

Research on Business Analytics and Brand Management on Social Media in the Era of Big Data

- A Case Study of TikTok, Instagram, and Lasso

Zhuojie Zhang^{1,a,*}

¹*School of Medical Business, Guangdong Pharmaceutical University, Zhongshan, Guangdong, 528405, China*

a. 632293989@qq.com

**corresponding author*

Abstract: In the era of big data, data-driven strategies and brand management have a profound impact on social media platforms and brand operations. This study uses case analysis and comparative methods to conduct an in-depth exploration of the performance of TikTok, Instagram, and Lasso in terms of advertising, brand management, and global market expansion. The research aims to reveal the significant influence of data analysis capabilities and precision advertising on platform performance. The results show that TikTok and Instagram have significantly enhanced user engagement and advertising effectiveness through data analysis and personalized advertising strategies, while Lasso has failed to succeed in the competition due to a lack of advanced data analysis and precision marketing strategies. This article provides a reference for enterprises to utilize big data and precision marketing to optimize market performance and points out that the future research direction for improvement is mainly to explore in-depth data learning and optimize data processing.

Keywords: Big Data, Precision Marketing, Brand Management, Data Analysis, Social Media.

1. Introduction

In the context of rapid development in the digital era, social media platforms have become the primary channel for user interactions and a vital venue for brand promotion. Under ByteDance, TikTok has rapidly risen on a global scale through its unique content recommendation algorithms and flexible brand management strategies, becoming a pioneer leading the short-video trend. Additionally, Instagram is gradually enhancing its competitive advantage by leveraging its computational models and data systems. Meanwhile, the stark contrast presented by Lasso's failure has garnered widespread attention from both academia and industry, prompting in-depth analyses of the differences among various platforms in business analytics and brand management, as well as their impact on market performance. The central focus of this study is to investigate the role of data-driven decision-making in enhancing market competitiveness by comparing social media platforms in terms of business analytics and brand management strategies. The aim is to uncover the key factors influencing the success of data-driven strategies.

This study employs literature review, case studies, and comparative analysis models to analyze the performance of TikTok, Instagram, and Facebook Lasso in different market environments. It also compares their similarities and differences in data-driven analytics, advertising content recommendation, and brand strategies. The significance of this study lies in providing valuable insights for other enterprises in their practices of brand management and business analytics by exploring the success and failure cases of different platforms. When enterprises face similar market challenges, they can rapidly enhance market competitiveness through data-driven decision-making and brand management. Additionally, this study will enrich existing theoretical research, particularly in the intersecting field of data-driven decision-making and brand management. By analyzing these cases of success and failure, enterprises can better understand how to stand out in intense market competition through effective data analysis and flexible brand strategies. This not only contributes to academic research but also provides practical guidance on how to formulate and implement more effective business strategies in practice.

2. Brand Management and Business Analytics

2.1. Brand Management

Brand Management is the process of creating, maintaining, and enhancing a brand's image, identity, and value. It involves developing strategies and tactics to establish a favorable brand perception among consumers, which directly impacts consumer behavior, loyalty, and the brand's financial performance [1].

Traditional brand management primarily focuses on establishing and maintaining the brand image, aiming to win consumer trust and loyalty through the consistent delivery of brand messages and the long-term accumulation of brand equity. Therefore, traditional brand communication typically relies on mass media for advertising, such as television, radio, and print publications. However, this unidirectional communication model has certain limitations, including the inability to promptly obtain real-time feedback from consumers and a lack of capacity for in-depth analysis of consumer behavior.

Traditional methods typically rely on fixed metrics and historical data for market analysis and decision-making, lacking a real-time grasp of current market dynamics and consumer preferences. In contrast, big data analytics technology is fundamentally different. It can integrate various data sources and employ complex algorithms and machine learning models to deeply mine potential market opportunities and consumer demands. Through this approach, brands can achieve precise targeting, deliver personalized content and advertisements, and enhance the relevance and interactivity between the brand and consumers [2].

2.2. Business Analytics

Business analytics refers to the skills, technologies, practices, and continuous iterative exploration and investigation of past business performance to gain insights and drive business planning. It involves using data, statistical analysis, and various quantitative methods to analyze business data, aiming to provide actionable insights that inform decision-making [3].

Among these, data-driven approaches enhance a company's competitive advantage in the market by utilizing large volumes of data and analytical techniques to guide decision-making and optimize business strategies [4]. Business analytics has three notable characteristics. Firstly, it relies on extensive data collection and processing, conducting in-depth analysis through technical means, including the handling of historical data, analysis of real-time data, and the application of predictive models. Secondly, business analytics emphasizes decision support functions, enabling enterprises to make more forward-looking and accurate decisions in complex and rapidly changing market

environments. Furthermore, business analytics is characterized by high flexibility and operability, allowing for analysis across multiple domains, such as operations, marketing, and finance—based on the specific needs of different enterprises. Business analytics can significantly enhance the decision-making efficiency of enterprises, reduce operational risks, and provide quantitative predictions and strategic support. Taking TikTok as an example, the platform utilizes embedded data analytics algorithms to drive content recommendations, achieving a highly personalized user experience. These predictive analytics and highly personalized strategy have enabled TikTok to stand out in the social media market, significantly enhancing user engagement and brand value.

2.3. Precision Advertising and Marketing

Precision advertising and marketing is a strategy that employs in-depth analysis of large volumes of data to accurately identify and target specific consumer groups. The aim is to deliver advertising messages in a customized and personalized manner, thereby optimizing the return on investment (ROI) of advertising placements. Precision advertising and marketing are characterized by being data-driven, personalized, and interactive. Firstly, it relies on data analysis, particularly the integration and processing of user behavior data, social relationship data, and geolocation data. Secondly, precision advertising and marketing can tailor advertising content for different consumers to better satisfy their personalized needs. Finally, precision advertising and marketing possess a high degree of interactivity, enabling brands to engage in real-time two-way interactions with consumers through advertisements, thereby further enhancing user engagement and brand loyalty.

Traditional advertising models rely on large-scale media channels, enabling them to reach a broad audience, particularly groups that do not depend on digital technologies. At same time, traditional advertising models are characterized by their simplicity, enabling enterprises to implement advertising campaigns without the need for complex technical support. Consequently, traditional advertising continues to play a substantial role in enhancing brand awareness. However, traditional advertising models lack targeting precision, as their advertising messages are directed to all audiences without distinguishing the interests and needs of different consumer groups. This indiscriminate approach results in the inefficient use of resources. Moreover, traditional advertising models do not allow for real-time adjustments in their placements, making it challenging to optimize based on immediate audience feedback [5]. In contrast, precision advertising and marketing offer the advantages of enhanced targeting and personalization, thereby maximizing the effectiveness of marketing efforts. Through big data technologies, precision advertising is capable of analyzing multi-dimensional data such as consumers' historical data, purchasing behaviors, and interests, thereby more accurately predicting consumer behavior and formulating corresponding marketing strategies based on this data. Advertisements can be presented to target consumers who are most likely to be interested in them at the appropriate time and place, in the most suitable format, significantly enhancing the relevance and effectiveness of the advertisements. Additionally, precision advertising allows for real-time tracking and measurement of advertising effectiveness, enabling rapid adjustments to advertising strategies based on the real-time performance following ad placements. This approach optimizes advertising costs and prevents ineffective ad deployments.

2.4. Advantages and Challenges

Firstly, TikTok and Instagram leverage their robust data analytics capabilities to accurately capture users' interests and behavioral patterns, thereby enabling personalized advertising placements and content recommendations. TikTok's algorithms not only rely on users' explicit behaviors (such as likes and comments) but also take into account implicit behaviors (such as viewing duration and swipe speed). This comprehensive approach significantly increases the relevance and effectiveness

of advertisements. Similarly, Instagram ensures that advertising content can accurately reach target users through its social graph and advertising optimization strategies. By utilizing data-driven decision-making processes, enterprises can better optimize marketing strategies, improve the ROI (Return on Investment) of advertising placements, and enhance user experience and brand loyalty. All these enhance the competitiveness of enterprises. In addition, TikTok incorporates interactive elements into advertisements, which not only enhances user engagement but also increases the viral dissemination potential of advertisements.

Although data-driven precision marketing offers significant advantages in improving advertising effectiveness, it also raises concerns regarding user data privacy protection and regulatory compliance. Both TikTok and Instagram face challenges related to varying data protection regulations globally, particularly in regions such as Europe (GDPR) and the United States (CCPA). Ensuring compliance with these stringent regulations has become a major challenge for these platforms.

3. Case Study-TikTok vs Instagram vs Lasso

3.1. Data Processing

There are significant differences in data processing capabilities among TikTok, Instagram, and Lasso, which directly affect their advertising deployment efficiency and user experience.

TikTok demonstrates unparalleled advantages through highly complex algorithmic processing and real-time data analysis. TikTok's recommendation algorithms utilize user behavior data, including viewing duration, interaction frequency, and video preferences, and integrate machine learning technologies to establish a dynamic, real-time updating personalized recommendation mechanism [6]. This algorithm not only enhances user retention but also improves the precision of advertising. Furthermore, TikTok utilizes its proprietary data warehouse, ByteHouse, to perform rapid analysis of user behavior under large-scale data processing conditions and adjusts advertising push strategies based on real-time feedback. This data-driven advertising system significantly enhances the conversion rates of advertising placements and the return on investment (ROI) for brands. Furthermore, through precise analysis of content features and customized advertising formats, TikTok substantially increases user engagement during the advertising process and the likelihood of making purchasing decisions [7].

Instagram's data processing relies on its robust data analysis system, particularly the Facebook Ads Manager. In advertising deployment, Instagram creates detailed user profiles based on users' interests, geographic locations, demographic characteristics, and interaction data, and optimizes the order and frequency of ad displays using deep learning algorithms. This approach renders advertising placements more personalized and goal-oriented. Through precise data analysis, Instagram effectively embeds advertisements into users' content feeds, ensuring that ad content is highly relevant to users' interests, thereby enhancing ad click-through rates and user engagement [8]. Additionally, Instagram further increases brand exposure and market penetration through various advertising formats, such as image ads, video ads, and Stories Ads.

In comparison to TikTok and Instagram in terms of data processing, Lasso demonstrates significant inadequacies. Lasso's data analysis system is overly simplistic, primarily relying on basic social media data analytics, such as likes and comments [9]. In contrast to the sophisticated machine learning algorithms employed by TikTok and Instagram, Lasso lacks in-depth exploration of user behavior and real-time analysis technologies. This deficiency has prevented Lasso from achieving personalized ad delivery on its platform and from effectively increasing advertising conversion rates and user engagement. Consequently, Lasso has failed to secure sufficient user support and market share in the highly competitive short-video platform market, with its insufficient data processing capabilities being one of the key factors contributing to its failure.

3.2. Brand Management

In terms of brand management, TikTok and Instagram have demonstrated exceptional performance based on precision marketing, whereas Lasso has shown significant deficiencies in this area. Precision marketing analyzes user data to provide brands with more personalized and efficient advertising strategies, thereby not only enhancing the market performance of brands but also directly influencing consumer purchasing behavior and brand loyalty.

TikTok's brand management is highly dependent on precision marketing, employing advanced recommendation algorithms and user behavior analysis to tailor personalized advertising content for brands and products. TikTok's recommendation system customizes advertisements for each user by analyzing their interests, interaction history, and viewing preferences. Advertisements are not only integrated into users' content feeds but also capable of precisely targeting intended consumers. This form of personalized advertising significantly enhances users' recognition and acceptance of brands, thereby translating brand acceptance into purchasing behavior [6]. Meanwhile, TikTok enhances brand exposure through viral dissemination and user-generated content (UGC). This strategy not only improves the relevance of advertisements but also makes ad content more easily shareable by users, thereby strengthening brand credibility and influence. Particularly in short-video advertisements, TikTok is able to increase the interactivity and emotional connection of advertisements through precise content design, further influencing purchasing decisions of users [7].

Similarly, Instagram also heavily relies on precision marketing strategies in its brand management. By utilizing Facebook Ads Manager, Instagram analyzes users' interests, behaviors, and social networking habits to develop personalized advertising deployment strategies. Precise user profiling analysis enables brands and products to tailor targeted advertising content, allowing advertisements to seamlessly integrate into users' content feeds. This integration enhances the relevance between advertisements and users, as well as increases ad click-through rates. Additionally, Instagram employs a visual-first content strategy to integrate advertisements with users' daily social experiences, thereby deepening brand impressions [8]. Instagram's precision marketing is further exemplified by the diversity of its advertising formats. Through image ads, video ads, and Stories Ads, Instagram offers brands a variety of advertising methods to enhance interaction between the brand and its users, thereby increasing brand exposure and the effectiveness of advertising placements. Precision marketing enables brands to accurately target users' points of interest, effectively promoting user purchasing behaviors and decision-making conversions while simultaneously enhancing brand awareness. This approach not only facilitates the transformation of purchasing intentions into actual transactions but also strengthens brand loyalty.

In comparison to TikTok and Instagram, Lasso significantly lags in precision marketing and brand management. Due to its lack of advanced user data analysis capabilities, Lasso is unable to effectively implement precision marketing strategies. The platform's advertising push relies solely on basic user interaction data, such as likes and comments. This approach lacks comprehensive analysis of user behavior and fails to provide personalized advertising content to users [9]. Therefore, Lasso is also unable to leverage precision marketing to help brands establish emotional connections and trust with users. Additionally, due to the lack of in-depth analysis of user behavior data, Lasso fails to implement effective advertising deployments in brand management, thereby unable to enhance brand exposure and recognition among users. Precisely because of the absence of accurate targeting and personalized ad delivery, Lasso gradually lost its competitiveness in the short-video platform market and ultimately exited the market [10].

4. Conclusion

This paper focuses on business analytics and brand management, with a particular emphasis on data analytics and precision advertising and marketing, and explores the decisive role of data-driven strategies and precision advertising in the competitive social media landscape through three social platforms. The analysis shows that companies entering the short video or social media advertising market must prioritize data analytics and personalized advertising strategies. At the same time, the critical importance of strong data analytics, continuous technological innovation and personalized ads to drive platform growth and maintain a competitive edge. TikTok has set a new benchmark for personalized advertising through its advanced recommendation algorithm, setting a high standard for the industry. In contrast, Instagram maintains its market position by utilizing visual content and offering flexible ad formats that continue to effectively attract and engage users. In contrast, Lasso failed to achieve similar success due to inadequate data analytics and outdated advertising strategies.

However, this study has its limitations. First, it does not incorporate social surveys or qualitative data analysis of user behavior, resulting in an inadequate understanding of user preferences. In addition, the scope of the study was limited to specific platforms, which may limit its applicability to the broader social media environment. To improve the study, future research should incorporate a wider range of data sources, including user surveys and interviews, to better capture the nuances of consumer behavior. In addition, future research directions should focus on developing more advanced machine learning models to further improve content and ad personalization. Exploring ways to optimize data processing and real-time analytics is also critical to improving the responsiveness and effectiveness of advertising strategies. By integrating these elements, future research can provide a more comprehensive and viable strategy for organizations seeking success in the rapidly evolving social media advertising market. Enhanced data analytics, coupled with evolving technology and personalized advertising approaches, will enable companies to better navigate the complex digital advertising landscape. Ultimately, this will contribute to more effective brand management and stronger competitive positioning in the highly dynamic and competitive social media space.

References

- [1] Rowles, D. (2022). *Digital branding: a complete step-by-step guide to strategy, tactics, tools and measurement*. Kogan Page Publishers.
- [2] Saura, J. R., Herráez, B. R., & Reyes-Menendez, A. (2019). Comparing a traditional approach for financial Brand Communication Analysis with a Big Data Analytics technique. *IEEE access*, 7, 37100-37108.
- [3] Aydiner, A. S., Tatoglu, E., Bayraktar, E., Zaim, S., & Delen, D. (2019). Business analytics and firm performance: The mediating role of business process performance. *Journal of business research*, 96, 228-237.
- [4] Davenport, T., & Harris, J. (2017). *Competing on analytics: Updated, with a new introduction: The new science of winning*. Harvard Business Press.
- [5] Fu, X., & Chen, Y. (2017). *Theory and application: research review and prospect of accurate marketing*. Modern Marketing.
- [6] Zhang, M., & Liu, Y. (2021). A commentary of TikTok recommendation algorithms in MIT Technology Review 2021. *Fundamental Research*, 1(6), 846-847.
- [7] Meng, L. M., Kou, S., Duan, S., & Bie, Y. (2024). The impact of content characteristics of Short-Form video ads on consumer purchase Behavior: Evidence from TikTok. *Journal of Business Research*, 183, 114874.
- [8] Frölich, J. (2021). *Use of Instagram in marketing*. Bachelor Thesis, Leipzig University of Applied Science.
- [9] Wang, C., Gu, M., Wang, X., Ong, P., Luo, Q., & Li, Y. (2021). Research on the Challenge of the New Short Video Platform TikTok on the Traditional Internet Social Media Facebook. In *2nd International Conference on the Frontiers of Innovative Economics and Management (FIEM 2021)* (pp. 58-66).
- [10] Lulandala, E. E. (2020). Facebook data breach: a systematic review of its consequences on consumers' behaviour towards advertising. *Strategic System Assurance and Business Analytics*, 45-68.