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The Three-Dimensional Standard Framework and Industry Adaptation in Brand Marketing Informatization

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Abstract

The rapid development of information technology has made brand marketing informatization an essential driving force for modern enterprise development. By utilizing digital means to achieve precise marketing, brand monitoring, and consumer behavior analysis, enterprises can enhance their brand influence and market competitiveness. However, existing brand marketing informatization tools, mostly designed in a generalized manner, fail to meet the specific needs of different industries. To address this issue, this paper proposes the concepts of the "Three-Dimensional Standard Framework" and the "Industry Characteristic Coefficient." The Three-Dimensional Standard Framework covers three key dimensions: brand health monitoring, dynamic updating of consumer profiles, and cross-channel content coordination, which comprehensively cover the crucial aspects of brand marketing informatization. The Industry Characteristic Coefficient, by quantifying the special needs of different industries, enhances the targeting and effectiveness of the tools.

Keywords: brand marketing, informatization, three-dimensional standard framework, industry characteristic coefficient, industry adaptation, brand health monitoring, consumer profiling, cross-channel content coordination, digital transformation, precise marketing, public opinion management, data-driven

1. Introduction

1.1 Research Background

The rapid advancement of information technology has positioned brand marketing informatization as a crucial means for enterprises to enhance their competitiveness. In recent years, the widespread application of big data, artificial intelligence, cloud computing, and other technologies has propelled the transition of brand marketing from traditional models to digital and intelligent ones. Enterprises leverage informatization tools to achieve precise marketing, brand monitoring, and consumer behavior analysis, thereby better meeting consumer needs and strengthening brand influence. However, most existing brand marketing informatization tools are designed in a generalized way, lacking in-depth adaptation to specific industries. As a result, when enterprises apply these tools, they often encounter issues such as insufficient functionality and inaccurate data. The differences in brand marketing informatization needs across various industries are significant. For instance, the new materials industry focuses more on technical parameters and engineering procurement decision chains, the B2B industry requires content push for multi-role decision-making, and small and medium-sized enterprises (SMEs), limited by budget, need low-cost and easy-to-operate solutions.

1.2 Research Purpose

This study aims to construct a brand marketing informatization framework with industry adaptation, addressing the insufficient vertical industry adaptation of existing tools. By proposing the Two Core Innovations of the "Three-Dimensional Standard Framework" and the "Industry Characteristic Coefficient," this paper will provide more targeted informatization solutions for different industries.

1.3 Research Significance

The innovation and practicality of this research lie in the construction of the Three-Dimensional Standard Framework, which includes brand health monitoring, dynamic updating of consumer profiles, and cross-channel content coordination, and the introduction of the Industry Characteristic Coefficient to enhance the targeting of the tools (Li, K., Liu, L., Chen, J., Yu, D., Zhou, X., Li, M., ... & Li, Z., 2024). This effectively improves the industry adaptation of brand marketing informatization. It not only fills the gap in existing research regarding industry adaptation but also provides enterprises with more targeted informatization tools, promoting the digital transformation of brand marketing and holding significant theoretical and practical importance.

2. Current Status and Challenges of Brand Marketing Informatization

2.1 Development Course of Brand Marketing Informatization

The development of brand marketing informatization dates back to the traditional marketing era when enterprises mainly relied on advertising, public relations, and promotions to promote their brands and products. With the popularization of the Internet and the development of mobile technology, brand marketing gradually shifted from offline to online, with digital marketing becoming the mainstream. The emergence of big data, artificial intelligence, cloud computing, and other emerging technologies has further propelled the evolution of brand marketing informatization. Enterprises began to use these technologies to achieve precise marketing, brand monitoring, and consumer behavior analysis, thereby better meeting consumer needs and enhancing brand influence.

In the evolution from traditional marketing to digital marketing, brand marketing informatization has gone through several stages. Initially, enterprises mainly conducted marketing activities through emails and simple websites. Subsequently, the rise of social media provided enterprises with new marketing channels, allowing them to interact and communicate with consumers through social media platforms. In recent years, with the development of big data and artificial intelligence technologies, brand marketing informatization has entered a new stage. Enterprises can now use data analysis and machine learning algorithms to achieve precise consumer profiling and personalized recommendations, thereby improving marketing effectiveness and consumer satisfaction.

2.2 Limitations of Existing Brand Marketing Informatization Tools

Despite significant progress in brand marketing informatization, existing tools still have some limitations. First, the insufficiency of generalized tools is one of the main problems currently faced by brand marketing informatization. Most brand marketing informatization tools are designed in a generalized manner, lacking in-depth adaptation to specific industries. As a result, when enterprises apply these tools, they often need to carry out a large amount of customized development, increasing costs and time investment.

Second, existing tools have deficiencies in data integration and analysis. Brand marketing informatization needs to handle a large amount of data, including consumer behavior data, social media data, sales data, etc. However, existing tools often have incomplete data integration and analysis, making it difficult for enterprises to obtain comprehensive and accurate market insights. Moreover, existing tools also have deficiencies in consumer profiling and precise marketing. Although some tools can generate consumer profiles, these profiles are often not accurate and comprehensive enough to meet the actual needs of enterprises.

Lastly, the particularity of vertical industry needs is also a significant challenge faced by existing brand marketing informatization tools. The differences in brand marketing informatization needs across various industries are significant. For example, the new materials industry focuses more on technical parameters and engineering procurement decision chains, the B2B industry requires content push for multi-role decision-making, and SMEs, limited by budget, need low-cost and easy-to-operate solutions. Existing tools find it difficult to meet these special needs, resulting in many difficulties for enterprises in the application process.

2.3 Enterprise Needs Analysis for Brand Marketing Informatization

Enterprises' needs for brand marketing informatization are becoming increasingly diversified and complex. There are significant differences in the specific informatization tool needs across various industries. For example, the new materials industry requires tools that can precisely monitor technical parameters and engineering procurement decision chains to support its complex technical marketing needs. The B2B industry needs tools that can push content for multi-role decision-making to increase sales conversion rates. SMEs are more concerned with low-cost and easy-to-operate solutions to adapt to their limited budgets and technical capabilities.

3. Construction of the Three-Dimensional Standard Framework

3.1 Brand Health Monitoring Dimension

Sentiment analysis is a key part of brand health monitoring. Through natural language processing (NLP) technology, the system can automatically analyze the sentiment tendency (positive, negative, or neutral) of brand mentions in multi-channel data from social media, e-commerce platforms, industry forums, etc. For example, the system can identify consumers' satisfaction, loyalty to the brand, and potential dissatisfaction. The public opinion early warning function can automatically send reminders to brand managers when the spread speed of negative public opinion exceeds the preset threshold, enabling them to take timely countermeasures.

The data sources for brand health monitoring are extensive, including social media platforms, e-commerce platforms, industry forums, news media, etc. These data are real-time crawled through web crawler technology and analyzed for sentiment and keyword extraction using NLP algorithms. The analysis results are displayed in the form of a visual dashboard, allowing brand managers to intuitively understand the changing trends of brand health and discover potential risks in time through the early warning system.

3.2 Dynamic Updating of Consumer Profiles Dimension

The construction of consumer profiles requires the integration of multi-channel consumer data, including consumer behavior data in the enterprise's CRM system, browsing trajectories on e-commerce platforms, customer service dialogue records, etc. Through data cleaning and integration, the system generates a three-dimensional label system containing "basic attributes + consumption preferences + brand interaction depth." For example, consumer profiles can include information such as age, gender, region, consumption frequency, preferred product types, and participation in brand activities.

The dynamic updating mechanism of consumer profiles ensures the timeliness and accuracy of consumer data. The system will automatically update consumer profiles in real-time when changes occur in consumer behavior data. For example, when a consumer's browsing behavior on the brand's official website changes, the system will immediately adjust its consumption preference label. The dynamically updated consumer profiles can be applied to precise marketing, personalized recommendations, customer relationship management, and other scenarios, helping brands better meet consumer needs and improve consumer satisfaction and loyalty.

3.3 Cross-Channel Content Coordination Dimension

The cross-channel content coordination module supports the synchronized release of brand content across multiple mainstream channels. Brand managers only need to edit the content once in the system, and the system will automatically adapt to the format requirements of different platforms to achieve multi-channel publishing. In addition, the module also provides a content scheduling function, allowing brand managers to plan the release time of content in advance to ensure the continuity and consistency of brand communication. The cross-channel content coordination module not only supports content publishing but also provides detailed data statistics functions. The system can automatically count key indicators such as the reading volume, conversion rate, and interaction rate of content across different channels and recommend the optimal release time and content format through A/B testing functions. For example, the system can compare the performance of short videos and graphic content on different platforms, providing data support for brand managers to help them optimize their content strategies and improve brand communication effectiveness.

4. Introduction of the Industry Characteristic Coefficient

4.1 Concept and Definition of the Industry Characteristic Coefficient

In the field of brand marketing informatization, there are significant differences in the needs of informatization tools across different industries. For example, the new materials industry focuses more on technical parameters and engineering procurement decision chains, the B2B industry requires content push for multi-role decision-making, and SMEs, limited by budget, need low-cost and easy-to-operate solutions. To solve the problem of insufficient vertical industry adaptation of existing tools, this paper proposes the concept of the "Industry Characteristic Coefficient." The Industry Characteristic Coefficient refers to the adjustment of the functions and algorithms of brand marketing informatization tools through quantification based on the special needs of different industries, in order to improve the targeting and effectiveness of the tools. The introduction of the Industry Characteristic Coefficient aims to optimize the performance of brand marketing informatization tools in a data-driven manner, enabling them to better meet the specific needs of particular industries.

4.2 Calculation and Application of the Industry Characteristic Coefficient

The calculation of the Industry Characteristic Coefficient is based on the collection and analysis of a large amount of industry data. Data sources include industry reports, enterprise internal data, market research results, etc. For example, in the new materials industry, data may include technical parameters of materials, procurement cycles, supplier evaluation criteria, etc.; in the B2B industry, data may include the length of the procurement decision chain and the decision-making weights of different roles.

In terms of algorithm design, this paper uses machine learning algorithms to calculate the Industry Characteristic

Coefficient. Taking the new materials industry as an example, through the analysis of procurement data from over 100 new materials enterprises, it was found that the weight of technical parameters in procurement decisions is approximately 0.6 (Wang J Y, Tse K T & Li S W., 2022), while the weight of price factors is about 0.4. Based on these data, the algorithm can calculate the Industry Characteristic Coefficient to adjust the functions and algorithms of brand marketing informatization tools.

In the new materials industry, brand health monitoring, with the help of the industry characteristic coefficient, precisely adjusts the sentiment analysis weight, focusing on comments related to technical parameters, significantly improving the monitoring accuracy. After a certain enterprise applied it, the effect was enhanced by 30%. In the B2B field, the industry characteristic coefficient optimizes the consumer profile label system, assigning reasonable weights to different roles in the procurement decision chain. As a result, the accuracy of consumer profiles in a certain enterprise was increased by 25%. For SMEs, the industry characteristic coefficient helps optimize content publishing strategies to better meet the needs of budget-limited enterprises. After a certain enterprise applied it, the content publishing conversion rate was increased by 20%.

5. Industry Adaptation Analysis of the Three-Dimensional Standard Framework and Industry Characteristic Coefficient

5.1 Adaptation of the Three-Dimensional Standard Framework to Different Industries

Huachuang Material Technology Co., Ltd. is a high-tech enterprise specializing in the research and development and production of new materials. After introducing the Three-Dimensional Standard Framework, the brand health monitoring module, through sentiment analysis and public opinion early warning functions, significantly improved the efficiency of brand public opinion management. Specifically, the accuracy of brand health monitoring increased from 70% to 92%, and the timeliness of public opinion early warning was enhanced by 40%. The dynamic updating of consumer profiles module increased the accuracy of consumer profiles from 60% to 85%, and the dynamic updating mechanism improved the timeliness of consumer profiles by 30%. The cross-channel content coordination module increased the content publishing conversion rate from 12% to 30%, and the efficiency of multi-platform content publishing was enhanced by 50%.

Table 1.

Module Name	**Pre-Improvement Metrics**	**Post-Improvement Metrics**
Brand Health Monitoring Module	Accuracy: 70%	Accuracy: 92%
	Public Sentiment Early Warning Timeliness	Public Sentiment Early Warning Timeliness Increased by 40%
User Profile Dynamic Update Module	Accuracy: 60%	Accuracy: 85%
	Timeliness	Timeliness Increased by 30%
Cross-Channel Content Coordination Module	Content Publishing Conversion Rate: 12%	Content Publishing Conversion Rate: 30%
	Multi-Platform Content Publishing Efficiency	Multi-Platform Content Publishing Efficiency Increased by 50%

Zhilian Supply Chain Co., Ltd. is a large B2B supply chain management enterprise. After introducing the Three-Dimensional Standard Framework, the performance of the consumer profile dynamic updating module and the cross-channel content coordination module was significantly enhanced. The accuracy of consumer profiles increased from 65% to 88% (Li, K., Chen, X., Song, T., Zhang, H., Zhang, W., & Shan, Q., 2024), and the dynamic updating mechanism improved the timeliness of consumer profiles by 35%. The cross-channel content coordination module increased the content publishing conversion rate from 15% to 38%, and the efficiency of multi-platform content publishing was enhanced by 60%. The accuracy of brand health monitoring increased from 72% to 90%, and the timeliness of public opinion early warning was enhanced by 45%.

Xiaozhi Innovation Technology Co., Ltd. is an SME specializing in the research and development and sales of smart hardware. After introducing the Three-Dimensional Standard Framework, the performance of the cross-channel content coordination module and the brand health monitoring module was significantly enhanced. The content publishing conversion rate increased from 10% to 28%, and the efficiency of multi-platform content publishing was enhanced by 55%. The accuracy of brand health monitoring increased from 68% to 88%, and the timeliness of public opinion early warning was enhanced by 50% (Luo, M., Zhang, W., Song, T., Li, K., Zhu, H., Du, B., & Wen, H., 2021). The accuracy of consumer profiles increased from 62% to 80%, and the dynamic

updating mechanism improved the timeliness of consumer profiles by 30%.

Table 2.

Module Name	Improvement Metric	Improvement Percentage (%)
Cross-Channel Content Coordination Module	Content Publishing Conversion Rate	18%
	Multi-Platform Content Publishing Efficiency	55%
Brand Health Monitoring Module	Brand Health Monitoring Accuracy	20%
	Public Sentiment Early Warning Timeliness	50%
User Profile Module	User Profile Accuracy	18%
	User Profile Timeliness	30%

5.2 Enhancement of Industry Adaptation by the Industry Characteristic Coefficient

The introduction of the Industry Characteristic Coefficient significantly improves the targeting and effectiveness of brand marketing informatization tools. By quantifying the special needs of different industries, the tools can better adapt to the specific needs of various industries. Taking Huachuang Material Technology Co., Ltd. as an example, the accuracy of brand health monitoring was increased by 22%, the accuracy of consumer profiles was increased by 25%, and the content publishing conversion rate was increased by 18%. For Zhilian Supply Chain Co., Ltd., the accuracy of consumer profiles was increased by 23%, the content publishing conversion rate was increased by 23%, and the accuracy of brand health monitoring was increased by 18%. For Xiaozhi Innovation Technology Co., Ltd., the content publishing conversion rate was increased by 18%, the accuracy of brand health monitoring was increased by 20%, and the accuracy of consumer profiles was increased by 18%. (Tao Y., 2023a)

5.3 Promotion of Brand Marketing Informatization by Industry Adaptation

The enhancement of industry adaptation significantly strengthens the performance of brand marketing informatization tools, thereby improving the overall efficiency of brand marketing. For Huachuang Material Technology Co., Ltd., the efficiency of brand marketing was increased by 45% (Tao Y., 2023b), and the response speed of marketing activities was enhanced by 30%. For Zhilian Supply Chain Co., Ltd., the efficiency of brand marketing was increased by 50%, and the response speed of marketing activities was enhanced by 35%. For Xiaozhi Innovation Technology Co., Ltd., the efficiency of brand marketing was increased by 40%, and the response speed of marketing activities was enhanced by 25%. (Yiyi Tao, Yiling Jia, Nan Wang, & Hongning Wang, 2019)

Table 3.

Company Name	Increase in Brand Marketing Efficiency (%)	Increase in Marketing Campaign Response Speed (%)
Huachuang Material Technology Co., Ltd.	45	30
Zhilian Supply Chain Co., Ltd.	50	35
Xiaozhi Innovation Technology Co., Ltd.	40	25

6. Conclusions and Prospects

6.1 Research Conclusions

The Three-Dimensional Standard Framework introduced in this study, combined with the Industry Characteristic Coefficient, proposes an innovative brand marketing informatization solution covering three dimensions: brand health monitoring, dynamic updating of consumer profiles, and cross-channel content coordination. Through case verification of Huachuang Material Technology Co., Ltd., Zhilian Supply Chain Co., Ltd., and Xiaozhi Innovation Technology Co., Ltd., the results show significant improvements in the accuracy of brand health monitoring, the accuracy of consumer profiles, and the content publishing conversion rate. The industry adaptation is enhanced, and the efficiency of brand marketing is improved, assisting enterprises in their digital

transformation.

6.2 Research Limitations

The research mainly focuses on three industries: new materials, B2B supply chain, and SMEs. The data sources rely on enterprise internal data and industry reports, which limits the universality of the results and the completeness of the data. Future research needs to expand the scope of research and introduce more external data sources, such as market research and consumer feedback data, to improve the accuracy and reliability of the research.

6.3 Future Research Directions

Future research can be expanded in the following aspects: First, expand the scope of research to verify the applicability of the framework in more industries, such as finance, healthcare, education, etc. Second, enrich the data sources by introducing market research and consumer feedback data and using big data technology to optimize data collection and analysis. Third, optimize the Industry Characteristic Coefficient and explore dynamic adjustment mechanisms. Fourth, deepen theoretical research and propose forward-looking models in combination with the latest information technologies and management theories. Fifth, explore the application of the framework in brand management, customer service, supply chain management, and other fields to promote the overall informatization level of enterprises.

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