shortcomings. The data used in this analysis are simulated and based on examples; therefore, the results of the quantitative analysis should not be considered generalisations. In the future, more strict empirical studies will be carried out on panel data of enterprises at all stages of the maturity of digital financial management to test the hypotheses in the analytical framework. Comparisons in different parts of the country, different-sized enterprises, various industries and so on can also help us better understand what reasons lead to good results in optimising digital financial management. With the continuous development of generative artificial intelligence and related technologies, more research needs to be carried out to update and expand the optimisation framework in light of these new developments and address the new challenges and opportunities they present for corporate financial management.

## References

- Bharadwaj, A., El Sawy, O. A., Pavlou, P. A. et al. (2013). Digital business strategy: Toward a next generation of insights. *MIS Quarterly*, 37(2), 471-482.
- Brynjolfsson, E., & McElheran, K. (2016). The rapid adoption of data-driven decision-making. *American Economic Review*, 106(5), 133-139.
- Cao, M., Chychyla, R., & Stewart, T. (2015). Big data analytics in financial statement audits. *Accounting Horizons*, 29(2), 423-429.
- Chen, H., Chiang, R. H. L., & Storey, V. C. (2012). Business intelligence and analytics: From big data to big impact. *MIS Quarterly*, 36(4), 1165-1188.
- Hess, T., Matt, C., Benlian, A. et al. (2016). Options for formulating a digital transformation strategy. *MIS Quarterly Executive*, 15(2), 103-119.
- Li, L. (2022). Reskilling and upskilling the future-ready workforce for industry 4.0 and beyond.

- Information Systems Frontiers*, 24(5), 1697-1712.
- Matt, C., Hess, T., & Benlian, A. (2015). Digital transformation strategies. *Business & Information Systems Engineering*, 57(5), 339-343.
- Moll, J., & Yigitbasioglu, O. (2019). The role of internet-related technologies in shaping the work of accountants: New directions for accounting research. *The British Accounting Review*, 51(6), 100833.
- Verhoef, P. C., Broekhuizen, T., Bart, Y. et al. (2021). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of Business Research*, 122, 889-901.
- Vial, G. (2019). Understanding digital transformation: A review and a research agenda. *The Journal of Strategic Information Systems*, 28(2), 118-144.
- Warner, K. S. R., & Wager, M. (2019). Building dynamic capabilities for digital transformation: An ongoing process of strategic renewal. *Long Range Planning*, 52(3), 326-349.
- Yermack, D. (2017). Corporate governance and blockchains. *Review of Finance*, 21(1), 7-31.