

The Impact of Digital Transformation on the Profitability of Listed Companies: Evidence from Haier Smart Home

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Abstract. With the development of the digital economy, many manufacturing enterprises have begun to promote their own modernisation by going digital to enhance competitiveness. Haier Smart Home is a typical enterprise in the home appliance industry selected as the research object. A combination of case studies and financial indicator analysis will be used to explore the path and results of corporate profitability under digitalisation in this paper. The three areas of change that have reduced unit operating costs and period expense ratios for Haier Smart Home are intelligent manufacturing, supply chain digitalisation and user operation digitalisation. The above measures have increased gross margin and net margin by improving operating efficiency. At the same time, this paper also identifies problems in the process of digitalisation, such as high investment costs, weak business cooperation, and data security risks. Targeted Recommendations are then proposed. This paper adds to the body of research on the effect of digitalisation on corporate performance and provides a reference for manufacturing enterprises' digitalisation efforts.

Keywords: fintech empowerment, commercial banking, profit structures

1. Introduction

The world economy is entering a period of digitalisation at an increasing speed. According to the Research Report on China's Digital Economy Development published by the China Academy of Information and Communications Technology, the scale of China's digital economy in 2023 exceeded 50 trillion yuan and accounted for more than 40% of gross domestic product. The Digital Economy is now the main driver of economic development. Digitalisation in the manufacturing industry has moved from being an option to a requirement. The traditional production and manufacturing model has many problems at present, such as high costs, low efficiency and fierce competition. Enterprises urgently need to reconstruct value chains, optimize resource allocation, and improve operational efficiency through digital means. As a leading enterprise in China's home appliance manufacturing industry, Haier Smart Home has been deploying digital transformation since 2012. The company has successively built a user-centered mass customization model, the China-Ocean-Sky-Mass-Customization Platform (COSMOPlat) industrial internet platform, and a full-process digital supply chain system. Its transformation path covers multiple dimensions including intelligent manufacturing, supply chain management, and user operations, which endows the enterprise with typical industrial demonstration value. Based on this background, this paper

proposes the core research questions: How does digital transformation affect the profitability of manufacturing enterprises? What achievements has Haier Smart Home made in cost control and profit improvement through its digital transformation practices?

At the theoretical level, the resource-based view holds that the digital capability of an enterprise is a unique strategic resource that can help the enterprise build sustainable competitive advantages [1]. In terms of empirical research, digital transformation has significantly improved the total factor productivity and profitability of enterprises, and this effect is more prominent among manufacturing enterprises [2]. The application of digital technologies can optimize the cost structure of enterprises and reduce period expense ratios, particularly administrative expenses and selling expenses [3]. Existing literature has mostly examined the average treatment effect of digital transformation on corporate performance from the perspective of large-sample empirical studies. However, the analysis of micro-level mechanisms of digital transformation in specific enterprises remains insufficient. This paper takes Haier Smart Home as a case study. Based on public annual report data and financial indicators, the study adopts financial ratio analysis to examine the impact paths and effects of digital transformation on its profitability. The theoretical significance of this study lies in the construction of an analytical framework encompassing digital transformation, cost structure optimization, and profitability improvement. The practical significance lies in providing reference experience for digital transformation to enterprises in the same industry.

2. Case introduction

Haier Smart Home Co., Ltd., with stock codes 600690.SH and 690D.DE, is the world's leading home appliance manufacturer and smart home solution provider. Headquartered in Qingdao, Shandong Province, the company's business covers a full range of home appliance products including refrigerators, washing machines, air conditioners, water heaters, and kitchen appliances. By the end of 2025, Haier Smart Home had more than 10 R&D centers, 35 industrial parks, and a marketing network covering more than 200 countries and regions worldwide. Euromonitor International statistics indicate that Haier has maintained the top position in global major home appliance retail sales for 16 consecutive years, while its full-year gross profit margin stood at 26.66% in 2025. The company owns a multi-brand matrix covering Haier, Casarte, Leader, GE Appliances, Fisher & Paykel and AQUA. This portfolio builds a differentiated brand layout covering mass to high-end markets.

First, intensifying industry competition forces the upgrading of cost control. China's home appliance industry has entered a stage of stock competition. Product homogenization is severe, and price competition is fierce. Under the traditional manufacturing model, the profit margins of enterprises are continuously compressed. Second, changes in user demand drive the transformation of operational models. With consumption upgrading, user demand for personalized and customized products is growing increasingly. The traditional mass standardized production model struggles to respond quickly to market changes. Third, global operations require support from digital collaboration platforms. Haier Smart Home has integrated brands from multiple countries through overseas acquisitions and formed a global operation pattern. This inevitably requires a unified digital platform to achieve efficient collaboration across all links.

The digital transformation of Haier Smart Home mainly focuses on three directions. First, intelligent manufacturing involves the independent development of the COSMOPlat industrial internet platform to achieve full-process digitalization from demand interaction to logistics distribution. Second, supply chain digitalization involves establishing a supply chain collaboration platform based on big data. This platform integrates supplier, production, and inventory information

to achieve accurate demand forecasting and intelligent inventory management. Third, user operation digitalization involves connecting the entire process of user reach and service through channels such as the Zhijia application to achieve precise profiling and personalized marketing. In 2025, the annual R&D investment was approximately 11 billion yuan, with an R&D expense ratio of approximately 3.6%.

3. Analysis of digital transformation effects

Haier Smart Home has achieved good results in cost control through the development of intelligent manufacturing and supply chain digitalisation for cost management [4]. According to the disclosures in the company's annual report, the operating expenses in 2025 were 221.739 billion yuan and accounted for 73.34% of operating income. The whole gross margin is 26.66%. In the first quarter of 2026, the operating cost was 55.012-billion-yuan, accounting for 74.65% of operating revenue. The whole gross margin is 25.34%. As shown in Figure 1, the period expense ratio of Haier Smart Home decreased from about 15.59% in the full year 2025 to about 13.52% in the first quarter of 2026 for period expenses. The ratios of selling and administrative expenses dropped to 8.57% and 3.95% from 11.21% and 4.55%, respectively. The drop in the ratio of sales expenses is relatively large; thus, digital marketing and direct-to-consumer models have reduced channel promotion costs significantly.

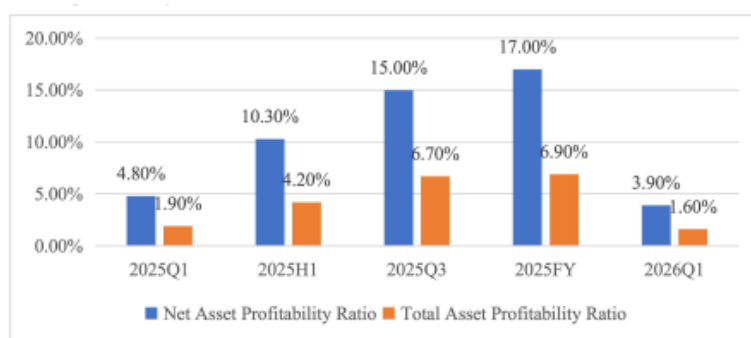


Figure 1. Trend of period expense ratios of Haier Smart Home (picture credit: original)

In terms of profitability, as shown in Table 1, the profitability of Haier Smart Home has remained at a favorable level during the advancement of digital transformation [5]. For the full year 2025, the comprehensive gross margin was 26.66%, the net profit margin was 6.67%, and the weighted return on equity reached 16.98%. In the first quarter of 2026, the gross margin was 25.34%, and the net profit margin was 6.52%. The product innovation capabilities and user experience improvements brought by digital transformation have supported the steady growth of revenue.

Table 1. Key profitability indicators

Indicator	2025	2026 Q1
Operating Revenue (100 million yuan)	3,023.47	736.87
Net Profit (100 million yuan)	201.63	48.07
Operating Cost (100 million yuan)	2,217.39	550.12
Comprehensive Gross Margin	26.66%	25.34%
Net Profit Margin	6.67%	6.52%

Table 1. (continued)

Return on Equity (Weighted)	16.98%	3.86%
Return on Total Assets	6.88%	1.61%
Asset-Liability Ratio	57.41%	55.15%
Total Assets (100 million yuan)	2,957.95	3,005.75

In terms of operational efficiency, digital transformation has also significantly improved the operational efficiency of Haier Smart Home. Through the supply chain digitalization platform, Haier has achieved visual management and control of the entire inventory chain [6]. As shown in Figure 2, the total asset turnover ratio for full-year 2025 stood at 1.03, and total inventory reached 46.849 billion yuan. In the first quarter of 2026, the total asset turnover ratio was 0.25, approximately 1.0 times on an annualized basis, and the inventory balance was 46.578 billion yuan. The mass customization model promoted by the COSMOplat platform has significantly improved product demand response and order processing speed, thereby enhancing the market competitiveness of the enterprise.

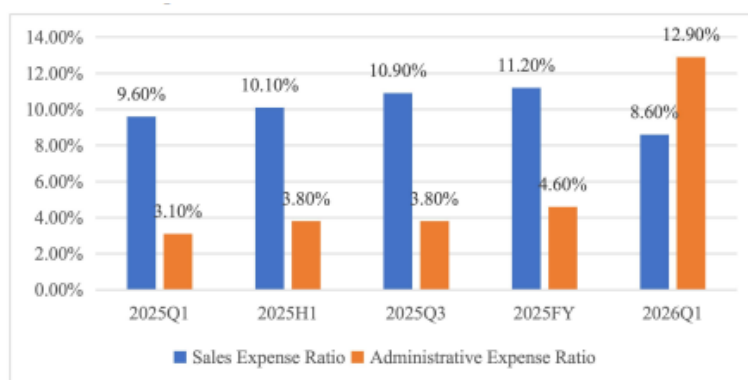


Figure 2. Return on equity and return on total assets of Haier Smart Home (picture credit: original)

4. Problems

Haier Smart Home faces several problems during the process of digital transformation. First, the investment cost of digital transformation is relatively high, creating significant short-term financial pressure. Full-chain digital upgrading requires continuous large-scale capital investment in industrial internet platform R&D, intelligent production line transformation, and digital hardware and software procurement, including equipment upgrading and system iteration. The return cycle for upfront investment is long, making it difficult to quickly convert into operating income [7]. In 2025, the annual R&D expenses of Haier Smart Home were approximately 11 billion yuan. High R&D expenses are recorded in the profit and loss statement for the current period, which directly creates significant pressure on short-term book profits. In addition to direct R&D expenditures, continuous hidden costs such as equipment maintenance, system iteration, and digital consulting continue to accumulate. The stock competition in the home appliance industry and profit uncertainty brought by raw material price fluctuations put pressure on the current cash flow management of the enterprise.

Second, the collaboration between transformation and business operations requires adjustment. Business departments tend to adhere to traditional operational thinking and show insufficient cooperation with digital transformation. The matching degree between digital system design and

offline business scenarios remains relatively low. Nevertheless, digital tools only stay at the basic data entry stage and cannot achieve deep integration into the full links of production, sales and supply chains [8].

Third, data security and data governance have become challenges [9]. Haier Smart Home operates in more than 200 countries and regions worldwide. Countries and regions enforce divergent data protection and cross-border transmission rules, forming complicated compliance requirements. Meanwhile, the enterprise accumulates massive confidential production, supplier and user privacy data. Multiple digital systems operate independently, and the unified data classification and access control system has not fully matured. Meanwhile, there is a significant shortage of interdisciplinary talents with industry business, cybersecurity, and cross-border compliance capabilities. This situation easily triggers risks such as data leakage, cross-border violation penalties, and brand reputation damage [10].

5. Recommendations

In response to the above problems, the following countermeasures and recommendations are proposed. First, scientifically plan the pace of digital investment and establish a phased evaluation mechanism. Enterprises can separate short-term cost-reduction projects from long-term platform strategic projects and allocate funds differentially. Priority should be given to implementing modules with quick returns such as digital marketing and intelligent inventory. Short-term cost savings can offset the profit pressure brought by heavy R&D expenditures. Meanwhile, clear phased objectives and quantitative evaluation indicators should be set for all digital projects. Low-efficiency digital sub-projects should be scaled back in a timely manner. Local digital industry subsidies and special low-interest loans should be sought simultaneously to alleviate the pressure of self-owned capital investment and balance long-term transformation layout with short-term financial stability.

Second, strengthen the deep integration of business and technology. Break the limitation of technology departments solely leading digital construction. Fully absorb the needs of frontline personnel in production, sales, and supply chain during the early stage of system development. Incorporate digital cost reduction and efficiency improvement targets into the key performance indicator assessment system of each business department. Support digital operation training and incentive mechanisms to promote all employees to actively use digital tools and open up cross-departmental data sharing channels.

Third, build a sound data governance system. Establish a data classification and grading management system covering global business. Deploy multi-layer security protection measures such as data encryption, graded access control, and operation behavior auditing for commercial secrets and user privacy data, respectively. Simultaneously expand the professional talent team for cross-border data compliance and cybersecurity. Conduct regular global regional compliance self-inspections to avoid regulatory and security risks brought by cross-border data operations.

6. Conclusion

This paper takes Haier Smart Home as the research object and adopts a combined research method of case analysis and financial indicator analysis to systematically explore relevant mechanisms. The full paper analyzes three main transformation paths: intelligent manufacturing, supply chain digitalization, and user operation digitalization. these paths continuously dilute the unit product operating cost and steadily reduce the overall period expense ratio. On the other hand, they stably elevate the comprehensive gross margin and net profit margin of the enterprise, achieving

simultaneous optimization of earnings quality. The study finds that Haier Smart Home has effectively reduced unit operating costs and period expense ratios and improved gross margin and net margin through systematic advancement in three major directions: intelligent manufacturing, supply chain digitalization, and user operation digitalization. Financial data show that for the full year 2025, the comprehensive gross margin of Haier Smart Home was 26.66%, the net profit margin was 6.67%, and the weighted return on equity was 16.98%. The period expense ratio further decreased to approximately 13.52% in the first quarter of 2026.

This study constructs a three-stage analytical framework of digital transformation, cost structure optimization, and profitability improvement. The framework provides referable and replicable practical experience and implementation ideas for domestic similar home appliance manufacturing enterprises and traditional manufacturing entities to implement digital upgrading. The study possesses theoretical supplementary value and industry practical reference value. This study also has limitations. For example, the external validity of single-case research is limited, and financial data mainly come from public annual reports. Future research can expand to multi-case comparative analysis or adopt quasi-experimental methods such as the difference-in-differences approach to identify causal relationships more rigorously.

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