



The Marketing Sector in Vietnam Under the Impact of the Fourth Industrial Revolution

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ABSTRACT

The Fourth Industrial Revolution (Industry 4.0) is having impacts on various sectors including Marketing. In Vietnam, Industry 4.0 is driving the adoption of Marketing 4.0—a customer-centric, data-driven paradigm. This article analyzes the influence of Industry 4.0 on Vietnam's marketing sector, exploring the essence of Industry 4.0, the rise of Marketing 4.0, the prevailing marketing environment, and the opportunities and obstacles are faced by enterprises.

Keywords: *Fourth Industrial Revolution, Marketing 4.0, Vietnam, Digital Marketing, Customer Experience, Digital Transformation*

1. Introduction

The Fourth Industrial Revolution (Industry 4.0) has marked a transformative era driven by the integration of advanced technologies, profoundly reshaping economic, social, and industrial landscapes (Schwab, 2016). In Vietnam, a nation with a young, tech-savvy population and a rapidly growing digital economy, Industry 4.0 has been catalyzing significant transformations in the marketing industry. The emergence of Marketing 4.0, characterized by customer-centric, data-driven strategies, reflects the integration of digital tools to enhance engagement and efficiency (Kotler et al., 2017).

This article will focus on analyzing the various impacts of Industry 4.0 on the marketing sector in Vietnam – a nation actively seizing opportunities from this technological revolution. In addition, the article will clarify the transformations, opportunities and challenges that Vietnamese marketing businesses are facing.

2. The Fourth Industrial Revolution and the Emergence of Marketing 4.0

Industry 4.0 and Marketing 4.0 have a symbiotic, mutually reinforcing relationship. The core technologies of Industry 4.0 are the driving force and technical foundation for the formation and development of Marketing 4.0. In turn, new demands and trends from Marketing 4.0 stimulate the refinement and increasingly widespread application of these technologies.

2.1 The Technological Foundation of Marketing 4.0

The rise of Marketing 4.0 is closely linked to the development of some advanced technologies. They are often stated as Artificial Intelligence (AI), Big Data and Advanced Analytics, Internet of Things, Marketing Automation, Virtual Reality (VR) and Augmented Reality (AR) and their key technologies such as Cloud Computing. According to AdvertisingVietnam (2022), Artificial Intelligence (AI) is the technology that allows to automate complex marketing tasks, provides predictive analytics, and personalizes customer experiences at scale. It is often used for chatbots, data-driven decisions, ad optimization, and targeted customer outreach, boosting conversion rates and ROI.

Meanwhile, Big Data and Advanced Analytics enable marketers to collect and analyze vast amounts of data from online behavior, social media, and purchase history. This provides deep insights into customer personas, market segmentation, trend identification, campaign effectiveness, and personalized messaging, ultimately improving customer acquisition and retention while optimizing costs.

Internet of Things (IoT), claimed by Okorie et al (2024) is able to connect physical devices, collecting real-time data on consumer behavior. This allows for hyper-personalization, delivering contextual information and offers tailored to individual customers, creating a seamless customer journey.

Next is the Marketing Automation. This technology streamlines repetitive tasks like email campaigns, social media posting, ad management, and lead nurturing, saving time, increasing efficiency, and improving targeting and ROI (AdvertisingVietnam, 2021). Virtual Reality (VR) and Augmented Reality (AR) offer immersive experiences, allowing customers to virtually "try on" products or tour properties, enhancing purchase decisions.

Finally, other key technologies which could be mentioned are

- Cloud Computing for flexible data storage and processing
- Blockchain for transparency and security in digital advertising and loyalty programs
- 3D printing for rapid prototyping and personalized products

2.2 The Evolution of Vietnam's Marketing Industry: From Traditional Practices to Marketing 4.0

Industry 4.0 not only provides new tools but also drives a fundamental change in marketing philosophy and practice. One of them is the Evolving Consumer Behavior. Today's consumers, especially Gen Z, are empowered and digitally savvy. They actively research, compare, read reviews, and share experiences online, expecting instant, personalized, and multi-touchpoint interactions (Marmo, R., & Melacini, M., 2019).

In addition, in a saturated market, the Personalization and Customer Experience (CX) are now put emphasis on the survival of a company or a business as the uniqueness offered to each customer. As a result, Marketing 4.0 is applied to leverage technology to understand individual customers and deliver seamless, relevant, and valuable experiences across all touchpoints.

Nowadays, the importance of Data-Driven Decision Making is undeniable as marketers increasingly rely on data analysis, not just intuition, to understand campaign effectiveness, customer behavior, and market trends, optimizing strategies and budgets.

The emergence of social media has led to the fact that customers are now able to interact with brands across various channels. Marketing 4.0 in general and Omnichannel Engagement, in particular, therefore, demands seamless integration between these channels for a consistent customer experience.

Digital marketing is increasingly popular, with content marketing gaining importance. The rise of new marketing strategies, consequently has affected the traditional 4P model (Product, Price, Place, Promotion), which is now evolving into the customer-centric 4C model: Co-creation, Currency, Community, and Conversation. Building trust is crucial as connected platforms give customers more power.

This shift is not just a trend but an essential requirement for businesses to survive and thrive in the digital age. The technologies of Industry 4.0 provide the means, and Marketing 4.0 is the strategy to leverage those means most effectively. All figures should be numbered with Arabic numerals (1,2,3,...). Every figure should have a caption. All photographs, schemas, graphs and diagrams are to be referred to as figures. Line drawings should be good quality scans or true electronic output. Low-quality scans are not acceptable. Figures must be embedded into the text and not supplied separately. In MS word input the figures must be properly coded. Lettering and symbols should be clearly defined either in the caption or in a legend provided as part of the figure. Figures should be placed at the top or bottom of a page wherever possible, as close as possible to the first reference to them in the paper.

3. The State of Vietnam's Marketing Sector in the Emergence of Industry 4.0

Vietnam, with its young, dynamic population and high internet penetration rate, is showing significant progress in accessing and applying the achievements of Industry 4.0, especially in marketing and e-commerce.

3.1 The Digitalization Context in Vietnam

In recent years, Vietnam has witnessed strong growth in the number of internet and social media users. As DataReportal (2024), by early 2024, Vietnam had approximately 72.70 million internet users, accounting for 73.3% of the total population, and a similar number for social media users. The average time spent online per person is over 6 hours daily. The average mobile internet connection speed reached 47.06 Mbps and fixed internet was 105.04 Mbps in early 2024, a significant improvement from the previous year.

E-commerce in Vietnam has also boomed. In 2024, Vietnam's e-commerce market is forecast to exceed US\$25 billion, a 20% increase compared to 2023. Revenue from the four largest e-commerce platforms (Shopee, Lazada, TikTok Shop, Tiki) alone grew by a record 40%, reaching US\$13.8 billion in 2024. Digital advertising spending in Vietnam also reached about US\$2.5 billion, with an impressive annual growth rate.

The Vietnamese government has issued many policies and guidelines to promote the digital economy and proactively participate in Industry 4.0, notably the "National Strategy for the Development of the Digital Economy and Digital Society to 2025, with orientation to 2030" (Decision No. 411/QĐ-TTg). This strategy aims to build a digital government, develop digital infrastructure, and enhance national innovation capacity.

Table 1: Overview of Vietnam's Digital Marketing & E-commerce Market (2023-2024 Data)

Indicator	Data (Early 2024)
Population	~99.2 million (estimated based on 73.3% internet users from 72.7 million)
Internet Users	72.70 million (73.3% of population)
Social Media Users	72.70 million

Daily Internet Usage Time	> 6 hours
Mobile Internet Speed (average)	47.06 Mbps
Fixed Internet Speed (average)	105.04 Mbps
E-commerce Market Size (2024)	~\$25 billion (total); \$13.8 billion (4 major platforms)
E-commerce Growth (2024 vs 2023)	20% (total); 40% (4 major platforms)
Digital Advertising Spending (annual estimate)	~\$2.5 billion
Facebook Ad Reach (vs. Internet users)	92.7%
YouTube Ad Reach (vs. Internet users)	80.3%
TikTok Ad Reach (vs. Internet users)	86.3%

Source: Compiled by authors

3.2 Adaptation of Vietnamese Marketing Businesses to 4.0 Technology

Despite great potential, the level of application of Marketing 4.0 technologies in Vietnam still varies significantly among businesses. In terms of applying AI in Marketing, some large brands have begun experimenting with AI in their marketing campaigns. For example, Mondelez Kinh Do Vietnam launched the "Keep Stories Alive" campaign using AI to turn old photos into animated color images, and the Oreo Lucky Twist campaign allowed users to receive future predictions by twisting a cookie. However, the application of AI in e-commerce, in general, is still limited and does not meet the requirements of many businesses. About Big Data Analytics, Vietnamese businesses are gradually recognizing the importance of Big Data, but effective exploitation remains a challenge. Some applications include evaluating campaign performance, market management, product development based on customer feedback, and enhancing customer experience. Many businesses, nevertheless, especially SMEs, still lack sufficient resources and skills to implement complex Big Data solutions. The application of IoT in marketing in Vietnam is mainly seen in the retail and service sectors. For example, F&B chains like Phuc Long, one of the biggest beverage brands in Vietnam, have adopted automated payment systems based on cashless payment kiosks, saving time and enhancing customer experience. Retail stores also use free Wi-Fi to collect customer data and send personalized offers. Besides, the use of marketing automation platforms is gradually becoming more popular, helping businesses increase efficiency, find the right customers, and improve conversion rates. The level of fully automating the customer journey, unfortunately, is still low. Finally, Affiliate Marketing is developing strongly in Vietnam, especially in the context of the e-commerce boom. Interest in "Affiliate Marketing" increased by over 200% from 2015 to 2020 (Vien, 2025), indicating its significant potential for cost optimization and market expansion.

A noteworthy point is that Vietnamese businesses, especially SMEs, tend to apply digital marketing tools individually, reacting to immediate market trends (like the e-commerce boom) rather than building a comprehensive Marketing 4.0 strategy that deeply integrates the principles of Industry 4.0. Although general awareness of Industry 4.0 may still be low in some business segments 34, the growth of specific digital marketing forms indicates a pragmatic adaptation is taking place. Businesses have also not paid sufficient attention to implementing service marketing in this new context (VnEconomy, 2022)

4. The Opportunities and Challenges for Vietnamese Marketing

The adoption of Marketing 4.0 brings several opportunities for Vietnamese businesses, but at the same time, it also poses significant challenges. Identifying and addressing these issues will determine the competitiveness and sustainable development of businesses in the digital age.

4.1 Opportunities by Marketing 4.0

One of the biggest opportunities offered by Marketing 4.0 is the expanded market access and global competitiveness. Digital platforms and Industry 4.0 tech empower businesses, including SMEs, to easily reach domestic and international markets. This allows "Made in Vietnam" products to gain global exposure, with affiliate marketing being a cost-effective way to expand reach, especially with the e-commerce boom (VnExpress, 2024). Stronger customer relationships and loyalty is also considered as technology enables personalized communication and experiences, fostering deeper customer relationships. Analyzing customer data helps businesses understand needs and preferences, leading to more proactive, relevant services, and ultimately, higher satisfaction and loyalty. It is necessary to mention the chance to increased efficiency, innovation and ROI. Automation helps minimizes manual and repetitive tasks, freeing up resources for strategy and creativity. Data analysis optimizes campaigns, improves targeting, and more effectively measures ROI. Industry 4.0 also fuels innovative marketing methods, helping businesses stand out.

This era facilitates new models like the sharing economy, subscription services, and direct-to-consumer brands. Businesses can create unique value by integrating technology into their products and services, creating new business models and offer more value propositions.

Advanced marketing tools are becoming more affordable and user-friendly, "democratizing" access for businesses. This levels the playing field for Vietnamese SMEs, allowing them to better compete with larger companies if they can overcome skill and awareness gaps in adopting these tools.

4.2 Challenges in Adopting Marketing 4.0

Besides immense opportunities, Vietnamese businesses also face many obstacles when implementing Marketing 4.0. The primary challenge should be mention is the barriers in financial investment and technological infrastructure as the implementing advanced tech like AI and Big Data requires significant investment. According to DataReportal (2024), although Vietnam's digital infrastructure is improving, certain gaps remain, especially in rural areas or for new technologies like 5G. This is a major challenge, particularly for SMEs with limited resources. Another obstacle is there's a critical lack of skilled personnel in digital marketing, data analytics, and AI, necessitating continuous upskilling and reskilling due to rapid technological changes. The collection and use of large amounts of customer data is also concerned as they raise serious concerns about privacy and personal information security. The risk of cyberattacks and data breaches is real, requiring businesses to invest in robust cybersecurity measures and comply with legal regulations. The use of AI and customer data also needs to ensure ethical considerations, avoiding discrimination or infringement of consumer rights. Customers also need digital skills to access information and make purchases, which is not always feasible, especially in areas with underdeveloped infrastructure. Yong (2023) stated that SMEs often lack financial and human resources, a clear understanding of Industry 4.0's benefits, or comprehensive long-term Marketing 4.0 strategies, often focusing on immediate needs rather than holistic transformation. SMEs often have far more limited financial and human resources than large enterprises. Many SMEs are still vague or do not clearly understand the nature and benefits of Industry 4.0 or how to effectively implement Marketing 4.0. An RMIT survey (2021) showed that SMEs tend to prioritize customer experience (54%) and product features (45%) in digital transformation, while state-owned enterprises (SOEs) focus more on process optimization (75%). This may reflect differences in strategic approaches or understanding of the scope of digital transformation. Although some SMEs may be applying individual digital marketing tactics to meet immediate market needs (e.g., selling on e-commerce platforms), they may not yet have a comprehensive and long-term Marketing 4.0 strategy.

A potential risk is the formation of a "digital divide within the digital economy," where businesses with strong technological and financial capabilities will increasingly outpace weaker SMEs. Without timely support measures, this could exacerbate inequality and hinder even economic development in Vietnam.

5. Conclusion

The Fourth Industrial Revolution is profoundly impacting Vietnam's marketing sector, offering both immense opportunities and significant challenges. Technologies like AI, Big Data, IoT, and automation are fundamentally reshaping how Vietnamese businesses engage markets, understand customers, build brands, and conduct campaigns. Vietnam's marketing industry is poised for a strong shift towards the smarter, more flexible, personalized, and efficient Marketing 4.0 model. Businesses that strategically invest in technology and talent, while fostering innovation, can achieve breakthrough growth domestically and internationally. However, this demands overcoming cost barriers, developing skilled human resources, ensuring data security, and adapting to a volatile digital environment. It is, therefore, crucial for Vietnam's marketing success in the digital age to learn more about the impacts of Industry 4.0 on Marketing sector so they can significantly contribute to the national economy.

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