

# Transformation and Development Trend of Enterprise Digital Marketing Driven by AR Technology

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**Abstract.** Augmented reality (AR) is a technology that overlays virtual information onto the real-world environment in order to enhance users' perception and experience of the physical world. With advancement of technology, AR technology is gradually permeating into all domains of enterprise digital marketing, triggering a profound transformation. Enterprises have explored the application potential of AR technology in marketing, product display, customer service, and other fields, aiming to achieve the transformation and upgrading of the business model and the enhancement of market competitiveness through this innovative technology. This study will elaborate in detail on how AR is being utilized in the digital marketing strategies of various enterprises and the future trends of this transformation. Through the collection of data, case studies, and analysis of user behavior from multiple companies, it was discovered that this technology not only enhances the interactive experience of customers but also facilitates a profound connection between brands and consumers. The results of this study further demonstrate that enterprise digital marketing driven by AR technology is evolving towards a more individualized and immersive direction, presenting unprecedented business opportunities for enterprises.

**Keywords:** AR technology; Digital marketing; Change; Trend; Customer experience.

## 1. Introduction

In the advance of the digital age, the enterprise marketing environment is undergoing unprecedented changes. With the increasing trend of diversification and individuation of consumer demand, diversification of information acquisition channels and upgrading of demand for personalized experience, traditional marketing means have been unable to meet the rapidly changing needs of the market. AR technology, with its immersive interactive experience and strong visual impact, has quickly become the focus of enterprises to explore new ways of digital marketing. The advent of AR technology offers enterprises a unique opportunity to redefine their marketing efforts by harnessing its immersive interactive capabilities and striking visual prowess. By creating immersive brand experiences that transcend the boundaries of traditional media, AR fosters unparalleled levels of consumer engagement, bolstering brand appeal and fostering a sense of loyalty that transcends mere transactional relationships. However, this transformation is not without its complexities, presenting both opportunities and challenges for businesses to navigate as they strive to stay ahead in the competitive digital realm. Thus, it is of great essential to study the transformation and development trend of enterprise digital marketing driven by AR technology. First, this study will delve into how AR technology is driving the transformation of enterprise digital marketing, and the impact of this transformation on enterprise marketing strategies, consumer behavior, and market landscape. This article will analyze the specific application cases of AR technology in enterprise digital marketing, summarize its successful experience and shortcomings, and explore its future development trend. In order to achieve this research goal, this paper will adopt the literature search method and case analysis method. Through the collection of domestic and foreign literature on AR technology, digital marketing and the integration of the two applications. Complementing the literature search, a diverse array of representative business cases are selected for in-depth case analysis. These cases span various industries, sizes, and stages of development, allowing to capture a holistic view of how AR technology is being incorporated into digital marketing strategies and the subsequent impact on market performance and consumer behavior. By closely examining these cases, this study seeks to



identify patterns, trends, and best practices that can inform future strategies and guide the ongoing evolution of AR-driven digital marketing. The significance of this research is to deepen and expand the theoretical research and practical guidance in the field of digital marketing. By exploring how AR technology reshaped the traditional marketing framework, the research can reveal the evolution law of marketing theory under the background of new technology. At the same time, in-depth analysis of the specific application cases and effects of AR technology in enterprise digital marketing, and research can provide enterprises with referential marketing strategies and operation methods. In addition, by predicting the digital marketing trends driven by AR technology, this study can provide forward-looking insights and implications for enterprises and the industry as a whole. This will help guide companies and industries to seize the opportunities brought about by technological change and promote innovation and development in the digital marketing industry.

## **2. Case Study**

### **2.1. Furniture Company – IKEA**

IKEA is a multinational corporation hailing from Sweden, specializing in the provision of comprehensive home services and the retailing of prefabricated, easy-to-assemble furniture pieces, kitchen appliances, as well as a diverse array of household accessories [1]. In the process of digital marketing IKEA officially launched the official website, APP, and entered the Tmall mall, a comprehensive layout of digital marketing. Meanwhile, IKEA continuously optimizes its products and services while seamlessly connecting online and offline to improve operational efficiency and customer satisfaction. In September 2017, IKEA embarked on an endeavor to alleviate the anxiety often associated with furniture shopping by introducing the Place App [2]. The app enables them to decorate their rooms with approximately 2,000 objects and accessories sourced from the extensive IKEA catalog [2]. Consequently, the app empowers users to visually integrate furniture pieces into their domestic environments, offering a realistic preview of their potential acquisitions. Furthermore, it contributes to heightened user engagement by incorporating features that allow consumers to precisely measure room dimensions with a reported 98% accuracy, as well as to visualize the intricate interplay between light, shadows, and the tactile qualities of furniture [2]. AR empowers furniture retailers to seamlessly guide customers towards products that harmoniously blend with their living spaces. It accomplishes this by facilitating the intuitive visualization and virtual placement simulation of every item, eliminating the need for customers to physically test each piece in their surroundings. Additionally, Ikea has reported a significant increase in app downloads and engagement since the introduction of AR capabilities. This innovative application, since its inception in 2017, has demonstrated a pivotal role in fostering a remarkable 20% decrement in product return rates, concurrently propelling online sales by an impressive 35% [3]. The launch of IKEA Place is an important step in IKEA's digital transformation, with online shopping and digital experiences becoming a trend as consumers' shopping habits change. Through the development of such applications, IKEA not only meets the new needs of consumers, improves the sense of customer experience, enhances customer satisfaction and loyalty, but also helps users make more satisfactory purchase decisions, thereby reducing the return rate and increasing revenue. At the same time, in the furniture retail industry, competitors are constantly seeking innovation and breakthroughs. The launch of IKEA Place allows IKEA to maintain a differentiated edge in the market competition and attract consumers by offering a unique shopping experience. However, IKEA has some potential problems with the use of this technology, although IKEA Place provides a convenient preview function, users cannot buy furniture directly through the app. This can cause inconvenience to users during the experience and affect conversion rates. At the same time, the software of IKEA also faces great technical challenges. Ikea must constantly optimize and improve the accuracy of the application, ensure the stability of the app, and maintain the good experience of customers.

## **2.2. Glasses Company - Warby parker**

The inception of Warby Parker in 2010 by its visionary founders marked a radical departure from the conventional paradigm of social entrepreneurship, embodied in the "buy-one, give-one" model [4]. And then Warby Parker provides an AR feature through its application, allowing customers to experience 3D glasses trial at home through their phones or tablets. The Warby Parker app is the most compelling piece of the brand's mobile strategy — utilizes AR to enable users to virtually try on frames [5]. By utilizing AR technology, Warby Parker can provide users with a more personalized shopping experience. At the same time, by sharing virtual trial photos or videos on social media, users can invite friends to participate in discussions and suggestions, enhancing interaction and connection with the brand. This eliminates the need for physically trying on multiple frames, making the shopping process more convenient and efficient. The real-time visualization of frames on customers' faces has also increased customer satisfaction, as they can make more informed decisions about which pair best suits their style and facial features. As a result, Warby Parker's AR technology has driven sales growth, as customers are more likely to buy a picture frame they have actually tried on and approved. Warby Parker has observed a substantial increase of 50 percent in online sales, accompanied by a notable decline of 35 percent in product return rates [3]. The seamless integration of AR with Warby Parker's digital platform enhances the brand's reputation for delivering innovative and personalized shopping experiences. As a leader in the eyewear e-commerce industry, Warby Parker has further solidified its leadership in technology innovation and user experience by introducing AR technology. This helps to improve the competitiveness and market position of the brand. At the same time, the introduction of AR technology is an important part of Warby Parker's digital transformation. By introducing new technology, Warby Parker is gradually transforming from a traditional eyewear retailer to a digital, intelligent retailer. Warby Parker applies AR technology to its online platform, while combining offline physical stores to achieve a seamless integration of online and offline. This omni-channel marketing strategy broadens sales channels and increases market coverage. However, in implementing this technology, Warby Parker needs to continuously optimize the AR technology to ensure that the software can accurately recognize the user's facial features. At the same time, in the process of using the software, the company needs to protect the privacy of the customer and should properly handle the data to prevent its disclosure.

## **2.3. Sports Brand Company – Nike**

Nike is renowned for its pioneering efforts in digitizing commerce processes, encompassing both direct-to-consumer mobile and social commerce initiatives, while also leading the way in the adoption of advanced materials for the development of innovative sportswear [5]. Nike has made significant progress in its digital transformation in recent years Nike has developed an application called "Nike Fit" using AR technology. At its essence, Nike Fit operates seamlessly within the Nike app, where upon selecting a shoe for purchase, customers are presented with an innovative alternative to traditional size selection. Instead, they are offered the option to directly scan their foot using a smartphone, a process that can be completed in under 15 seconds. Following this scan, Nike Fit employs sophisticated algorithms to recommend the optimal size for the specific shoe under consideration [6]. Furthermore, that precise data, including the millimeter-accurate width of the shopper's foot, will be securely stored for future transactions, as the optimal sizing can vary significantly across different footwear styles. This ensures a more personalized and streamlined shopping experience. This feature is particularly suitable for users who have purchased 2 or more pairs on the Nike app as the system will provide them with more accurate shoe size recommendations based on their purchase history and feedback. With AR technology, this not only improves the shopping experience, but also increases customer confidence in buying. Nike's social media engagement and customer reviews also increased, further enhancing its brand image. At the same time, the launch of Nike Fit further consolidated Nike's leading position in the sports shoe market. By providing personalized size recommendation services, Nike can better meet the needs of consumers and enhance brand's market competitiveness. According to statistics, this augmented reality feature has reduced product returns related to size issues by 20% and increased online sales

by 15% [3]. This data change can be used through the Nike fit app to increase customer satisfaction and loyalty, and increase brand awareness and influence. Secondly, Nike Fit technology is not limited to the online platform, but can also be combined with offline stores. After virtual trying on online, users can choose to go to offline stores for actual purchase or experience. This seamlessly connected omnichannel shopping experience increases user convenience and satisfaction, helping companies build customer loyalty. In addition, with the continuous improvement and popularization of Nike Fit technology, Nike may expand it to more sales channels, including online malls, physical stores and third-party e-commerce platforms, which will help Nike further expand market share. However, despite Nike Fit's advanced technology, the accuracy of the data is still the primary concern. Any small mistake can lead to inaccurate recommended sizes, which can affect consumers' shopping experience and brand credibility. Therefore, Nike should strengthen the research and development of technology, and further strengthen.

#### **2.4. Cosmetic Company - Sephora**

Sephora, a prominent French multinational retailer specializing in beauty products, was established in 1969 and has since evolved to offer an extensive range of color cosmetics, skincare solutions, body fragrances, nail polishes, and a myriad of other beauty essentials, catering to the diverse needs of its global customer base [7]. In 2016, Sephora launched their AR tool - Sephora Virtual Artist [8]. In addition, as a beauty retail giant, Sephora achieves a seamless integration of virtual makeup testing. Meanwhile, the implementation of O2O integration by Sephora was successful, and they actively utilized AR technology to seamlessly integrate their online and offline channels. After trying makeup online, consumers can directly go to offline stores to buy the products they want. Or, after trying on makeup in an offline store, use the mobile app to view more product information and purchase options. Therefore, businesses strategically utilize online-to-offline strategies that not only drive foot traffic to physical stores, but also create a seamless and engaging customer experience. This eliminates the need for physical samples, reduces waste and increases customer satisfaction. At the same time, combined with the customer's facial features and preferences, AR makeup testing technology can recommend the most suitable products, and through virtual makeup testing to show the effect, increasing the depth of personalized service. In addition, Sephora's online sales and app downloads have increased significantly since the introduction of AR. Customers also appreciate the ability to virtually try out products before buying, which reduces the number of returns. Since the introduction of AR technology, Sephora has witnessed a substantial surge in engagement, reporting a remarkable 200% increase within the virtual artist section of its mobile application, which has concurrently contributed to a notable 30% elevation in lipstick sales [3]. Therefore, application of AR technology has further promoted Sephora's digital transformation and upgrading. With AR try on technology, Sephora is able to collect a large amount of data about customer behavior, such as the number of try on, type of preference, purchase decisions, and more. This data provides brands with valuable market insights that can help optimize product portfolios, improve marketing strategies and increase customer satisfaction. According to data analysis, Sephora is able to implement more precise marketing campaigns, thereby boosting sales growth and strengthening customer loyalty. At the same time, in the practice of this technology, Sephora also encountered problems in terms of technical stability and customer acceptance, so Sephora needed to optimize and adjust in time. Secondly, when collecting user data, Sephora needs to strictly comply with relevant laws and regulations to ensure user privacy and data security. It can also enhance user trust through transparent data processing and user authorization mechanisms.

#### **2.5. Beverage Company-Coco-cola**

Coca-Cola is the world's largest distributor and producer of soft drink concentrates and syrups [9]. In the field of digital marketing, Coca-Cola uses the Internet, social media, mobile apps and other channels to promote its products and brands. In 2023, the coca-cola launch #TakeATaste campaign which is a large-scale Digital Outdoor advertising (DOOH) AR experience [10]. With AR technology, Coca-Cola is transforming traditional digital outdoor advertising (DOOH) into an immersive

interactive experience where users can see a virtual, real-world interactive scene on their mobile device by scanning a QR code or a specific tag [10]. This experience is not only new and fun, but also greatly improves user engagement and brand memory. At the same time, AR technology allows users to interact with virtual elements according to their preferences and actions, such as mobile phones to view product displays from different angles, trigger specific animation effects, and so on. This personalized interaction enables users to participate in brand communication more actively and enhances the emotional connection between brands and consumers. Second, the #TakeATaste campaign encourages users to share their AR experiences on social media, such as Instagram. This user-generated content (UGC) not only enriches the way brand stories are told, but also rapidly expands brand exposure through the fission effect of social networks. At the same time, partnerships with well-known social media influencers have further increase the visibility and impact of the campaign. At the same time, the campaign set up an incentive mechanism, such as getting a Coca-Cola Zero coupon after participating in AR interactive advertising. This reward mechanism directly promotes product sales and increases users' purchase willingness and loyalty. Third, through AR technology, Coca-Cola can collect a large amount of data about user behavior, such as the length of engagement, interaction frequency, preference type, and so on. This data can be used for subsequent market analysis, product optimization and marketing strategy adjustment. Finally, by introducing cutting-edge technologies such as AR, Coca-Cola not only improves the interactivity and effectiveness of marketing campaigns, but also promotes the transformation of the company as a whole into a technology-driven enterprise. However, in the application of this technology, the issue of cost and investment needs to be considered, because the research and development, deployment and maintenance costs of AR technology are comparatively elevated, which small and medium-scale enterprises not be able to bear. Even for large enterprises like Coca-Cola, the ROI needs to be carefully evaluated to ensure that AR activities can deliver sufficient business value. At the same time, it is necessary to ensure the popularity and compatibility of technology, avoid the problem of incoordination between software and mobile phone configuration, and avoid the problem of reducing the user experience.

### **3. Development Trend**

#### **3.1. Technological Integration and Innovation**

With the continuous development and maturity of AR technology, AR technology will be deeply integrated with other advanced technologies such as artificial intelligence (AI). AI will provide more accurate personalized recommendations for AR experiences by analyzing consumer behavior data. Big data helps brands better understand consumer needs and optimize AR marketing strategies.

#### **3.2. More Personalized Consumer Experience**

AR technology enables brands to deliver highly personalized consumer experiences based on consumer preferences and needs. In the future, AR technology will further integrate big data and AI technology to provide consumers with more accurate and personalized recommendations and services, further enhance consumer satisfaction and stickiness, and also bring more sales opportunities for brands.

#### **3.3. Deep Integration of Virtual and Reality**

With the continuous development of AR technology, the integration of virtual and reality will become more profound and extensive. The interactivity and innovation of AR technology bring infinite possibilities for brand marketing. Brands will be able to use AR technology to create more realistic and vivid shopping scenarios for consumers, such as virtual exhibitions, virtual press conferences, and more. This will enable consumers to more intuitively understand the features and advantages of the product and increase their purchase willingness and loyalty. At the same time, brands can also expand marketing channels and methods through the integration of virtual and reality, such as the use

of AR technology to carry out online and offline linkage activities to create immersive interactive experiences to improve customer experience and satisfaction.

### **3.4. Data Driven Precision Marketing**

With the continuous development and widespread adoption of AR technology, data-driven precision marketing is gradually establishing itself as a key trend in the field of brand marketing. Through this innovative platform, brands will not only collect an unprecedented wealth of consumer data, but also leverage advanced data analysis and mining techniques to gain insight into hidden market dynamics and deep consumer needs. This process not only reveals potential market opportunities, but also provides brands with unprecedented market insight, enabling them to accurately identify their target market and core consumer groups. Based on this, brands will be able to develop more refined and personalized marketing strategies and plans. Through precise positioning and customized services, brands can not only more effectively reach and attract potential customers, but also strengthen their existing customer base and increase brand loyalty and market share in a highly competitive market environment.

### **3.5. Cross Platform and Omnichannel Integration**

AR technology will no longer be limited to a single platform, but to achieve cross-platform, omnichannel seamless connection. Whether it is online e-commerce platforms, social media, or offline physical stores, consumers can enjoy a consistent AR shopping experience. Brands will pay more attention to the integration of online and offline, channeling online traffic to offline physical stores through AR technology or converting offline experiences into online purchases. This convergence will break the boundaries of traditional retail and provide consumers with a more convenient and flexible way to shop.

### **3.6. Widely Used and Industry Expansion**

In the future, AR technology will not only be limited to retail, e-commerce and other fields, but gradually expand to education, medical care, tourism, entertainment and other industries. These industries will develop their own unique AR application scenarios according to their own characteristics to provide consumers with a richer and more diverse experience. At the same time, with the acceleration of globalization, AR technology will promote the international development of enterprise digital marketing. Brands will leverage AR technology to deliver consistent shopping experiences and services to consumers around the world across geographic boundaries.

## **4. Conclusion**

Through the in-depth research on the development status and future trend of AR technology in enterprise digital marketing, it can be seen that the introduction of AR technology has realized the innovation and digital transformation of marketing mode and brought a new marketing mode and experience to enterprises. Through its unique immersive and personalized characteristics, AR technology not only improves customer experience and brand loyalty, but also brings more opportunities and growth points to enterprises. From a broader social and economic perspective, the popularization and application of AR technology will drive the change and development of the entire retail, entertainment, education and other industries, and promote the upgrading and transformation of the relevant industrial chain. Although AR technology has shown great potential and advantages in enterprise digital marketing, its development still faces some objective limitations. First of all, the hardware and software platform of AR technology are not mature enough, and there are still certain limitations in user experience and performance. At the same time, the development and maintenance cost of AR technology is high, which requires enterprises to invest a lot of capital and resources for research and development and operation. However, with continuous progress of technology and maturity of the market, the application of AR technology in enterprise digital marketing will be more extensive and in-depth. Future research can further explore the following aspects: first, the innovation

and development trend of AR technology, including the development and application of new hardware devices and software platforms. It is the integrated application of AR technology and other emerging technologies, such as big data and artificial intelligence, to further improve marketing effects and user experience.

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