

The Fourth Industrial Revolution: Opportunities and Challenges for Vietnam's Retail Market

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Abstract:

The Fourth Industrial Revolution has significantly transformed the global retail sector through the rapid development of digital technologies, e-commerce, and changing consumer behavior. In Vietnam, these changes have created both opportunities and challenges for the retail market in terms of competitiveness, distribution channels, and business models. This study aims to analyze the impacts of the Fourth Industrial Revolution on Vietnam's retail market by employing a qualitative research approach through the analysis and synthesis of secondary data and literature related to Retail 4.0, combined with consultations with experts and retail enterprises in Danang City. The findings indicate that digital transformation and omnichannel retailing are becoming key trends shaping the development of Vietnam's retail market. Based on the research findings, several recommendations are proposed for government authorities and retail enterprises to enhance competitiveness and promote sustainable development in the digital era.

Keywords: Industry 4.0, Retail Market, Digital Transformation, Vietnam

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I. INTRODUCTION

The Fourth Industrial Revolution is currently in its initial stage and is expected to affect all socio-economic sectors. In practice, the Fourth Industrial Revolution in the retail sector has been quietly taking place and has created numerous development opportunities for Vietnam. It has brought about significant changes through diverse, efficient, and rapid service standards based on digital technology platforms.

Today, Vietnamese consumers are no longer unfamiliar with new business models such as Uber and Grab in transportation services; Traveloka, Trivago, and Airbnb in tourism and hotel booking services; as well as Tiki, Lazada, and Shopee in e-commerce. Numerous other successful business models have also emerged through the application of Industry 4.0 technologies in business operations and socio-economic activities. With just a single click, customers can purchase almost anything they need and perform various daily activities conveniently.

In the Industry 4.0 era, power has shifted from retailers to customers. Consequently, both opportunities and challenges have emerged for the retail industry in Vietnam as well as worldwide.

II. CURRENT STATE OF VIETNAM'S RETAIL MARKET

Vietnam's retail goods and services market in 2025 is considered one of the most promising markets, with an estimated size of approximately USD 269 billion, of which retail goods account for around USD 205.7 billion. Its large scale and positive growth momentum have made Vietnam's retail market an attractive destination for major domestic and international retail corporations.

Over the past few years, several international retail groups such as AEON, Lotte, Central Retail, MM Mega Market, and Circle K have continuously expanded their investments in Vietnam. At the same time, major domestic retailers such as Saigon Co.op, WinCommerce, and Bach Hoa Xanh have also actively developed modern retail networks nationwide. The rapid expansion of modern retail outlets has significantly contributed to improving commercial infrastructure, enhancing goods supply capacity, and upgrading retail service quality across many localities.

Alongside the development of commercial infrastructure, trade promotion activities were actively implemented throughout 2025, thereby stimulating goods circulation and consumer demand. As a result, the total retail sales of goods and consumer service revenue nationwide reached approximately VND 7,093 trillion in 2025, representing an increase of around 10% compared to 2024. This was considered the highest growth rate recorded over the past five years, excluding the abnormal fluctuations during 2021 - 2022 caused by social distancing measures implemented during and after the Covid-19 pandemic.

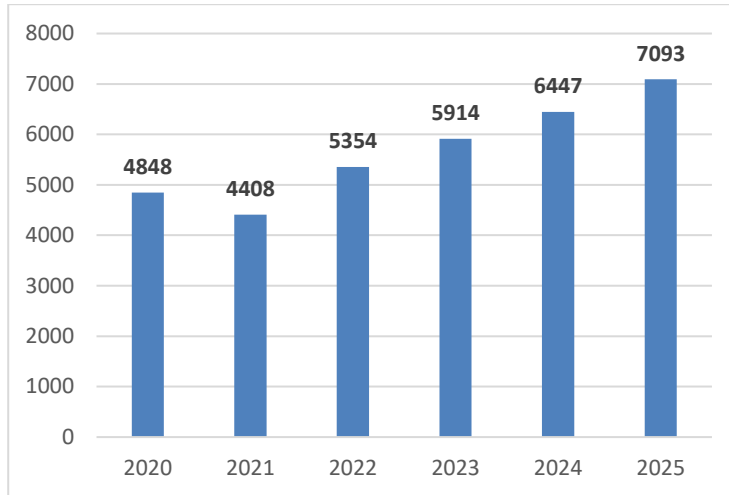


Figure 1. Total Retail Sales of Goods and Service Revenue, 2020 - 2025 (Unit: trillion VND)

Before the outbreak of the Covid-19 pandemic, the share of modern retail channels in Vietnam accounted for approximately 22% of the market. However, during the 2021 - 2023 period, consumers tended to avoid crowded places such as shopping malls and supermarkets to reduce the risk of infection, causing the proportion of modern retail to decline. By 2025, the market had strongly recovered, with the share of modern retail increasing to approximately 25%. In major cities such as Hanoi and Ho Chi Minh City, this figure was even higher, ranging from 28% to 30%, reflecting the growing popularity of modern consumption trends in Vietnam's major economic centers.

Table 1. Share of Retail Goods Sales by Distribution Channels, 2022 - 2025 (Unit: %)

Distribution channel	2021	2022	2023	2024	2025
Modern retail	28	26	33	27	30
<i>Of which: E-commerce</i>	9	9	10	11	12
Traditional retail	72	74	67	73	70

In recent years, along with rising incomes, improved living standards, and rapid urbanization, the shopping behavior of Vietnamese consumers has gradually shifted toward more modern, convenient, and professional retail formats. This trend has accelerated the development of modern retail infrastructure such as supermarkets and shopping malls, while gradually reducing the role of markets. Specifically, the number of markets nationwide decreased from 8,581 in 2020 to 8,274 in 2024, representing a decline of 3.6%.

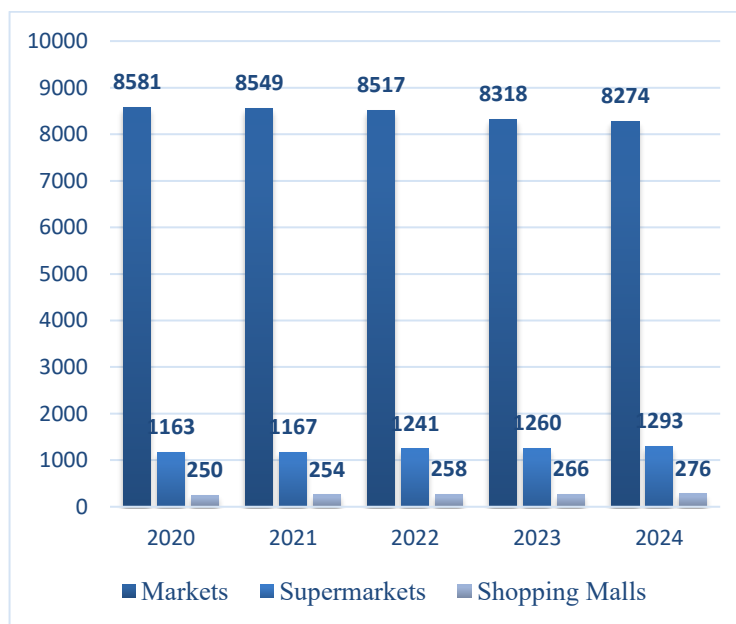


Figure 2. Number of Markets, Supermarkets, and Shopping Malls, 2020 - 2024

The period from 2020 to 2024 witnessed significant growth in the modern retail sector. The number of supermarkets increased from 1,163 to 1,293, while the number of shopping malls rose from 250 to 276. The growth rates of these modern retail formats were considerably higher than those of traditional markets. In particular, the number of supermarkets increased by 9.72%, with an average annual growth rate of approximately 2.2%, whereas shopping malls grew by 10.4%, equivalent to an average annual increase of 2.6%. Due to their smaller scale and lower investment requirements, supermarkets have become far more widespread than shopping malls across localities.

Despite the rapid expansion of modern retail systems, traditional retail channels such as traditional markets and small retail stores continue to play a dominant role in Vietnam's retail distribution structure, currently accounting for approximately 67 - 70% of the market share. This indicates that traditional retail models still maintain considerable influence, particularly in rural areas and regions outside major urban centers.

In terms of distribution, modern retail infrastructure is currently concentrated mainly in large cities and major economic centers. According to statistics released in March 2025, as of December 31, 2024, Vietnam had 1,293 supermarkets and 276 shopping malls nationwide, nearly 50% of which were located in major cities such as Hanoi, Hai Phong, Da Nang, Khanh Hoa, and Ho Chi Minh City. In particular, Ho Chi Minh City ranked first nationwide with 64 shopping malls and 302 supermarkets. This reflects a considerable disparity in the development of modern retail infrastructure among regions across the country.

III. OPPORTUNITIES AND CHALLENGES FOR VIETNAM'S RETAIL MARKET IN THE CONTEXT OF INDUSTRY 4.0

The Fourth Industrial Revolution (Industry 4.0) is exerting profound impacts on all socio-economic sectors, including the retail industry. In practice, the wave of digital transformation in retail has been taking place rapidly, creating significant opportunities for Vietnam's retail market through technological advancements, innovative business models, and increasingly modern consumer experiences. However, alongside these opportunities, Industry 4.0 also presents considerable challenges, requiring retail enterprises to transform their management mindset, business strategies, and operational models in order to remain competitive in the digital era.

3.1. Opportunities

Industry 4.0 represents the continuation and advancement of previous industrial revolutions, characterized by breakthroughs in digital technology, artificial intelligence (AI), the Internet of Things (IoT), big data, cloud computing, and automation. These technologies are fundamentally reshaping the retail industry in terms of distribution channels, supply chains, marketing methods, customer experience, and business operations.

One of the most significant achievements of Industry 4.0 is the rapid growth of e-commerce, which has become an important driving force for Vietnam's retail sector. The development of e-commerce has facilitated the formation of omnichannel retailing models that integrate online and offline shopping channels, enabling retailers to enhance customer accessibility and strengthen competitiveness.

Vietnam possesses several favorable conditions for the development of digital retail. With a population exceeding 100 million people, a young demographic structure, rapid urbanization, and rising income levels, Vietnam is considered one of the most dynamic consumer markets in Southeast Asia. In addition, internet and smartphone penetration rates have increased significantly in recent years, providing a strong foundation for the expansion of online retail activities. According to recent statistics, Vietnam had approximately 80 million internet users in 2025, accounting for nearly 79% of the population, while smartphone adoption continued to grow rapidly nationwide.

The increasing popularity of smartphones and digital payment systems has accelerated the growth of online shopping behavior. Consumers increasingly prefer purchasing products and services through e-commerce platforms, social commerce, and mobile applications due to their convenience, time-saving benefits, and accessibility. Product categories with high online purchasing rates include travel services, fashion products, household appliances, beauty products, and consumer goods. At the same time, the rapid expansion of the middle-income population and the improvement in living standards have further stimulated retail consumption demand.

Industry 4.0 also creates opportunities for retail enterprises to optimize operating costs and improve business efficiency. Through the application of technologies such as AI, data analytics, automated inventory systems, and smart supply chain management, retailers can better forecast demand, reduce inventory costs, shorten delivery times, and enhance customer satisfaction. Moreover, digital technologies allow enterprises to collect and analyze customer data in real time, thereby understanding consumer behavior, shopping habits, and individual preferences more accurately. This enables retailers to implement personalized marketing strategies and improve customer experience.

For retail enterprises, digital platforms and social media channels also provide effective tools for product promotion and customer interaction. Businesses can easily communicate marketing messages, receive customer feedback, and adjust products or services accordingly. Such interactions not only improve service quality but also strengthen customer engagement and brand loyalty in an increasingly competitive market environment.

In addition, technological advancements help reduce production and transaction costs, improve operational efficiency, and accelerate business processes. For manufacturing and retail enterprises, adopting Industry 4.0 technologies has become an important competitive advantage that supports long-term growth and integration into the global digital economy.

3.2. Challenges

Despite creating numerous opportunities, Industry 4.0 also poses significant challenges for Vietnam's retail industry. The emergence of digital business models and global technology platforms such as Uber, Grab, Alibaba, and Amazon has intensified competition and fundamentally transformed traditional retail operations.

First, Industry 4.0 increases competitive pressure on domestic retail enterprises in terms of product quality, pricing, and service standards. In the digital era, consumers can easily compare products, prices, and services from multiple suppliers both domestically and internationally. As a result, traditional competitive advantages based on geographical location or local market dominance are gradually diminishing. Meanwhile, foreign retail corporations with strong financial resources and advanced technologies are continuously expanding their presence in Vietnam, placing domestic enterprises at risk of losing market share and competitive advantages.

Second, cross-border e-commerce and digital retail platforms are reshaping the retail business environment. Consumers can now purchase goods from international suppliers through online platforms with greater convenience than ever before. This trend forces Vietnamese retail enterprises to adapt quickly to omnichannel business models and invest heavily in digital technologies, logistics systems, and customer experience management. Enterprises that fail to transform digitally may face difficulties in maintaining competitiveness and long-term survival.

Another major challenge lies in the technological and financial capacity of Vietnamese retail enterprises. Although many businesses have begun investing in information technology systems and digital infrastructure, the effectiveness of these investments remains limited. Small and medium-sized enterprises, in particular, often face financial constraints that hinder large-scale investments in e-commerce platforms, smart retail systems, and advanced technologies.

Human resources also represent a critical challenge in the context of Industry 4.0. Unlike traditional retail models, digital retail requires employees with technological knowledge, data analysis capabilities, and digital management skills. Therefore, retail enterprises must invest significantly in workforce training and development to ensure that employees can adapt to rapidly changing technologies and increasingly automated business operations.

Overall, Industry 4.0 is simultaneously creating substantial opportunities and considerable challenges for Vietnam's retail market. To fully benefit from the digital transformation trend, retail enterprises need to proactively invest in technology, enhance management capabilities, improve customer experience, and develop high-quality human resources in order to strengthen competitiveness in the digital economy era.

IV. CONCLUSIONS AND RECOMMENDATIONS

The Vietnamese retail market is currently undergoing a strong transformation under the impact of Industry 4.0, digital transformation, and changing consumer behavior. Traditional retail channels still play an important role; however, modern retail formats and e-commerce are expanding rapidly, reshaping the overall distribution structure of the market. At the same time, consumer preferences are shifting toward more convenient, personalized, and omnichannel shopping experiences.

In addition, the development of the retail sector is increasingly influenced by technological advancements such as artificial intelligence, big data, and digital payment systems, which are gradually redefining how goods and services are distributed and consumed. These changes not only enhance operational efficiency but also intensify competition among domestic and foreign retailers in the Vietnamese market.

The analysis shows that Vietnam's retail sector is characterized by both significant opportunities and considerable challenges. Key opportunities include strong economic growth, a young population, increasing digital connectivity, and rising middle-class consumption. However, the sector also faces challenges such as intensifying competition, infrastructure limitations, and the need for technological and managerial transformation among domestic retailers.

Overall, the development of Vietnam's retail market is strongly influenced by the ability of both government and enterprises to adapt to digital transformation and evolving consumer expectations. Continuous innovation, strategic investment, and effective policy support will play a decisive role in shaping the future competitiveness of the sector.

Based on the above analysis, several policy and managerial implications and recommendations are proposed for government authorities and retail enterprises as follows. These recommendations are developed in response to the current retail market dynamics and the impact of Industry 4.0 on Vietnam's retail sector.

4.1. Recommendations for Government Agencies

First, the Government should continue improving macroeconomic management policies in order to maintain market stability and support consumer demand. In particular, fiscal and monetary policies should be flexibly adjusted to control inflation and minimize negative impacts on the retail market and household consumption in the coming years.

Second, as e-commerce and digital retail channels continue to expand rapidly, the Government and relevant ministries should promote policies that encourage enterprises to accelerate digital transformation and technology adoption in retail operations, logistics management, and customer service systems. At the same time, regulatory frameworks related to cybersecurity, personal data protection, online payment security, and digital consumer rights should be strengthened in order to enhance consumer confidence in online shopping activities.

Third, the Government should prioritize investment policies and supportive mechanisms for the development of commercial infrastructure and logistics systems. Although Vietnam's retail infrastructure has improved significantly in recent years, it still remains less developed than that of many countries in the region. Therefore, stronger support policies are necessary to attract domestic and foreign investment in logistics centers, distribution systems, smart warehouses, and digital supply chain technologies, thereby improving the efficiency of goods circulation and retail distribution nationwide.

In addition, authorities should introduce policies that encourage stronger cooperation among domestic retail enterprises in order to enhance competitiveness against large foreign retail corporations. Supporting Vietnamese products through trade promotion programs and facilitating fair market access for domestic enterprises are also important measures for strengthening the national retail sector.

4.2. Recommendations for Retail Enterprises

In the context of Industry 4.0, retail enterprises need to adopt more flexible and innovative business strategies in order to respond effectively to changes in consumer behavior and market competition.

First, retailers should strengthen investment in digital technologies, big data analytics, artificial intelligence, and omnichannel retail systems in order to improve operational efficiency and provide seamless shopping experiences across both online and offline platforms. Omnichannel retailing has become an essential trend that enables enterprises to increase customer convenience and improve competitiveness in the digital era. For instance, The Gioi Di Dong has accelerated the integration of online and offline retail channels through its e-commerce platforms, home delivery services, and digital payment systems, thereby improving customer convenience and operational efficiency.

Second, enterprises should focus on localization and personalization strategies. Localization refers to understanding the shopping habits, preferences, and consumption characteristics of local consumers in different regions to develop suitable product assortments and retail models. Personalization involves analyzing customer data to provide customized products, services, and promotional activities that enhance customer satisfaction and loyalty. These strategies are expected to become important competitive advantages for domestic retailers.

For example, Saigon Co.op has developed a nationwide retail network consisting of more than 130 Co.opmart supermarkets along with hundreds of additional retail outlets across the country. To achieve such extensive market coverage, the company has conducted detailed research on consumer behavior, shopping habits, and local demand in different regions in order to develop appropriate product assortments and business strategies tailored to each locality. Similarly, WinCommerce – the operator of the WinMart and WinMart+ retail chains – has also identified localization and personalization as key strategies in its development process. As of the end of 2025, WinCommerce operated approximately 4,600 WinMart and WinMart+ supermarkets and convenience stores nationwide, making it one of the largest modern retail systems in Vietnam. During its expansion into different provinces and cities, the company recognized substantial differences in consumer demand and purchasing behavior among regions. By effectively understanding local markets and customer preferences, WinCommerce has continuously expanded its market coverage and strengthened its competitive position in Vietnam's retail industry.

Third, retail enterprises should pay greater attention to customer experience, which is increasingly considered one of the most influential factors affecting consumer purchasing decisions. Modern retail models should not only focus on store appearance but also emphasize interaction, convenience, and customer engagement throughout the shopping journey. Improving in-store experiences, after-sales services, and digital customer support systems will help enterprises strengthen brand loyalty and attract new consumers. In recent years, many modern retailers such as AEON and Lotte Mart have focused on enhancing customer experience through

integrated shopping, entertainment, dining, and digital interaction services in order to increase customer engagement and brand loyalty.

Fourth, retailers should develop specialized products and service channels for elderly consumers, as population aging is expected to become a significant demographic trend in Vietnam in the coming years. Enterprises may consider establishing online consultation systems, telephone support services, healthcare-related product categories, and convenient delivery solutions tailored to older consumers. Several retail and healthcare chains in Vietnam have begun introducing health-oriented products, home delivery services, and customer support channels specifically designed for elderly consumers, reflecting the growing importance of the aging population segment.

Fifth, as major urban retail markets become increasingly saturated, enterprises should expand retail networks into rural and emerging urban areas, where income levels and consumption demand are gradually increasing. Retailers can develop modern convenience store networks, mini-supermarkets, and digital payment systems connected to regional distribution centers in order to improve product accessibility and gradually modernize traditional retail channels. Retail chains such as Bach Hoa Xanh and WinMart+ have gradually expanded their store networks into suburban and rural areas, aiming to capture rising consumer demand and improve accessibility to modern retail services.

Finally, in regions with strong tourism potential, retail enterprises should develop integrated business models combining retail services, local cuisine, tourism experiences, and cultural activities. Such integrated retail models can create differentiated customer experiences and contribute to the sustainable development of local economies and tourism industries. In tourism-oriented provinces such as Da Nang and Khanh Hoa, integrated retail models combining shopping, local cuisine, and tourism experiences have increasingly attracted both domestic and international consumers.

REFERENCES

- [1]. Agency for Domestic Market Surveillance and Development, 2025. Vietnam Domestic Market Report 2025: Current Situation, Trends, and Development Prospects of Vietnam's Domestic Market. Hanoi: Ministry of Industry and Trade of Vietnam.
- [2]. World Bank, 2024. Vietnam Economic Update 2024: Maintaining Growth Momentum amid Global Uncertainties. Washington, DC: World Bank.
- [3]. General Statistics Office of Vietnam, 2025. Statistical Yearbook of Vietnam 2024: Socio-Economic Statistics. Hanoi: Statistical Publishing House.
- [4]. Ministry of Industry and Trade of Vietnam, 2025. Vietnam Retail Market Report 2025: Retail Infrastructure and Consumer Trends. Hanoi.
- [5]. Vietnam Report, 2024. Vietnam Retail Industry Report: Market Trends and Consumer Behavior. Hanoi.
- [6]. Masan Group, 2025. Annual Report 2025: Consumer-Retail Growth Strategy and Financial Performance. Ho Chi Minh City.
- [7]. Saigon Co.op, 2025. Annual Report 2025: Retail Network Expansion and Business Development. Ho Chi Minh City.