

Challenges and Optimization Paths for the Integration of Finance and Business in Enterprises amid Digital Transformation

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Abstract: Digital transformation is continuously reshaping the way enterprises create value, making the integration of finance and business an important foundation for improving resource allocation efficiency, strengthening operational control, and supporting managerial decision making. At present, many enterprises still face challenges in advancing finance and business integration, including the disconnect between system development and business processes, inconsistent data standards, inadequate cross departmental coordination mechanisms, and a shortage of interdisciplinary talent. These constraints hinder the effective conversion of data resources into managerial value. The underlying causes include incomplete digital governance systems, insufficiently designed responsibilities and coordination processes between finance and business departments, and relatively weak capabilities in data governance and risk control. Enterprises should therefore improve digital governance systems oriented toward finance and business integration, deepen the connection between financial and business systems, establish unified data standards and sharing mechanisms, and strengthen interdisciplinary talent development and internal control, thereby enhancing the coordination, precision, and resilience of enterprise management.

Keywords: digital transformation; finance and business integration; digital governance; data governance; management accounting

1. Introduction

With the continued penetration of digital technologies such as big data, cloud computing, and artificial intelligence into enterprise operations, enterprise management is gradually shifting from a functionally divided operating model to a management model characterized by data connectivity and value coordination[1]. Financial departments possess critical information on capital flows, costs, and performance, while business departments participate directly in value creating activities including production, marketing, and supply chain management[2]. Effective coordination between the two is closely related to the quality of business decisions, the efficiency of resource allocation, and the level of risk prevention and control. Digital transformation provides the technical conditions for the real time acquisition of financial information, dynamic monitoring of business processes, and precise support for managerial decision making. However, some enterprises still limit digital development to system procurement and the online transformation of processes, failing to establish a closed data loop that connects business activities, financial accounting, and operational analysis[3]. This situation leads to insufficient finance and business coordination, limited effectiveness of data application, and inadequate conversion of digital resources into managerial value. This paper examines the internal logic of finance and business integration in the context of digital transformation, identifies its practical challenges and underlying causes, and proposes optimization paths from the perspectives of digital governance, data coordination, and talent development.

2. Theoretical foundations of enterprise finance and business integration

2.1 The connotation of enterprise finance and business integration

Enterprise finance and business integration refers to a collaborative management approach in which financial management is embedded in business activities such as research and development, procurement, production, marketing, investment, and supply chain management. Guided by value creation and supported by digital technologies and managerial mechanisms, it promotes the real time connection, unified processing, and coordinated use of business, financial, and managerial data. Its core lies in overcoming information barriers and functional boundaries between finance and business departments, thereby extending financial work from ex post accounting and supervision to the full process of ex ante planning, in process control, and ex post evaluation. Finance and business integration requires financial personnel to understand business processes, operational logic, and value drivers, while business personnel need to develop cost awareness, budgetary discipline, and risk management capabilities. This creates a collaborative management mechanism grounded in data, connected through

processes, and oriented toward shared operational goals. By embedding financial analysis, budget management, cost control, and performance evaluation into operational decision making, enterprises can identify operational deviations in a timely manner, optimize resource allocation, and improve the scientific and refined nature of enterprise management.

2.2 The impact of digital transformation on finance and business integration

Digital transformation reconstructs the ways enterprises acquire information, coordinate business activities, and support decision making, thereby providing an important technological foundation and organizational basis for finance and business integration[4]. The application of cloud computing, artificial intelligence, and data analytics enables enterprises to record, integrate, and dynamically monitor procurement, production, sales, and capital flows in real time[5]. This process shifts financial information from periodic aggregation to real time reflection. Digital platforms incorporate data dispersed across departments and business scenarios into a unified information system, improving data transmission efficiency and consistency in data standards. Financial departments can therefore identify cost fluctuations, operational risks, and resource utilization conditions more promptly, while providing business departments with budgetary constraints, profitability analysis, and performance feedback. Digital tools also promote the synchronized connection between financial management processes and business processes, extending financial functions from accounting and supervision to operational analysis, value management, and strategic support. The effectiveness of digital transformation depends on whether enterprises can integrate technological applications with process redesign, organizational coordination, and data governance, thereby establishing a collaborative mechanism that runs through the entire operational process.

3. Practical challenges of enterprise finance and business integration in the context of digital transformation

3.1 Insufficient coordination between financial and business systems

Although some enterprises have established financial management systems, business management systems, and data platforms, these systems are often developed independently according to the separate needs of individual departments. Their system architectures, data interfaces, and management objectives lack integrated design, making it difficult to establish information coordination across the entire operational process. Financial systems generally focus on voucher processing, accounting, and report generation, whereas business systems support procurement, production, sales, inventory, and customer management. Differences in the timing of data collection, classification standards, and update frequencies prevent business data from being converted promptly and accurately into information that can support financial analysis and managerial decision making. Poor connectivity between systems also increases manual data entry, repeated verification, and data adjustment, reducing the efficiency with which financial personnel participate in operational analysis and creating risks of data omission, transmission delays, and inconsistent data standards. Insufficient coordination between financial and business systems prevents budget execution, cost control, capital allocation, and performance evaluation from being synchronized with business activities. As a result, managers may be unable to obtain a timely and comprehensive understanding of operational conditions, weakening the effectiveness of finance and business integration.

3.2 Inconsistent data standards and restricted information sharing

Enterprise finance and business integration relies on accurate, complete, and comparable data. In practice, however, finance and business departments often establish data codes, statistical criteria, and classification rules according to their respective management needs. As a result, the same business transaction may be recorded under inconsistent names, different units of measurement, or nonuniform recognition dates across different systems. Business data generally emphasize order progress, customer demand, and operational efficiency, whereas financial data focus on accounting, cost allocation, and compliance requirements. Differences in the logic of data generation and application objectives increase the difficulty of data integration. When enterprises lack unified data standards, master data management mechanisms, and accountability systems for data quality, cross departmental data transmission often depends on manual consolidation and repeated verification, making it difficult to ensure the timeliness and reliability of information sharing. Some enterprises are also constrained by departmental access controls, concerns over data security, and insufficient platform openness, resulting in fragmented data storage and restricted use. Limited information sharing prevents financial personnel from obtaining timely information from business operations and hinders business departments from fully using cost, budget, and performance data, thereby weakening operational analysis, resource allocation, and risk early warning.

3.3 Insufficient supply of interdisciplinary finance and business talent

The sustained advancement of finance and business integration depends on interdisciplinary talent that combines

financial expertise, business understanding, and digital literacy. Digital transformation has changed the content and boundaries of financial work. In addition to performing fundamental functions such as accounting, reporting, and supervision, financial personnel need to use data analytics tools to identify operational problems, assess the economic consequences of business activities, and participate in budget formulation, cost optimization, and risk management. Business personnel also need to understand financial rules, cost structures, and capital constraints so that they can balance business growth, profitability, and risk control in operational decisions. In practice, traditional financial talent development still places considerable emphasis on accounting standards, accounting methods, and financial statement preparation, while business departments often lack financial analysis and data application capabilities. These gaps create differences in professional language, analytical frameworks, and decision priorities between the two sides. Some enterprises have not yet established recruitment, training, and performance evaluation mechanisms suited to finance and business integration. The long development cycle for interdisciplinary talent and insufficient incentive support further constrain the effective use of digital tools and weaken the implementation of collaborative mechanisms in specific business contexts.

4. Analysis of the causes of challenges in enterprise finance and business integration

4.1 An underdeveloped digital governance system

Enterprise finance and business integration involves systematic coordination among strategic objectives, organizational structures, business processes, data resources, and technology platforms. A sound digital governance system is therefore required to clarify responsibilities, coordinate departmental relations, and regulate resource allocation. Some enterprises lack digital transformation plans led by senior management, while finance, business, and information technology departments independently advance system development and process redesign. This makes it difficult to establish unified objectives and implementation schedules. Unclear responsibilities among governance actors may also lead to fragmented project decisions, duplicated investment, and delayed responses to operational problems, weakening the connection between digital tools and business contexts. When enterprises fail to incorporate finance and business integration objectives into digital project evaluation, departmental performance assessment, and risk management systems, relevant initiatives tend to remain at the level of technology deployment without sustained organizational support or institutional safeguards. Inadequate digital governance weakens cross departmental coordination and constrains data integration and the conversion of data resources into managerial value.

4.2 Ineffective coordination mechanisms between finance and business

Finance and business coordination mechanisms constitute an important institutional arrangement linking operational activities with financial management. Their effective operation depends on clear allocations of responsibility, standardized process connections, and stable communication mechanisms. Some enterprises continue to use department centered management models in which business departments focus on market expansion and operational progress, while finance departments emphasize accounting supervision and compliance management. Differences in work objectives, information needs, and performance criteria often exist between the two sides. When business transactions enter financial processing procedures, fragmented approval processes, delayed data transmission, and unclear responsible parties may create coordination gaps. Budget preparation, cost control, and performance evaluation are often insufficiently embedded in business processes, making it difficult for finance departments to participate promptly in key decisions involving project initiation, contract formation, and operational adjustment. Business departments may also lack targeted financial feedback. Ineffective coordination mechanisms weaken the role of financial information in supporting operational decisions and prevent enterprises from forming a closed loop of value management throughout the entire operational process.

4.3 Insufficient data governance and risk control capabilities

The deepening of finance and business integration expands the circulation of operational, financial, and external data, making data quality, access authorization, and security risks important factors affecting integration outcomes. Some enterprises have not yet established governance systems covering the entire process of data collection, storage, processing, sharing, and use. Unclear definitions of data ownership, management responsibilities, and usage boundaries make it difficult to identify and correct problems such as data duplication, distortion, and misuse in a timely manner. During data integration, enterprises may also face risks involving the disclosure of sensitive operational information, manipulation of financial data, uncontrolled system access, and bias arising from algorithmic applications. Internal control systems that remain focused primarily on traditional accounting transactions may be unable to adapt to changes in data processing methods, business processes, and risk patterns in digital environments. Inadequate data governance and risk control capabilities undermine the

credibility and usability of information, affect financial analysis, operational monitoring, and managerial decision making, and constrain compliant operations and sustainable enterprise development.

5. Optimization paths for enterprise finance and business integration in the context of digital transformation

5.1 Improving the digital governance system for finance and business integration

Enterprises should incorporate finance and business integration into their overall digital transformation strategy. Senior management should coordinate finance, business, and information technology departments to establish a digital governance system characterized by aligned objectives, clear responsibilities, and efficient collaboration. Enterprises can create cross departmental working mechanisms for finance and business integration, clarify departmental responsibilities in requirement identification, system development, data management, process optimization, and outcome evaluation, and promote the effective connection between technology applications and operational management objectives. At the project implementation level, development plans should focus on key areas such as value creation, cost control, risk management, and decision support, thereby avoiding a disconnect between system development and actual business needs. Enterprises should also incorporate the effectiveness of finance and business integration into digital project evaluation and departmental performance assessment, forming a closed loop management mechanism consisting of strategic deployment, process supervision, outcome evaluation, and continuous improvement. Such institutional arrangements can strengthen organizational coordination and resource integration, improve the coherence of digital development, and provide stable governance support for deeper finance and business integration.

5.2 Building a collaborative platform for business and financial data

Enterprises should build collaborative business and financial data platforms based on operational management needs. Such platforms should connect data chains across procurement, production, sales, inventory, capital management, and accounting, enabling the automatic collection, real time transmission, and unified processing of business and financial data. Platform development should be founded on unified data standards, coding rules, and master data management. Enterprises should define the meaning, source, responsible party, and update frequency of key data to improve comparability and consistency across different systems. Through interface integration, process embedding, and access configuration, enterprises can incorporate budget management, cost accounting, capital monitoring, and performance evaluation into business execution processes. Financial information can therefore reflect operational activities in a timely manner, while business departments can obtain decision relevant information on costs, profits, and capital. The platform should also include functions for data quality monitoring, anomaly identification, and access tracking to ensure the accuracy, security, and traceability of data use. By establishing an information foundation that connects business processes with financial management, enterprises can improve the timeliness and precision of operational analysis and resource allocation.

5.3 Developing interdisciplinary finance and business talent

Enterprises should incorporate the development of interdisciplinary finance and business talent into human resource planning and digital transformation strategies, establishing a talent development mechanism that covers selection, training, job practice, evaluation, and incentives. Financial personnel should strengthen their capabilities in business process understanding, operational analysis, data processing, and the application of digital tools. This will enable them to identify value drivers and risk signals in operational activities and provide professional support for business decisions. Business personnel should receive training in financial rules, cost management, budgetary constraints, and capital efficiency to improve their ability to use financial information in operational decision making. Enterprises can promote shared analytical frameworks and collaborative awareness through job rotation, joint projects, case discussions, and cross departmental learning. Data application, operational contribution, and collaborative outcomes should also be incorporated into performance evaluation and career development criteria, thereby strengthening employee motivation to participate in finance and business integration and gradually developing an interdisciplinary talent workforce suited to the requirements of digital operations.

6. Conclusion

Digital transformation provides the technological conditions for enterprise finance and business integration through data connectivity, process coordination, and the upgrading of managerial decision making. Finance and business integration enables financial management to be embedded throughout the entire operational process, improving the effectiveness of budget execution, cost control, resource allocation, and risk early warning. Enterprises currently face practical challenges,

including insufficient coordination between financial and business systems, inconsistent data standards and restricted information sharing, and an inadequate supply of interdisciplinary finance and business talent. These challenges stem from incomplete digital governance systems, ineffective finance and business coordination mechanisms, and relatively weak data governance and risk control capabilities. Enterprises should use digital governance systems as organizational safeguards, collaborative business and financial data platforms as information foundations, and interdisciplinary talent teams as capability support. This approach can promote the coordinated evolution of technology application, process optimization, and management mechanisms, establish finance and business integration throughout the operational process, and provide a foundation for improving operational management effectiveness and achieving sustainable development.

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