Proceedings of the 3rd International Conference on Management Research and Economic Development
DOI: 10.54254/2754-1169/177/2025.22480

The Impact of Digital Transformation on Enterprises—Taking Mengniu Dairy as an Example

Xinyu Cui

Sino-German School, Shanxi University of Finance and Economics, Taiyuan, China
cui.xinyu.610847@outlook.com

Abstract: In the current wave of digitalization, enterprises are facing the urgent need for transformation and upgrading. This study takes Mengniu Dairy as an example to explore the impact of digital transformation on enterprises. The background of the study lies in the fact that Mengniu Dairy, as a leading enterprise in China's dairy industry, has a typical digital transformation practice. The research theme focuses on the strategy, and implementation path of digital transformation and its impact on enterprise performance. The research methodology adopts a case study and literature analysis, by summarizing the concept of digital transformation and introducing the fundamental theories of enterprise digital transformation, collecting and analyzing Mengniu Dairy's public information, internal reports, and relevant industry data, and analyzing the process of its digital transformation. The research questions include how Mengniu Dairy has improved its operational efficiency, optimized its products and services, and enhanced its market competitiveness through digital transformation. The study concludes that Mengniu Dairy's digital transformation has effectively improved its overall performance, providing valuable reference and practical experience for the digital transformation of the dairy industry and even traditional enterprises.

Keywords: Digital Transformation, Mengniu Dairy, Supply Chain

1. Introduction

Against the background of intelligent transformation of global industries driven by 5G, artificial intelligence, and other technologies, the rapid development of China's digital economy has given rise to a wave of digital transformation of enterprises. However, the traditional manufacturing industry faces multiple challenges such as supply chain optimization, personalized response to consumer demand, and the construction of data decision-making capability. Existing research focuses on the digitalization practices of technology enterprises, and there is a significant gap in the study of the transformation mechanism of fast-moving consumer goods industries such as dairy products. This study selects Mengniu Group, a leading dairy company, as a typical case, and analyzes Mengniu's digitization by integrating its corporate annual report, industry data, and theoretical framework. This study not only verifies the feasibility of digital transformation of traditional manufacturing enterprises, but also reveals the deep coupling logic of technology application and industrial characteristics, provides a replicable transformation framework for traditional manufacturing industries, and fills the gap of empirical research in the FMCG (Fast Moving Consumer Goods) industry, which provides a double-value reference for policy-making and industrial upgrading.

DOI: 10.54254/2754-1169/177/2025.22480

2. The concept of digital transformation

2.1. Definitions of digital transformation

Digital transformation is a systematic project to reconstruct the business logic of traditional enterprises through the integration of digital technology, the essence of which is to build a closed-loop system of "data collection-analysis-application", break the information silo, and realize the comprehensive innovation of business process, organizational structure, and management mode. The transformation takes the deep integration of technology and business as the underlying logic, and promotes the digitization of production factors and the reconstruction of value chains through the three-layer architecture of intelligent sensing (physical layer), cloud computing platform (platform layer), and visualization system (digital layer), and ultimately forms digital competitiveness with customer value at the core [1].

2.2. Characteristics of digital transformation

As a systematic change for enterprises to adapt to the digital era, the complexity of digital transformation is centered on the dynamic intertwining of the three core features of differentiation, synergy, and risk, which together constitute the strategic framework for transformation practice.

Differentiation is reflected in the transformation path, industry attributes, organizational scale, technology tool combinations, and value objectives, which requires enterprises to establish a dynamic assessment mechanism and formulate precise strategies. Synergy requires systematic reconfiguration of the technical, business, organizational, and cultural layers, and the synergistic rhythm needs to be coordinated through top-level design in practice. Risks run through the whole cycle and need to be effectively managed by building a three-tier defense system. Research shows that systematic risk control can improve the success rate and balance the risks and benefits to realize sound innovation [2]. Digital transformation is essentially an evolutionary process in which enterprises seek a dynamic balance in the three-dimensional tension of differentiated positioning, systematic synergy, and risk control. Enterprises need to integrate industry characteristics and technological changes with strategic toughness and complete the leap from traditional operations to a digital ecological paradigm by precisely positioning the focus of transformation, building a synergistic ecosystem of elements, and establishing a resilient risk barrier. This requires decision-makers to be both strategically forward-looking and tactically flexible, and to reshape the organization's digital genes in a continuous iterative process, to ultimately achieve a fundamental upgrade of the value creation model.

3. Introduction to the digital transformation case of Mengniu Dairy

3.1. Mengniu Dairy overview

3.1.1. Introduction to Mengniu Dairy

Founded in 1999 and headquartered in Hohhot, Inner Mongolia, Mengniu Dairy is one of China's leading international dairy companies and was successfully listed on the Hong Kong Stock Exchange in 2004. As a leading dairy company in China, its products cover liquid milk, ice cream, milk powder, cheese, and other categories, and it owns well-known brands such as Terensu, Pure Selection, and Daily Fresh Words, etc., and its market share of liquid milk has long ranked first in the industry. COFCO has been its largest shareholder since 2009, and through strategic mergers and acquisitions of Ashley, investment in Fuyuan International and other pastoral groups, it has built up a global supply chain system, with 41 factories in China and 21 production bases in New Zealand and Australia, with

DOI: 10.54254/2754-1169/177/2025.22480

an annual production capacity of more than 10 million tons, and a daily milk collection capacity of 18,000 tons.

Mengniu has expanded into the international market with the strength of being one of the top eight companies in the global dairy industry (ranked by Rabobank in 2023), and its products are sold in more than 20 countries and regions, including Southeast Asia and North America. The company focuses on scientific and technological innovation and digital transformation, realizing quality control from the farm to the terminal through intelligent production, quality monitoring of the whole chain, and cooperation with international research institutions. In terms of brand building, Mengniu is deeply tied to international IPs such as spaceflight, the Winter Olympics, and the World Cup, and continues to enhance its global influence through digital marketing. In 2022, its core businesses of ambient milk, low-temperature yogurt, and fresh milk have all achieved super-industry growth, showing strong development resilience [3].

3.1.2. Reasons for case company selection

The core reason for choosing Mengniu Dairy as a typical case of digital transformation is its all-around, systematic transformation practice and remarkable results. As one of the top ten companies in the global dairy industry, Mengniu's leading position in the industry gives it extensive demonstrative value, especially in terms of its replicable coverage of the entire dairy industry chain. Its transformation path reflects three core advantages:

First, the clarity and progressiveness of strategic planning. Since the launch of the Systems, Applications, and Products in Data Processing (SAP) system in 2013, Mengniu has built a two-wheeled strategy of "business digitization + data business", which will be promoted in three phases: completing the whole chain digitalization loop in 2015-2021, upgrading the whole region after 2021, and deepening AI technology-driven transformation in 2023 to form a sustainable transformation rhythm. In 2023, we will deepen the AI technology drive and form a sustainable transformation rhythm.

Secondly, the whole industry chain of digitalization and collaborative innovation. The upstream through the "digital milk source" platform to achieve intelligent management of farms, the Internet of Things technology to improve the quality of raw milk; the production side of the completion of intelligent factories, product traceability efficiency increased by 240 times; the supply chain to build a smart platform to reduce the cost of scheduling by 9%; the sales side of the smart network system to achieve the "Customer to Manufacturer" (C2M) customization, accurate access to the needs of consumers.

Third, there is a double breakthrough in technology ecology and policy response. It has built a data center with Aliyun and other technology partners and promoted cross-border innovation through the "Niukesong" competition. Meanwhile, it has actively responded to the national strategy, with its intelligent manufacturing system certified by the Ministry of Industry and Information Technology (MIIT), and strengthened its sustainable development capability through its Environmental, Social, and Governance Management. After the transformation, the company's revenue and profit have increased significantly, and its data transparency is high (with perfect disclosure of information in the Hong Kong stock market), providing the industry with a complete paradigm from top-level design to implementation [4].

3.2. The development of digital transformation in Mengniu

The digital transformation of Mengniu Dairy has been explored for more than ten years, forming a gradual development path of "informationization foundation→chain-wide breakthrough→digital intelligence leap→ecological innovation", with the following specific history:

DOI: 10.54254/2754-1169/177/2025.22480

1) Informationization base-building period (2013-2016)

Starting with the introduction of the Systems, Applications, and Products in Data Processing (SAP) system in 2013, we will build a digital base in three stages:

a. System Integration (2013-2014): Completion of Enterprise Resource Planning (ERP) and Customer Relationship Management (CRM) system online, opening up production, supply, marketing, and financial data to realize integrated business operations.

b. Fine operation (2015-2016): Business Intelligence (BI) was added to promote real-time visualization of sales data and process standardization, and the supply chain finance platform "Love to Raise Cattle" was launched.

c. Financing of upstream ranches; in 2016, a financial sharing center was built to centralize the processing of standardized financial operations, reduce costs, and increase efficiency.

2) Chain-wide digitalization breakthrough period (2017-2019)

Comprehensively promote the "Digital Mengniu" strategy and build a closed loop of the whole industry chain:

a. Upstream Intelligence: Launch the "Digital Milk Source" project, monitor the health of dairy cows in farms through the Internet of Things (IoT), and increase the efficiency of raw milk quality traceability by 98%; cooperate with Aliyun in the construction of "Smart Farms", and realize the cloud-based management of farms.

b. Intellectualization of production: built a smart factory, integrated Manufacturing Execution System (MES) and Laboratory Information Management System (LIMS), shortening the product traceability time from 2 hours to 30 seconds; Supplier Relationship Management (SRM) platform, shortening the product traceability time from 2 hours to 30 seconds. Supplier Relationship Management (SRM) platform realizes the full life cycle management of suppliers.

c. Marketing Precision: In 2017, the Data Management Platform (DMP) was launched to build a user image system; in 2018, the "Smart Network System" was launched to realize omnichannel digital marketing and terminal control.

d. Data synergization: completing the construction of the "North-South Data Centre" and launching the "Mengniu Cloud" security management system to achieve cross-system data interoperability.

3) Digitalization and Intelligence Leapfrog Period (2020-2022)

The strategy will be upgraded to "digitize all business and operationalize all data":

a. Organizational and structural innovation: set up the Group Digital Transformation Office and implement the "double center" (business center + data center) structure to support the "four online" strategies of consumers, channels, supply chain, and management.

b. In-depth application of technology: During the epidemic, we accelerated the layout of new channels such as Online To Offline (O2O) to home and community group purchases; and applied blockchain technology to optimize the "Love to Raise Cattle" platform to realize the refined management of milk sources.

c. Strategic Iteration: In 2021, the company released the "FIRST" five-year plan, clarifying digital intelligence as the core strategy, and promoting the transformation from traditional Fast Moving Consumer Goods (FMCG) to technologically Fast Moving Consumer Goods (FMCG) in 2022, it will build a full-process intelligent factory in Ningxia, and will be selected as a national intelligent manufacturing benchmark.

4) Eco-innovation period (2023 to present)

Focus on digital ecological construction and value extension:

a. Intelligent manufacturing breakthrough: the world's first 5G intelligent factory for the entire dairy industry chain went into operation, realizing unmanned production in the whole process.

DOI: 10.54254/2754-1169/177/2025.22480

b. Consumption ecology reconstruction: launching “WOW Health+” digital intelligence platform to provide personalized health services; opening up online and offline channels through “Mengniu Nutritional Lifestyle Home” to build a consumer co-creation ecosystem.

c. Collaborative upgrading of the industry: create a “digital milk source” sharing platform to promote industry chain data interoperability; participate in the development of digital standards for the dairy industry and lead the intelligent transformation of the industry.

Mengniu has completed the transformation from a traditional dairy enterprise to a scientific and technological dairy enterprise through the three-dimensional progression of “top-level design traction, whole-chain synergy, and technological ecological integration”, providing an integrated solution of “strategy-execution-ecology” for the digital transformation of the manufacturing industry [5].

3.3. The impact of digital transformation on Mengniu Dairy

3.3.1. Effect on profitability

Mengniu's digital transformation has significantly improved profitability, mainly in terms of cost optimization and operational efficiency. By building a financial sharing center, industry-finance integration and intelligent supply chain management, Mengniu has achieved refined cost control. For example, Mengniu's revenue reached 98.62 billion yuan in 2023, with total profit of 6.17 billion yuan, up 13.8% year-on-year. Digital transformation has also contributed to a rebound in gross margins, and despite a small decline in gross margins in 2021-2022 due to the external environment, return on net assets has continued to rebound after 2016, reflecting cost reductions and efficiency improvements. In addition, digital technology has helped improve inventory turnover, with inventory turnover days falling from 38.6 days to 32.5 days in 2018-2022, reducing the risk of inventory backlog and improving the efficiency of capital utilization. Through consumer interaction technologies such as “one item, one code”, Mengniu realized more than 2 billion consumer reaches throughout the year, enhancing market competitiveness.

3.3.2. Impact on solvency

The impact of digital transformation on solvency is characterized by phases. In the short term, the current ratio declines from 1.5 in 2014 to 1.0 in 2022, while the quick ratio stabilizes at around 1.0, indicating adequate short-term solvency but reduced reserves. In terms of long-term debt service, the leverage ratio is maintained at a healthy range of 40%-65%, indicating that the overall debt service risk is controllable. In 2023, Mengniu will increase its dividend payout ratio to 40% by improving its cash flow management, and paying out a dividend of 1.924 billion yuan, a year-on-year increase of 21%, reflecting the robustness of its capital chain. However, it should be noted that the initial investment in digital transformation may put pressure on cash flow, as the 2020 study noted that digitization slightly reduces debt-servicing capacity, and long-term benefits need to be balanced with short-term financial risks.

3.3.3. Impact on operational capacity

Digital transformation has significantly improved Mengniu's operational efficiency. 2018-2022, inventory turnover and total asset turnover continue to rise, and supply chain digitization has enabled the Ningxia factory pilot to meet the “lighthouse factory” standard, increasing productivity by 30%. By monitoring the health data of millions of cows through the Internet of Things technology, Mengniu will achieve precise feeding and reduce feed costs, while digital demand forecasting will further optimize inventory turnover. In 2023, Mengniu's total asset turnover ratio will be higher than the industry average, benefiting from sales growth and logistics system improvement due to improved

DOI: 10.54254/2754-1169/177/2025.22480

Environmental, Social, and Governance (ESG) ratings. In addition, the integration of industry and finance promotes the improvement of organizational efficiency, and the financial sharing center reduces redundant processes, improves the efficiency of information transfer by 30%, and supports the synergy of the whole value chain from research and experimental development to sales [6].

In conclusion, for Mengniu Dairy, Mengniu's digital transformation has significantly improved profitability and operating capacity through cost reduction and efficiency, but short-term liquidity management needs to be paid attention to in terms of solvency. In the future, it should continue to optimize the balance between digital intelligence investment and financial soundness in order to consolidate its industry leadership

4. Conclusion

This paper mainly discusses the digital transformation strategy, implementation path, and impact on the enterprise performance of Mengniu Dairy, and deeply analyzes its whole-chain transformation practice through case study and literature research. The conclusion of the study shows that the digital transformation of Mengniu Dairy effectively improves the overall performance of the enterprise, not only significantly improves the operational efficiency, but also optimizes the product service and enhances the market competitiveness, which provides a replicable transformation framework for the traditional manufacturing industry, especially the dairy industry, and fills in the gaps in the empirical research of the fast-consuming industry. However, this dissertation has not yet explored in depth the empirical exploration of technology fitness analysis and performance impact path, and the evidence of the direct correlation between some specific technology application details and performance enhancement in the process of digital transformation is not yet sufficient. Future research can focus on more detailed empirical analysis, such as through big data analysis and other methods, to explore in depth the precise impact of various aspects of digital transformation on the performance of Mengniu Dairy, and also compare the digital transformation practices of other enterprises in the same industry, to summarize more universal transformation strategies and paths.

References

[1] *Yin Yuling. Research on the impact of financial digitization transformation on enterprise performance — Mengniu dairy industry[D]. Anhui University of Finance and Economics, 2024.*

[2] *Lv Zhuo. Research on the impact of digital transformation on the quality of internal control of enterprises [D]. Xi'an University of Science and Technology, 2024.DOI:10.27398/d.cnki.gxalu.2024.000929.*

[3] *Yu Wen. Research on the impact of digital transformation on corporate financing constraints[D]. Xi'an University of Science and Technology, 2024.DOI:10.27398/d.cnki.gxalu.2024.000337.*

[4] *Wang Xinyue. Research on the path and performance of Digital Transformation of Dairy Enterptises: a Case Study of Mengniu Dairy[D]. Suzhou or Soochow Universit, 2023. DOI:10.27351/d.cnki.gszhu.2023.002724.*

[5] *Liu Zhuo. Path and Effect Analysis of Digital Transformation of Mengniu Diary[D]. Jiangxi University of Finance and Economics, 2023. DOI:10.27175/d.cnki.gjxcu.2023.000918.*

[6] *Shi Fuwei. Research on the Impact of Mengniu Dairy's Digital Transformation on Enterprise Performance[D]. Henan University of Science and Technology, 2023. DOI:10.27116/d.cnki.gjzgc.2023.000691.*