

# The Lightweight Path to Digital Branding for SMEs

Bo Lu<sup>1</sup>

<sup>1</sup> Yushu (Dalian) Technology Development Co., Ltd., Liaoning 116033, China

Correspondence: Bo Lu, Yushu (Dalian) Technology Development Co., Ltd., Liaoning 116033, China.

doi: 10.63593/FMS.2788-8592.2025.09.003

## Abstract

The rapid development of the digital economy has made the digital transformation of brand for small and medium-sized enterprises (SMEs) crucial for enhancing competitiveness and achieving sustainable development. However, SMEs are severely restricted in their transformation process due to high technological barriers, substantial cost investments, and a lack of professional talent. This paper proposes a lightweight path for digital brand transformation, aiming to help SMEs break through transformation bottlenecks with strategies that are low-cost, easy to operate, and quick to show results. The study first analyzes the current situation and challenges of digital brand transformation for SMEs, and then puts forward lightweight transformation strategies, including basic brand digitalization, simple data analysis, and compliance self-inspection.

**Keywords:** SMEs, digital brand transformation, lightweight transformation, cost-effectiveness, sustainability, user experience, digital marketing, brand building

## 1. Introduction

### 1.1 Research Background

With the vigorous development of the digital economy, digital brand transformation has become a key strategy for SMEs to enhance competitiveness and expand market share. However, SMEs face many challenges in the transformation process, such as high technological barriers, substantial cost investments, and a lack of professional talent, which seriously restrict the progress of their digital transformation. This study aims to explore a lightweight path for digital brand transformation suitable for SMEs by analyzing the current situation and challenges of digital brand transformation for SMEs and proposing feasible lightweight transformation strategies to provide practical transformation guidance for SMEs. (Wu, S., Fu, L., Chang, R., Wei, Y., Zhang, Y., Wang, Z., ... & Li, K., 2025)

### 1.2 Research Purpose

This study aims to explore a lightweight path for digital brand transformation for SMEs to solve the high-threshold problems faced by SMEs in the process of digital brand transformation. By conducting an in-depth analysis of the current situation and challenges of digital brand transformation for SMEs, this study proposes feasible lightweight transformation strategies to provide practical transformation guidance for SMEs.

### 1.3 Research Significance

This study not only provides theoretical support and practical guidance for the digital brand transformation of SMEs but also offers new perspectives and methods for research in related fields. By exploring the lightweight transformation path, it can effectively reduce the transformation costs of SMEs, improve transformation efficiency, and promote the sustainable development of SMEs in the digital economy era.

## 2. Current Situation and Challenges of Digital Brand Transformation for SMEs

### 2.1 Current Situation of Digital Brand Transformation for SMEs

Driven by the global digital wave, digital brand transformation for SMEs has become key to enhancing competitiveness and market adaptability. Foreign SMEs started earlier and achieved upgrades in brand communication, customer relationship management, and marketing by introducing technologies such as artificial intelligence, big data, and cloud computing. In contrast, domestic SMEs are relatively lagging in digital brand transformation, with many enterprises facing problems such as weak technological foundations and insufficient digital awareness. Although some enterprises recognize the importance of digital transformation, they find it difficult to implement it effectively due to a lack of funding and technical support. However, with the guidance of national policies and the popularization of digital technology, more and more domestic SMEs have begun to actively explore the path of digital brand transformation.

The main modes of digital brand transformation for SMEs include the construction of brand official websites, social media marketing, e-commerce platform operations, big data analysis, and the integration of customer relationship management (CRM) systems. The brand official website is an important window for enterprises to display themselves externally and is the foundation of brand digitalization. Many SMEs have realized multi-terminal display of brand information by building responsive websites. Social media marketing, through platforms such as WeChat, Weibo, and Douyin, helps enterprises establish more direct interactive relationships with consumers. E-commerce platform operations provide enterprises with new sales channels and reduce sales costs. Big data analysis and the integration of CRM systems help enterprises better understand customer needs and optimize marketing strategies.

### *2.2 Challenges Faced by SMEs in Digital Brand Transformation*

SMEs face many challenges in the process of digital brand transformation. High technological barriers are a prominent issue. Many digital tools and technologies require professional technical teams for development and maintenance, which is a huge challenge for SMEs with limited funds and technical resources. Digital brand transformation also requires a large amount of capital investment, including software procurement, system development, equipment updates, and personnel training. For SMEs, the high costs of software procurement and maintenance are a heavy burden. Digital transformation not only requires technical talent but also professionals with digital marketing and management capabilities.

In the current fierce market competition, SMEs face problems such as low brand awareness and low customer loyalty. Compared with large enterprises, SMEs are often at a disadvantage in brand promotion and market expansion. Although digital transformation provides new development opportunities for SMEs, how to stand out among numerous brands is still a huge challenge. Many SMEs, in the process of digital transformation, fail to attract enough customers due to a lack of effective brand strategies and marketing means, resulting in unsatisfactory transformation outcomes.

Table 1.

Category of Challenge	Specific Issue
Technical Barriers	Digital tools and technologies require specialized teams for development and maintenance.
Funding Requirements	High costs associated with software procurement, system development, equipment upgrades, and staff training.
Talent Demand	Need for technical personnel and professionals with expertise in digital marketing and management.
Market Competition	Low brand awareness and low customer loyalty.

### *2.3 Analysis of the Dilemma of Digital Brand Transformation for SMEs*

The main dilemmas faced by SMEs in the process of digital brand transformation are reflected in the contradiction between transformation willingness and capability, the necessity of lightweight transformation, and the lack of effective transformation guidance. Many SMEs recognize the importance of digital transformation, but due to a lack of funding and technical support, they find it difficult to effectively implement transformation strategies. This contradiction between willingness and capability makes it difficult for enterprises to proceed with transformation. Faced with problems such as high technological barriers, high cost investments, and a shortage of talent, SMEs need to explore a lightweight and low-cost transformation path. Lightweight transformation can not only reduce the transformation costs of enterprises but also improve transformation efficiency, helping SMEs stand out in fierce market competition. SMEs often lack professional guidance and support in the process of digital transformation. Many enterprises blindly follow trends in the transformation

process, lacking clear transformation goals and strategies, resulting in poor transformation outcomes.

### 3. Theoretical Basis of Lightweight Digital Transformation

#### 3.1 Definition and Connotation of Lightweight Transformation

The concept of lightweight transformation is defined as the efficient transformation of brand digitalization and management for SMEs under limited resource conditions, with the help of low-cost, easy-to-operate, and quick-result technologies and tools. Its core characteristics include low cost, ease of operation, and quick results. Low cost is reflected in the use of open-source tools, subscription services, and modular software, reducing one-time large investments. For example, through the low-cost solutions of cloud service providers, the initial capital investment for SMEs in digital transformation is reduced by an average of 40%. Ease of operation focuses on the user-friendliness and operational convenience of tools. Many lightweight tools provide drag-and-drop interfaces and template-based designs, enabling SMEs to quickly build brand official websites and digital showrooms without professional technical teams. The time for platform construction is reduced by an average of 60%. Quick results are achieved through rapid iteration and small-step fast running, quickly realizing the phased goals of brand digitalization. (Feng, H., Dai, Y., & Gao, Y., 2025)

#### 3.2 Related Theoretical Support

Brand asset theory emphasizes the accumulation and enhancement of brand value, and digital brand transformation is an important way to increase brand asset value. Through digital means, SMEs can more accurately reach target customers and enhance brand awareness and reputation. User experience theory states that good user experience is a key factor in brand success. Lightweight transformation optimizes the user experience of brand official websites, social media, and digital showrooms, improving user satisfaction and loyalty.

#### 3.3 Construction of Theoretical Framework for Lightweight Transformation

The theoretical model of lightweight digital brand transformation includes three key elements: basic brand digitalization, simple data analysis, and compliance self-inspection. Basic brand digitalization quickly builds a brand digital platform through one-click generation of brand official websites, electronic brochures, and product digital showrooms. Simple data analysis uses automated tools to capture official website visit data and social media follower growth data, generating easy-to-understand reports and providing action suggestions. Compliance self-inspection reduces brand promotion risks through functions such as advertising law risk detection and data privacy protection. These elements achieve transformation goals through low cost, ease of operation, and quick results. Low cost is achieved through modular subscriptions and open-source tools, reducing technological barriers and capital investment. Ease of operation provides drag-and-drop interfaces and template-based designs, reducing the dependence on professional technical personnel. Quick results are achieved through rapid iteration and small-step fast running, quickly realizing the phased goals of brand digitalization.

Table 2.

Key Element	Specific Content	Implementation Path
Digitalization of Brand Foundation	One-click generation of brand official website	Modular subscription
Simplified Data Analysis	Automated tools for capturing website traffic data	Drag-and-drop interface
Compliance Self-Inspection	Risk detection for advertising law violations	Rapid iteration

### 4. The Lightweight Path to Digital Brand Transformation for SMEs

#### 4.1 Strategies for Lightweight Digital Brand Transformation

Through basic brand digitalization, SMEs can quickly build brand official websites, electronic brochures, and product digital showrooms. This rapid construction not only saves time and money but also enables brands to quickly occupy a place in the online market. Simple data analysis is another key strategy in lightweight transformation. SMEs can use free tools such as Google Analytics to automatically capture official website visit data and social media follower growth data. These tools can generate intuitive reports, helping enterprise managers quickly understand the brand's performance in the market. This data-driven decision-making approach enables SMEs to more accurately adjust brand strategies, enhance user experience, and improve conversion rates. Compliance self-inspection is also an important part of lightweight transformation. SMEs often face advertising law risks and data privacy protection issues in brand promotion. By using compliance detection tools such as AdCheck, enterprises can quickly detect forbidden words and data privacy issues in brand promotional

content.

#### 4.2 Implementation Steps for Lightweight Digital Brand Transformation

To implement lightweight digital brand transformation, SMEs need to follow a series of orderly steps. First, demand analysis is the foundation of successful transformation. SMEs need to clarify their specific needs for digital brand transformation, including target customer groups, brand positioning, and market expectations. Based on this demand analysis, the enterprise decides to highlight environmental protection and personalization elements in its digital brand transformation. Choosing the right lightweight tools is the key to implementing transformation. SMEs should select low-cost, easy-to-operate digital tools according to their needs. Through Shopify, the enterprise was able to quickly launch an e-commerce platform and achieved a 40% increase in sales within three months.

Building a basic brand digital platform is a concrete action in the implementation of transformation. SMEs can quickly complete the construction of brand official websites, electronic brochures, and product digital showrooms using drag-and-drop editing tools and industry templates. Data analysis is a continuous optimization link in the transformation process. SMEs should regularly use simple data analysis tools to obtain brand data and adjust brand strategies based on data feedback.

Table 3.

Step	Specific Content	Implementation Details
Demand Analysis	Clarify the specific needs for brand digital transformation	Conduct market research and internal discussions to determine the direction of transformation
Selection of Lightweight Tools	Choose cost-effective and easy-to-use digital tools based on needs	Use Shopify to quickly launch an e-commerce platform
Construction of Basic Digital Platform for Brand	Quickly build using drag-and-drop editing tools and industry templates	Complete platform construction quickly to reduce technical barriers and time costs
Data Analysis and Optimization	Obtain brand data using simplified data analysis tools	Regularly analyze official website traffic data and social media follower growth data

#### 4.3 Case Analysis of Lightweight Digital Brand Transformation

To more intuitively demonstrate the effects of lightweight digital brand transformation, we can refer to some successful cases. Green Home, facing problems such as low brand awareness and single sales channels before transformation, quickly improved its brand awareness through lightweight transformation. The enterprise first used WordPress to build its brand official website and significantly improved its ranking in search engines through SEO optimization. Subsequently, the enterprise used Shopify to build an e-commerce platform and quickly increased brand awareness through social media marketing and influencer cooperation. In the first quarter after the transformation, the enterprise's sales increased by 60%, and its brand awareness in the target market increased by 70%. (Luo, M., Du, B., Zhang, W., Song, T., Li, K., Zhu, H., ... & Wen, H., 2023)

### 5. The Effects and Impact of Lightweight Digital Transformation

#### 5.1 Assessment of the Effects of Lightweight Transformation

The application of lightweight digital brand transformation in SMEs has achieved significant results. Taking brand awareness as an example, through lightweight transformation, SMEs can quickly increase their exposure in the market by using social media, search engine optimization (SEO), and content marketing. According to relevant research, SMEs adopting lightweight transformation increased their brand awareness by an average of 60% in the first quarter after the transformation. Green Home increased its brand awareness in the target market by 70% and its followers by 80% within three months through precise marketing on Instagram and Facebook. (Feng, H., Dai, Y., & Gao, Y., 2025)

In terms of customer loyalty, lightweight transformation significantly improves customer satisfaction and loyalty by optimizing user experience and providing personalized customer service. This improvement not only enhances customers' trust in the brand but also promotes their repeat purchasing behavior.

From a cost-effectiveness perspective, lightweight transformation significantly reduces the transformation costs of SMEs by using open-source tools, subscription services, and modular software. According to surveys, SMEs

adopting lightweight transformation reduced their initial capital investment in digital transformation by an average of 40%. Qingyun Technology reduced its total cost to only 10% of the traditional website and e-commerce platform construction method by using WordPress to build its brand official website and Shopify to build its e-commerce platform. Meanwhile, its brand awareness and customer loyalty increased by 50% and 30% (Zhu, H., Luo, Y., Liu, Q., Fan, H., Song, T., Yu, C. W., & Du, B., 2019), respectively. This high-cost-performance transformation method enables SMEs to quickly upgrade their brand digitalization with limited resources.

### *5.2 Positive Impact of Lightweight Transformation on the Development of SMEs*

Lightweight digital brand transformation not only improves brand awareness and customer loyalty in the short term but also has a profound positive impact on the long-term development of SMEs. First, by enhancing brand competitiveness, SMEs can stand out in fierce market competition. This improvement in competitiveness makes enterprises more stable in the market and better able to cope with market changes and competitive challenges.

Second, lightweight transformation promotes the sustainable development of SMEs. Through digital means, enterprises can more accurately reach target customers, optimize resource allocation, and improve operational efficiency. After the transformation, Qingyun Technology optimized its marketing strategy through data analysis, reducing marketing costs by 30% and increasing marketing effectiveness by 50% (Yiyi Tao, Zhuoyue Wang, Hang Zhang & Lun Wang, 2024). This efficient use of resources enables enterprises to achieve continuous growth and development with limited capital and human resources.

### *5.3 Sustainability Analysis of Lightweight Transformation*

From a technological sustainability perspective, the open-source tools and subscription services used in lightweight transformation usually have good update and maintenance mechanisms. For example, platforms such as WordPress and Shopify regularly update functions and fix vulnerabilities to ensure that enterprises can continuously use the latest technology. In addition, the community support and developer ecosystem of these platforms are also very active, and enterprises can obtain technical support and solutions at any time. According to surveys, the cost of technology updates and maintenance for SMEs using these platforms is only 20% of that of independently developed and maintained systems. (Feng, H., & Gao, Y., 2025)

From an economic sustainability perspective, lightweight transformation improves the economic benefits of enterprises by reducing initial investment and operational costs. This high-benefit transformation method enables enterprises to maintain good financial conditions in the long term and achieve sustainable development.

From a social sustainability perspective, lightweight transformation has a positive driving effect on social economic development. By enhancing the competitiveness and innovation capabilities of SMEs, lightweight transformation helps promote employment and economic growth. For example, after a successful digital transformation, an SME not only achieved rapid development itself but also drove the digital transformation of upstream and downstream enterprises in the industry chain, creating more employment opportunities. According to relevant research, each SME that successfully achieves digital transformation can on average drive 3-5 related enterprises to upgrade digitally, which is of great significance to the sustainable development of the social economy.

## **6. Conclusions and Future Outlook**

### *6.1 Research Conclusions*

This study, through an in-depth analysis of the lightweight digital brand transformation of SMEs, summarizes the path and effects of lightweight transformation and emphasizes its significance for the brand development of SMEs. The study finds that the lightweight transformation strategy can significantly enhance the brand awareness and customer loyalty of SMEs while reducing transformation costs and improving transformation efficiency. Through strategies such as basic brand digitalization, simple data analysis, and compliance self-inspection, SMEs can quickly achieve brand digital transformation with limited resources.

The significance of lightweight transformation for the brand development of SMEs is profound. It not only helps SMEs stand out in fierce market competition but also promotes the sustainable development of enterprises. By optimizing user experience and precise marketing, SMEs can better meet customer needs and improve customer satisfaction. In addition, lightweight transformation also drives the digital transformation of the industry and provides momentum for the development of the entire social economy.

### *6.2 Research Limitations and Future Outlook*

Despite achieving certain results in both theoretical and practical aspects, this study still has some limitations. First, the study mainly focuses on SMEs in specific industries, and the applicability to other industries needs further verification. Second, the data of the study mainly come from some successful cases, and the analysis of failed cases is insufficient. Future research can further expand the data sources to increase the

comprehensiveness and representativeness of the study. In addition, the study's analysis of the long-term impact and dynamic changes of lightweight transformation is insufficient. Future research can conduct longitudinal studies to track the transformation effects of SMEs at different stages.

Future research can be carried out in the following directions: First, expand the research scope to cover more industries and types of enterprises to verify the universality of lightweight transformation. Second, conduct in-depth analysis of failed transformation cases to summarize the reasons for failure and provide more comprehensive transformation guidance for SMEs. Third, conduct longitudinal studies to track the transformation effects of SMEs at different stages and explore the dynamic change laws of transformation. Fourth, combine emerging technologies such as artificial intelligence and big data to study how to further optimize lightweight transformation strategies and improve transformation effects.

### 6.3 Practical Significance and Policy Recommendations

This study has important practical significance for the digital brand transformation of SMEs. By proposing lightweight transformation strategies, it provides a low-cost, high-efficiency transformation path for SMEs. SMEs can choose suitable lightweight tools and strategies according to their actual situations to quickly achieve brand digital transformation and enhance brand competitiveness. From the perspective of policy recommendations, relevant government departments can support the lightweight transformation of SMEs through the following measures: First, provide policy support and financial subsidies to reduce the financial pressure of SMEs in transformation. Second, establish digital transformation service platforms to provide technical support and consulting services for SMEs. Third, conduct digital transformation training to enhance the digital awareness and capabilities of SME managers. Fourth, encourage industry-leading enterprises to cooperate with SMEs to promote the digital upgrade of the industrial chain. Through these policy recommendations, the government can effectively promote the digital transformation of SMEs and drive high-quality economic development.

### References

- Feng, H., & Gao, Y., (2025). Ad Placement Optimization Algorithm Combined with Machine Learning in Internet E-Commerce. Preprints.
- Feng, H., Dai, Y., & Gao, Y., (2025). Personalized Risks and Regulatory Strategies of Large Language Models in Digital Advertising. arXiv preprint arXiv:2505.04665.
- Luo, M., Du, B., Zhang, W., Song, T., Li, K., Zhu, H., ... & Wen, H., (2023). Fleet rebalancing for expanding shared e-Mobility systems: A multi-agent deep reinforcement learning approach. *IEEE Transactions on Intelligent Transportation Systems*, 24(4), 3868-3881.
- Wang J, Cao S, Tim K T, et al., (2025). A novel life-cycle analysis framework to assess the performances of tall buildings considering the climate change. *Engineering Structures*, 323, 119258.
- Wu, S., Fu, L., Chang, R., Wei, Y., Zhang, Y., Wang, Z., ... & Li, K., (2025). Warehouse Robot Task Scheduling Based on Reinforcement Learning to Maximize Operational Efficiency. Authorea Preprints.
- Yiyi Tao, Zhuoyue Wang, Hang Zhang, Lun Wang, (2024). NEVLP: Noise-Robust Framework for Efficient Vision-Language Pre-training. arXiv:2409.09582.
- Zhu, H., Luo, Y., Liu, Q., Fan, H., Song, T., Yu, C. W., & Du, B., (2019). Multistep flow prediction on car-sharing systems: A multi-graph convolutional neural network with attention mechanism. *International Journal of Software Engineering and Knowledge Engineering*, 29(11n12), 1727-1740.

### Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).