

Original Research Article

Study on the multidimensional influence of sustainable digital marketing strategy on long-term value growth of enterprises*Jingxuan Tang**University College Dublin, National University of Ireland, Dublin, 150010, Ireland*

Abstract: Objective: To explore the multidimensional influence of sustainable digital marketing strategy on long-term value growth of enterprises, taking customers' life cycle value, brand value and long-term enterprise value growth as the research objects. Methods: With mathematical model of customer life cycle value, brand value and long-term enterprise value growth, etc. combined with the simulation experiment, different digital marketing strategies were simulated and analyzed, and the effectiveness of the strategies were evaluated by experimental data comparison. Results: The experimental results showed that the optimized digital marketing strategy (Strategy B) could increase annual customer revenue, brand market share and customer satisfaction. At the same time, it could also improve corporate revenue, profit margin, market share and other indicators. Through the implementation of optimized strategy, long-term corporate value growth became evident. The research results showed that after the optimization, customers' life cycle value could increase from \$4, 263 to \$6, 491, brand value could rise from \$3.2 million to \$5.2 million, and long-term corporate value could grow from \$1.054 billion to \$1.504 billion. Conclusion: Sustainable digital marketing strategy could influence long-term enterprise value growth.

Keywords: Sustainable digital marketing; Customer life cycle value; Brand value; Long-term enterprise value

1. Introduction

With the advent of the digital age, the competition of businesses is becoming increasingly fierce. And consumers' demands are becoming more and diversified. Enterprises are faced with the need to constantly change their marketing models. The sustainable digital marketing is the development of traditional marketing models under the condition of digitalization. It conveys companies' social responsibility and environmental protection awareness through the form of digital marketing, and conveys corporate social responsibility through digital marketing. The marketing model in the digital age should be sustainable, which is in line with the sustainable development of economy and society. The sustainable digital marketing strategy can enhance the economic, social and environmental benefits of enterprises, and is the inevitable trend of the development of enterprise marketing.

2. Theoretical framework and application of sustainable digital marketing strategy

2.1. Definition and development of sustainable digital marketing

Sustainable digital marketing refers to integrating social, environmental, and economic factors into digital marketing strategies. It aims to balance corporate economic, social, and environmental benefits. As global markets increasingly pressure companies for corporate social responsibility (CSR), traditional marketing is shifting towards long-term, environmentally-conscious strategies^[1]. The rise of digital technologies such as social media, big data, and AI enables companies to incorporate sustainability into their marketing, improving brand

value and customer loyalty.

2.2. Core elements of sustainable digital marketing

The core elements of sustainable digital marketing include understanding customer needs through digital tools to enhance brand competitiveness, using big data and AI to assess and adjust marketing effectiveness, integrating economic interests with social and environmental contributions, and promoting environmental protection by improving resource efficiency, reducing energy consumption, and minimizing waste. Together, these elements help companies achieve sustainable competitiveness in a competitive global market.

2.3. The relationship between digital marketing and long-term value growth of enterprises

Digital marketing directly impacts long-term enterprise value growth. It enhances customer satisfaction and retention through personalized services, increasing customer lifecycle value. By optimizing market positioning and resource allocation, digital marketing improves operational efficiency and market competitiveness. Additionally, its social influence helps companies expand market share and drive value growth.

2.4. The impact of sustainable digital marketing on customer loyalty

Customer loyalty is crucial for long-term value growth. Sustainable digital marketing fosters multi-channel, personalized interactions that increase customer trust and loyalty. By offering eco-friendly and socially responsible products, companies can enhance brand loyalty. Digital platforms allow companies to communicate these values, promoting customer awareness of social responsibility and environmental impact^[2]. Personalization further aligns marketing efforts with customer needs, strengthening long-term loyalty.

3. Multi-dimensional analysis of the impact of digital marketing strategies on the long-term value growth of enterprises

3.1. The improvement of customer lifetime value (CLV) and digital marketings

Customer lifetime value (CLV) measures the long-term benefits a business expects from a customer. Through digital marketing, companies can better understand customer behavior and purchasing habits, allowing for optimized strategies that enhance CLV. Personalized services and customized products can increase repeat purchases and transaction values. Digital marketing also improves customer experience, satisfaction, and loyalty while reducing churn. More frequent brand interactions foster greater loyalty, and the growth of CLV is crucial to the company's long-term value.

3.2. Measurement and analysis of brand value growth

Brand value, an important intangible asset, reflects a company's long-term health. Digital marketing methods like social media, SEO, and content marketing quickly boost brand exposure, awareness, and satisfaction, enhancing brand value. Growth in brand value not only expands market share and customer base but also strengthens customer loyalty and brand premium capabilities. Measuring and analyzing brand value is essential for companies to adjust and refine their marketing strategies^[3].

3.3. Analysis of the correlation between enterprise income, profit margin and long-term value

The growth of corporate revenue and profit margins is closely tied to long-term value enhancement. Digital marketing supports precise market positioning, efficient resource allocation, and customer acquisition, boost-

ing revenue. It also helps control costs and improve marketing efficiency, driving profit growth. By leveraging market segmentation and personalized marketing, companies achieve higher returns at lower costs. Successful digital marketing thus fosters both revenue growth and profitability, key drivers of long-term value^[4].

3.4. The influence of marketing strategy optimization on market share

In a fast-changing market, companies use digital marketing to drive business growth and profitability. Data analysis and market segmentation help identify target audiences and customize marketing activities. Understanding customer needs enables companies to increase market share. Digital marketing enhances brand exposure through social media and search engines, strengthening brand awareness and competitive positioning. As market share grows, companies secure stronger footing for sustained long-term value growth.

4. Simulation experiment and data analysis

4.1. Simulation and data analysis of customer life cycle value (CLV)

Customer life cycle value (CLV) is an indicator to measure the total value created by customers in their life cycle for the enterprise. Its core calculation formula is as follows:

$$CLV = \sum_{t=1}^T \frac{R_t \times P_t}{(1+r)^t}$$

Among these, the revenue R_t , profit P_t , and time T contributed to the customer in the year is referred to as the customer's profit margin, the discount rate, and the customer's lifetime (years). The purpose of this formula is to evaluate the long-term value contribution of each customer to the company by calculating the total revenue and profit generated over their lifetime through time-weighted methods. In the experiment, different marketing strategies were used to enhance customer loyalty, simulating changes in revenue and profit throughout the customer's lifecycle. Figure 1 illustrates the changes in customer lifetime value (CLV) under two different marketing strategies.

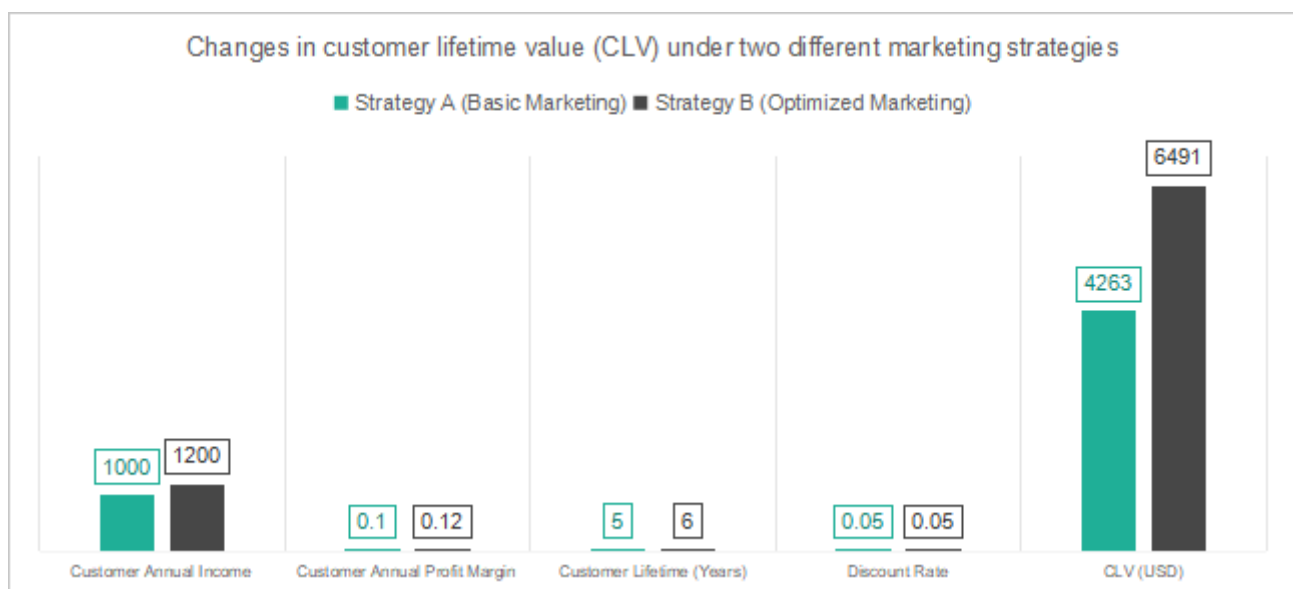


Figure 1. Changes in customer life cycle value (CLV) under different marketing strategies.

From the data in Figure 1, it can be seen that Strategy B (Optimized Marketing) increased customer lifetime value (CLV) from \$4,263 to \$6,491 through higher annual revenue and profit margins, as well as extending the customer lifecycle. The optimized marketing strategy significantly enhanced long-term customer value, in-

dicating that by optimizing digital marketing, companies can effectively boost customer loyalty and economic benefits, thereby promoting long-term value growth.

4.2. Experimental design and results of brand value growth

The growth of brand value is not only reflected in the increase of market share, but also in the improvement of customer recognition and loyalty to the brand. In order to simulate the growth of brand value, an experimental model based on brand market share and brand satisfaction was designed. The calculation formula of brand value is as follows:

$$B = \sum_{t=1}^T \frac{S_t \times M_t}{(1+r)^t}$$

Among them, is the $S_t M_t$ market share of the brand in the year, is the market performance of the brand (such as customer satisfaction), is the discount rate, and is the time cycle (years). By simulating the changes in market share and customer satisfaction of the brand under two marketing strategies, the experimental results of brand value growth are obtained in **Table 1**.

Table 1. Changes in brand value under different marketing strategies.

marketing strategy	Market share	Brand satisfaction	Time cycle	Discount rate	Brand value
Strategy A (basic marketing)	10%	75%	5	0.05	320
Strategy B (Optimizing Marketing)	12%	85%	6	0.05	520

From **Table 2**, it can be seen that after adopting Strategy B (Optimized Marketing), the brand's market share was improved, and customers' satisfaction with the brand was also enhanced, so that the value of the brand was also promoted. The brand value from \$3.2 million in Strategy A was promoted to \$5.2 million in Strategy B.

4.3. Simulation experiment of long-term value growth of enterprises

Please note that the value of a company is determined by a lot of financial indicators. In this simulation experiment, we choose some financial indicators, such as revenue, profit margin and market share, to examine the impact of your sustainable digital marketing strategy on the long-term value growth of the company.

The formula for calculating the long-term value growth of the company is as follows:

$$EV = \text{Revenue}_t \times \text{Profit Margin} \times \text{Growth Rate}$$

Among them, is the total revenue of the first Revenue, Profit Margin Growth Rate year, is the profit margin, and is the long-term growth rate. The experimental results are shown in **Table 2**.

Table 2. Changes of long-term value of enterprises under different marketing strategies.

marketing strategy	Initial annual income	Initial profit margin	Initial growth rate	Income after 1 year	Profit margin after 1 year	Growth rate in the following year	Long-term value of the enterprise (in thousands of US dollars)
Strategy A (basic marketing)	1000	0.1	0.05	1050	0.11	0.06	105,000
Strategy B (Optimizing Marketing)	1200	0.12	0.07	1300	0.14	0.08	150,400

As shown in **Table 3**, the optimized marketing strategy (Strategy B) increased the company's revenue from \$10 million to \$13 million within a year, raised the profit margin from 10% to 14%, and boosted the growth rate from 5% to 8%. According to the formula, the long-term value of the company increased from \$105 million under Strategy A to \$150.4 million under Strategy B. This indicates that through optimized digital marketing

strategies, the company can improve its financial performance in the short term and achieve sustained growth over the long term.

4.4. Comparison and evaluation of experimental results indicators and data

In this paper, by comparing and evaluating the simulation results of CLV, brand value growth and long-term corporate value growth, the effect of the optimization of marketing strategy on the company is demonstrated. The results show that the improvement of customer loyalty has a positive effect on the growth of brand value, and the growth of brand value has a positive effect on the long-term corporate value growth; meanwhile, the long-term effect of digital marketing on the company is also reflected in the growth of corporate revenue and profit, market share and customer satisfaction^[5]. The experimental results show that how to implement a sustainable digital marketing strategy is closely related to the long-term value growth of the company. Finally, the potential of digital marketing strategies on the growth of CLV, brand value and long-term corporate value growth is also demonstrated.

5. Conclusion

In this paper, by simulation experiments, we verify the sustainable digital marketing strategies can have a significant effect on the long-term value growth of the enterprise. The experimental results show that the independent variables (such as the enterprise's digital marketing strategies, customer lifetime value, brand value, and financial value of the enterprise) have a positive effect on the dependent variable (such as annual revenue, brand satisfaction, brand value, and market share). And the annual revenue and brand satisfaction can influence the growth of brand value and market share which have a positive effect on the long-term value growth of the enterprise.

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