# Research on the Effectiveness of Business-Finance Integration in Traditional Manufacturing Under Digital Transformation: A Case Study of Bright Dairy

Tao Dang *

School of Accounting, Guangdong Baiyun University, Guangzhou, China

* Corresponding Author Email: dangtao2025@outlook.com

**Abstract.** Against the backdrop of digital transformation driving the upgrading of traditional manufacturing, the integration of business and finance has emerged as a critical pathway to enhance corporate management efficiency and decision-making quality. This paper examines the effectiveness of business-finance integration in traditional manufacturing using Bright Dairy as a case study. Employing a case study methodology and drawing on its annual reports and publicly available data, it analyzes the application of digital tools in restructuring business-finance processes. Findings reveal that business-finance integration has enabled Bright Dairy to achieve seamless digital connectivity across its entire industrial chain. By integrating data chains spanning sales, logistics, production, and dairy farming, the company has significantly enhanced cost control precision and supply chain collaboration efficiency. Concurrently, dynamic financial modeling empowers precise resource allocation, supporting efficient launches of premium new products and agile responses to regional market demands. This comprehensive approach elevates profit structures and operational resilience, laying a systematic foundation for sustainable growth. This paper offers micro-level practical insights for business-finance integration in traditional manufacturing amid digital transformation, aiming to enrich case studies in this domain and provide limited reference for similar enterprises.

**Keywords:** Digital Transformation, Business-Finance Integration, Effectiveness Study, Bright Dairy.

## 1. Introduction

Amid the global wave of digital transformation, traditional manufacturing stands at a pivotal juncture of change. The burgeoning digital economy and the continuous emergence of emerging technologies such as big data, artificial intelligence, and the Internet of Things are injecting new momentum into the transformation and upgrading of traditional manufacturing. Simultaneously, national policies strongly support the digital transformation of manufacturing as a strategic choice to seize the high ground in global industrial competition. This involves enhancing quality and efficiency through end-to-end data-driven processes and cultivating new productive forces. For instance, the State-owned Assets Supervision and Administration Commission of the State Council issued the "Guiding Opinions on Accelerating the Construction of World-Class Financial Management Systems in Central Enterprises," emphasizing the integration and coordinated optimization of operations, finance, and technology. Against this backdrop, traditional manufacturing urgently needs to leverage digital tools to enhance operational efficiency and management capabilities in order to navigate increasingly fierce market competition.

Business-finance integration, as a crucial component of digital transformation, holds profound significance for traditional manufacturing. It breaks down departmental silos by deeply integrating business and financial processes, extending finance beyond mere accounting functions to the front end of operations. This enables comprehensive control over the entire business lifecycle. Such integration not only enhances the timeliness and accuracy of financial information and optimizes resource allocation but also strengthens risk prevention capabilities, driving sustainable corporate development.

As a quintessential representative of traditional manufacturing, Bright Dairy has undertaken extensive exploration and implementation in digital transformation and business-finance integration.

This study examines Bright Dairy's integration efforts as a case study, delving into the impact of business-finance integration on outcomes within traditional manufacturing. Employing case study methodology, it collects publicly available materials such as annual reports and announcements from Bright Dairy's official website, meticulously mapping specific initiatives—from organizational restructuring and business process reengineering to the application of intelligent financial tools—under the backdrop of digital transformation. The findings can foster a virtuous development ecosystem within the dairy industry, enhance the sector's overall capabilities in integrating business and finance, and hold both theoretical and practical value for the industry's sustainable development.

Research on business-finance integration in traditional manufacturing under digitalization has developed a multidimensional exploration framework. Domestically, Jiang constructed a performance evaluation system for X Group's financial digital transformation from a business-finance integration perspective, providing a framework for quantifying outcomes [1]. Han highlighted that business-finance integration can drive corporate group financial management toward value creation [2]. Internationally, Yuan analyzes synergistic pathways between refined management and financial integration under informatization [3]. Bao focuses on financial management issues within business-finance integration [4], while Pan further explores its impact on financial management and strategy [5]. Han et al. dissect business-finance integration in China's dairy industry from a digital perspective [6]. Xin studies the dairy industry's full-chain digital transformation based on dynamic capability theory [7]. Hu proposes management accounting transformation strategies under business-finance integration [8]. Qu et al. construct a business-finance integration model grounded in financial shared services [9]. Additionally, Zhang reveals the correlation between human resource investment and financial performance using Singaporean enterprises as a case study, providing reference for resource allocation in business-finance integration [10]. Zhao elucidates the role of digital transformation in manufacturing on innovation performance [11]. Calce et al. emphasize the impact of non-financial factors on corporate performance, supplementing the evaluation dimensions of effectiveness [12]. While existing research covers a broad scope, it still lacks in-depth analysis of the effectiveness of business-finance integration in leading dairy enterprises.

## 2. The Integration of Business and Finance in Bright Dairy's Digital Transformation: Context and Development Process

Bright Dairy & Food Co., Ltd. (hereinafter referred to as “Bright Dairy”) was formally established in 1996. The company specializes in the development, production, and sales of various dairy products. With a diverse product portfolio, it holds a leading position in China's fresh milk market share and possesses strong capabilities. Bright Dairy has built an integrated supply chain model spanning from farms to retail outlets, rigorously controlling milk source quality. In recent years, the company has received numerous accolades, highlighting its exceptional quality and industry influence.

Amid the wave of digital transformation, Bright Dairy's advancement of business-finance integration is driven by both policy initiatives and the inherent characteristics of its industry alongside its own developmental needs. The national 14th Five-Year Plan drives digital economic development, while Shanghai's “Urban Digital Transformation” policy explicitly requires enterprises to achieve business-finance integration. As a local state-owned enterprise, Bright Dairy's transformation must align with these policy directions. Additionally, managing the entire dairy industry chain is highly complex, with data from farms, production, logistics, and other segments operating in silos. Under traditional models, cost accounting is slow and risk response is delayed, making business-finance integration particularly crucial for addressing efficiency challenges.

Bright Dairy's journey toward business-finance integration can be divided into three phases. The first phase, spanning 2015 to 2019, focused on establishing foundational IT infrastructure. This involved implementing an ERP system and a shared financial services center, enabling the digitization of accounting operations. The second phase, from 2020 to 2022, centered on digital transformation. A data middle platform was launched to consolidate data from farms and factories,

while the introduction of RPA significantly boosted voucher automation rates. The third phase, beginning in 2023, focuses on deep integration. This involves completing the transition of business and finance systems across multiple factories, enabling real-time linkage between production scheduling and cost accounting. Feed consumption data from farms is directly connected to financial models, effectively reducing inventory turnover days. The joint business-finance task force achieved annual cost savings exceeding ten million yuan, allowing finance to penetrate into the front end of business operations.

## 3. Analysis of the Outcomes After Bright Dairy Implemented Industry-Finance Integration Technology

### 3.1. Impact on Corporate Finances

#### 3.1.1. Profitability Analysis

The integration of business and finance has delivered tangible benefits to Bright Dairy through refined operations and improved business quality. For instance, the integrated system identified inefficient marketing channels, redirected sales to online platforms, and enhanced the return on sales investment. Regarding foreign exchange hedging impacts, the system automatically triggered forward exchange settlements to minimize currency conversion losses. However, Bright Dairy's weak profitability during this period stemmed primarily from an imbalanced product mix and the lagged impact of digitalization. For instance, liquid milk revenue significantly outpaced other product categories, and revenue from other businesses failed to offset the decline in liquid milk sales. Additionally, fragmented data during the early stages of business-finance integration exacerbated cost pressures. The initial data middle platform did not yet cover the entire supply chain, preventing real-time alignment between production and sales volumes, resulting in substantial inventory backlogs.

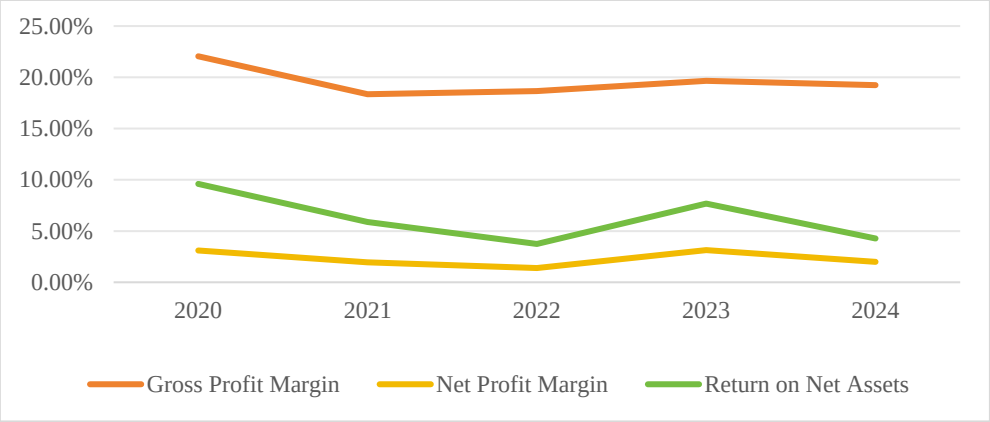


**Fig. 1** Bright Dairy 2020-2024 Profitability Analysis

#### 3.1.2. Operational Capability Analysis

The integration of business and finance has enhanced Bright Dairy's strategic decision-making and risk management capabilities. For instance, after achieving full-chain coverage through business-finance integration, the company can effectively monitor dynamic costs and trigger real-time early warning mechanisms. The establishment of a financial shared service platform enables the early repayment of high-interest loans through debt maturity alert models. However, operational capabilities experienced a temporary dip during the initial phase of integration, primarily due to deteriorating industry conditions and strategic burdens. These included price wars triggered by raw milk oversupply, intensified competition in chilled milk segments, and inventory pressures stemming from weak demand. Cost reductions achieved through integration could not offset industry-wide revenue declines and reduced capacity utilization. At Bright Dairy's New Zealand subsidiary, New Zealand Dairy, inventory management became disorganized with inadequate coordination between domestic systems, leading to slower inventory turnover.

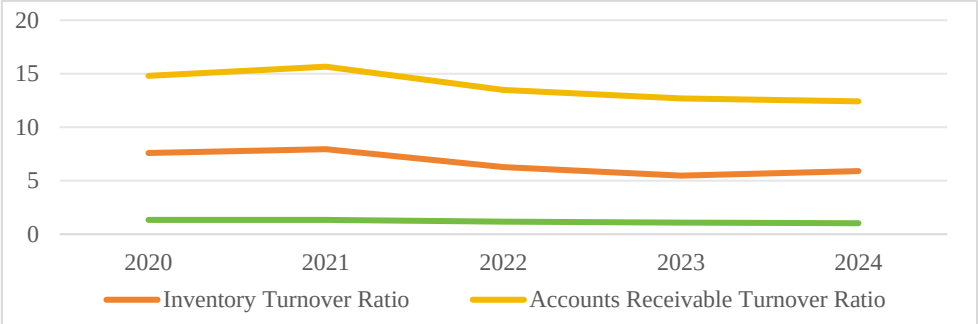


**Fig. 2** Bright Dairy 2020-2024 Operational Capability Analysis

### 3.2. Impact on Enterprise Management

#### 3.2.1. End-to-End Digital Collaboration and Upgrading of the Supply Chain

By integrating business and financial data to achieve full supply chain visibility, we drive dual optimization of operational efficiency and cost control. The real-time linkage between the integrated business-finance system and data from farms, factories, logistics, and sales significantly accelerates procurement planning response times and shortens capital occupation cycles. Enhanced quality monitoring intercepts non-compliant products, preventing recall losses. At the factory level, smart control points and sensors establish a digital twin system, synchronizing parameters like raw milk sterilization temperature and filling speed in real time to the financial module, thereby reducing energy consumption per facility. At the farm level, wearable devices on dairy cows collect health data, which, combined with financial models, optimizes feed procurement costs and lowers unit costs. Data accumulation across the entire chain supports future forecasting for the company. Core system upgrades are accompanied by organizational restructuring, and contingency plans for system anomalies are established to further mitigate risks associated with hidden costs.

#### 3.2.2. Enhancing Precision Operations and Dynamic Decision-Making Capabilities

The business-finance data middle platform drives precision operations on the consumer side, enhancing marketing efficiency and deepening user value. Integrated analysis of financial data and “Suixinding” platform data has led to a gradual decline in the sales expense ratio and an increase in member repurchase rates. In 2023-2024, three digital assets were jointly issued with the Shanghai Data Exchange. The first “Yundong” series sold out within two hours, driving growth in associated orders. The finance department leveraged dynamic modeling to analyze user tags, enabling targeted distribution of the premium product “Youbei 5.0” to high-net-worth households in first- and second-tier cities. This product achieved a gross margin approximately 10 percentage points higher than other fresh milk offerings. Traditional enterprises can transform through a path from business digitization to data assetization and ultimately value monetization—such as incorporating consumer spending data into financial analysis dimensions. By leveraging third-party ecosystems like the Shanghai Data Exchange, they can achieve compliant data circulation, balancing security and innovation.

## 4. Issues Persisting in Bright Dairy's Integration of Business and Finance

### 4.1. System silos lead to fragmented business and financial data, resulting in insufficient dynamism in resource allocation

Bright Dairy has upgraded its ERP system and established a financial shared service center, yet its farms, factories, logistics, and sales systems still operate independently with inconsistent data standards. For instance, the real-time linkage between farm feeding systems and factory production planning systems is absent, leading to fluctuations in raw milk supply and capacity utilization. Marketing expense overruns lack early warnings because promotional activity data is not synchronized in real time to the financial budgeting system. The root cause lies in the manufacturing sector's multi-faceted data chain. Existing systems achieve only “physical consolidation” rather than

"logical integration," resulting in delayed and inconsistent operational and financial data. This hinders dynamic resource allocation capabilities.

### 4.2. Business processes are disconnected from financial controls, creating blind spots in cost management

Bright Dairy's integration of business and finance lacks depth, primarily manifesting in three critical areas. For instance, in procurement, packaging material purchases rely on manual reporting without real-time inventory linkage. In production, equipment repair costs are not tied to production losses, resulting in significant hidden losses during downtime. In marketing, new product promotion expenses exceed budgets, ultimately yielding low profits for new offerings. The core issue lies in traditional cost control focusing solely on visible expenditures. Digital transformation necessitates incorporating hidden costs within business processes—such as the opportunity cost of equipment downtime—into management. Current systems lack an immediate mechanism to correlate business events with their financial impacts.

### 4.3. Shortage of versatile professionals, weak collaboration between business and finance in decision-making

Bright Dairy's talent structure exhibits significant imbalances, primarily manifesting in three areas. First, finance personnel possess narrow skill sets and lack business acumen—for instance, they cannot interpret how individual cow milk yield data impacts raw milk costs. Second, business departments struggle to utilize data effectively; regional sales teams rely on experience for ordering instead of properly employing demand forecasting models. Third, employees rarely utilize digital tools, and modules within business-finance systems designed to analyze root causes of issues see minimal usage. The root cause lies in the fact that achieving business-finance integration in manufacturing requires versatile professionals who understand both industrial processes and data modeling. However, the company's training programs fail to teach how to transform business operations into data, convert data into assets, and ultimately convert those assets into value.

## 5. Bright Dairy's Improvement Measures for Business-Finance Integration

### 5.1. Establish a comprehensive data middle platform to unify business and financial data governance

Bright Dairy should establish an integrated data management mechanism to consolidate data across all chains and define a unified data asset catalog. Develop a dynamic resource allocation model that synchronizes with factory production scheduling plans. Concurrently implement a data governance incentive and penalty system, incorporating data entry timeliness and accuracy into performance evaluations to ensure real-time coordination between data flows and business processes.

### 5.2. Embed process control nodes to achieve full-chain lean management and control

Bright Dairy should establish process control points at critical business stages. For instance, in production, equipment data triggers preventive maintenance to minimize unplanned downtime losses. In marketing, data dynamically allocates promotional budgets and analyzes product profitability in the market. Managers use cost heat maps generated by intelligent systems to analyze monthly process profitability and eliminate inefficient operations.

### 5.3. Implement the "Business-Finance Integration Talent Flywheel" initiative to rebuild the competency framework

Bright Dairy can cultivate finance-business integration talent through three stages—foundational skills, advanced capabilities, and leadership development—to enhance personnel competencies across all dimensions. Secondly, establishing a talent mobility mechanism enables finance

professionals to gain familiarity with various industrial chains, fostering versatile talent and accelerating the conversion of practical skills. This approach enhances hands-on capabilities across different roles.

## 6. Conclusion

Bright Dairy's implementation of business-finance integration from 2020 to 2024 demonstrates that digital transformation delivers significant benefits to enterprises, yet deeper technological integration and talent transformation remain essential to unlock greater potential. To advance business-finance integration, Bright Dairy must focus on three core dimensions: Supported by a talent capability system overhaul, it cultivates business-finance teams proficient in operations, data, and decision-making through tiered training and job rotation mechanisms. These three elements synergize to form a “data-process-talent” closed loop, systematically enhancing management effectiveness and strengthening digital transformation competitiveness.

Moving forward, traditional manufacturing must: - Integrate data across the entire value chain to reduce costs and boost efficiency; - Enhance supply chain collaboration to improve efficiency and reduce waste; - Drive product and production planning optimization through data to dynamically respond to market demands; - Strengthen resilience with real-time risk control and compliance management; - Position digital tools as the core enabler of transformation.

## References

[1] Jiang Yuanyuan. Performance Evaluation of X Group's Financial Digital Transformation from a Business-Finance Integration Perspective. Donghua University of Technology, 2024.

[2] Han Xue. Research on Value Creation in Financial Management of Enterprise Groups through Business-Finance Integration. China Market, 2024, (35): 149-152.

[3] Fei Yuan. Analysis of the integration development of enterprise refinement management and financial integration in the context of informationization. Applied Mathematics and Nonlinear Sciences, 2024, 9 (1).

[4] Jinjing Bao. Research on Financial Management Issues from the Perspective of Business and Finance Integration., 2025, 7 (5): 50-54.

[5] Xieshu Pan. Impact of business finance integration on financial management and strategy analysis. Probe - Accounting, Auditing and Taxation, 2025, 7 (1).

[6] Yutong Han; Liming Chen; Qing Liu.Research on Business and Finance Integration of Dairy Enterprises in China from the Perspective of Digital Transformation. Accounting and Corporate Management, 2023,5 (9).

[7] Qing Xin. Research on Digital Transformation in Whole Industrial Chain of Dairy Enterprises from the Perspective of Dynamic Capability. Academic Journal of Business & Management, 2023,5 (16).

[8] Min Hu. Analysis of enterprise management accounting transformation strategy under the integration of industry and finance. International Journal of Mathematics and Systems Science, 2024, 7 (10).

[9] Yahui Qu; Jinyan Yi. Research on Enterprise Finance Integration Model Based on Financial Sharing. Proceedings of Business and Economic Studies, 2024, 7 (4):105-110.

[10] Yongqi Zhang. Human Resource Investment Decisions and Financial Performance: A Case Analysis of Singaporean Companies. Scientific Innovation in Asia, 2024, 2 (1).

[11] Xinpeng Zhao. The Impact of Digital Transformation Strategy of Manufacturing Enterprises on Digital Innovation Performance. International Business & Economics Studies, 2024, 6 (3).

[12] Anna Maria Calce; Anna Paola Micheli; Hazar Altinbas. Understanding Determinants of Firm Performance: An Analysis of Non-Financial Factors. International Business Research, 2025, 18 (4):54-54.