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## **Assessing the economic contributions and investment attractiveness of the pharmaceutical sector in Vietnam**

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**Abstract**---This study examined the economic contributions and investment attractiveness of Vietnam's pharmaceutical sector using a theoretical research approach, drawing on literature review, secondary data analysis, and information synthesis. The findings indicate that the pharmaceutical industry has become an important component of Vietnam's socioeconomic development by contributing to employment generation, healthcare improvement, industrial expansion, technology transfer, and investment attraction. The sector has evolved beyond its traditional healthcare function and is increasingly serving as a strategic industry, supporting broader economic growth and national competitiveness. The findings suggest that Vietnam's pharmaceutical industry possesses significant potential to become a stronger contributor to national economic development and an increasingly attractive destination for investment. Future research may extend this theoretical analysis through empirical studies and quantitative assessments to provide more comprehensive evidence regarding the relationship between pharmaceutical development, economic performance, and investment outcomes in Vietnam.

**Keywords**---economic contributions, investment attractiveness, pharmaceutical.



## 1. Introduction

The pharmaceutical industry has become one of the most important sectors contributing to economic development and healthcare improvement worldwide. Beyond its primary role in producing and distributing medicines, the pharmaceutical sector creates broader socioeconomic impacts through employment generation, technological innovation, industrial development, and investment attraction. As healthcare systems increasingly become strategic priorities in developing economies, the pharmaceutical industry is also recognized as a significant driver of sustainable economic growth and competitiveness (Hoang & Nguyen, 2019; Tran & Le, 2020).

In recent years, Vietnam's pharmaceutical industry has experienced substantial expansion due to rapid population growth, urbanization, rising income levels, and increasing public awareness regarding healthcare services and products. The Vietnamese pharmaceutical market has shown significant growth potential and has become one of the fastest-growing healthcare-related sectors in Southeast Asia (Bui et al., 2020). Rising healthcare expenditures and the increasing demand for medical products have created favorable conditions for market expansion and industrial development (Tran & Nguyen, 2020; Nguyen et al., 2021). The growing middle-class population and changing disease patterns have also accelerated demand for pharmaceutical products, including generic medicines and specialized healthcare services (Vo et al., 2022).

The pharmaceutical sector contributes significantly to Vietnam's economy through various channels. It stimulates industrial production activities, supports healthcare service development, creates employment opportunities, and facilitates technology transfer and innovation activities (Hoang & Nguyen, 2019; Tran & Phan, 2020). Previous studies have emphasized the role of research and development activities, manufacturing capability enhancement, and international collaboration in improving the competitiveness of the pharmaceutical industry (Le et al., 2019; Nguyen & Nguyen, 2021). Furthermore, technological advancement and digital transformation are increasingly reshaping business operations and market structures within the sector (Nguyen et al., 2021).

From an investment perspective, Vietnam has emerged as an attractive destination for domestic and foreign investors due to its expanding pharmaceutical market and favorable economic conditions. Foreign direct investment inflows, regulatory reforms, and improvements in supply chain infrastructure have strengthened investment attractiveness in the sector (Pham et al., 2022; Nguyen et al., 2022). In addition, opportunities related to exports, manufacturing expansion, and international partnerships further increase the potential for long-term investment growth (Dang et al., 2021; Tran & Le, 2020). Some studies have also suggested that Vietnam possesses the potential to become a regional pharmaceutical manufacturing hub because of its strategic geographical location and improving production capacity (Hoang & Nguyen, 2019).

Despite these promising developments, the pharmaceutical industry in Vietnam continues to face several challenges. Limitations in research and development

capabilities, dependence on imported raw materials, regulatory constraints, and international competition remain major concerns for sustainable growth (Le et al., 2019; Tran et al., 2021). These challenges require more comprehensive assessments of the industry's economic contributions and investment attractiveness to support strategic policymaking and business decisions.

Although previous studies have examined specific aspects of pharmaceutical development, there remains a limited theoretical synthesis regarding the broader relationship among pharmaceutical industry development, economic growth, and investment opportunities in Vietnam. Therefore, this study aims to assess the economic contributions of the pharmaceutical sector and analyze its investment attractiveness through a theoretical research approach. By synthesizing existing literature and developing a conceptual understanding of the interactions between pharmaceutical development and economic outcomes, the study seeks to provide implications for policymakers, industry stakeholders, and investors in promoting sustainable development within Vietnam's pharmaceutical sector.

## **2. Literature Review**

### ***2.1. Pharmaceutical Industry and Economic Development***

The pharmaceutical industry plays a crucial role in modern economies due to its dual function of improving public health and contributing to economic development. Unlike many traditional manufacturing sectors, the pharmaceutical industry not only generates economic value through production and trade activities but also enhances social welfare by improving healthcare outcomes and increasing life expectancy. Consequently, the industry is often regarded as a strategic sector capable of creating both direct and indirect impacts on national economic systems (Hoang & Nguyen, 2019).

From an economic perspective, the pharmaceutical sector contributes to national development through several channels. First, the industry creates employment opportunities across a wide range of activities including research and development, manufacturing, quality assurance, logistics, marketing, and healthcare services. The expansion of pharmaceutical enterprises can stimulate labor demand and generate income for both highly skilled and supporting workforces (Hoang & Nguyen, 2019; Tran & Phan, 2020). Employment generation within the pharmaceutical sector also contributes to increased household income and consumption, thereby creating multiplier effects throughout the broader economy.

Second, the pharmaceutical industry promotes industrial development and technological advancement. Research and development activities are considered essential components of pharmaceutical competitiveness because innovation directly influences product quality, production efficiency, and market expansion (Le et al., 2019). Investments in pharmaceutical research frequently lead to technology transfer, scientific collaboration, and knowledge diffusion across industries (Hoang & Nguyen, 2019). Such developments contribute not only to industrial modernization but also to broader economic transformation processes. The pharmaceutical sector also plays a significant role in stimulating investment activities and enhancing economic productivity. Previous studies suggest that

increasing healthcare expenditures often create favorable conditions for pharmaceutical market expansion and investment attraction (Tran & Nguyen, 2020). As healthcare demand rises, pharmaceutical companies expand production capacity and strengthen supply chain systems, thereby contributing to industrial growth and infrastructure development (Nguyen et al., 2022). Moreover, foreign direct investment can facilitate access to international technologies, management expertise, and global market networks, enhancing competitiveness and long-term growth potential (Pham et al., 2022).

Another important contribution of the pharmaceutical industry involves improving healthcare accessibility and social welfare. Access to effective pharmaceutical products can reduce disease burdens, improve workforce productivity, and support sustainable human capital development. Improved public health conditions indirectly influence economic growth by enhancing labor efficiency and reducing healthcare-related economic losses (Tran & Le, 2020). Therefore, the relationship between pharmaceutical development and economic growth extends beyond financial indicators and includes broader social and developmental dimensions.

In developing countries such as Vietnam, the pharmaceutical industry is increasingly viewed as an important component of national economic strategies. Rapid population growth, urbanization, and rising healthcare awareness have created favorable conditions for pharmaceutical market expansion (Bui et al., 2020). Consequently, understanding the relationship between pharmaceutical industry development and economic growth is necessary for identifying opportunities and designing policies that maximize the sector's contribution to sustainable economic development.

## ***2.2. Investment Opportunities in the Pharmaceutical Sector***

The pharmaceutical sector has increasingly become an attractive area for investment due to its strong growth potential, relatively stable demand, and strategic importance in national healthcare systems. Compared with many industries that are highly sensitive to economic fluctuations, demand for pharmaceutical products and healthcare services tends to remain consistent because healthcare is a basic human necessity. Consequently, pharmaceutical industries are frequently viewed as resilient sectors capable of sustaining long-term economic value and generating attractive investment returns (Nguyen et al., 2021).

Investment opportunities in the pharmaceutical sector are influenced by several economic and market factors. One of the most important drivers is the growth of healthcare expenditure. Increasing public and private spending on healthcare services often creates favorable conditions for pharmaceutical market expansion and industrial development (Tran & Nguyen, 2020). In developing economies, rising income levels and improved living standards contribute to greater awareness of healthcare needs and increased consumption of pharmaceutical products (Nguyen et al., 2021). These conditions encourage investors to expand manufacturing activities and explore emerging market opportunities.

Population dynamics also play an important role in determining pharmaceutical investment attractiveness. Rapid population growth, urbanization, and aging populations increase demand for medicines and healthcare services. Previous studies have indicated that changing demographic structures and shifts in disease patterns create long-term demand for both generic and specialized pharmaceutical products (Vo et al., 2022). Such trends provide favorable conditions for investment in pharmaceutical manufacturing, healthcare distribution systems, and related service sectors.

Technological advancement and digital transformation have further expanded investment opportunities in the pharmaceutical industry. The adoption of digital technologies, e-commerce platforms, and smart healthcare systems has transformed production processes and business models within the pharmaceutical sector (Nguyen et al., 2021). Technological innovation can improve operational efficiency, enhance supply chain management, and create opportunities for new pharmaceutical products and services. In addition, research and development activities are increasingly recognized as strategic investment areas capable of strengthening competitiveness and promoting industry growth (Tran & Le, 2020).

Foreign direct investment also represents a significant component of pharmaceutical sector development. International investors often consider market size, regulatory environments, production infrastructure, and policy incentives when making investment decisions. Improvements in manufacturing capacity and supply chain infrastructure can strengthen investor confidence and increase the attractiveness of pharmaceutical markets (Nguyen et al., 2022). Furthermore, supportive government policies and investment incentives play important roles in facilitating industry expansion and encouraging long-term capital inflows (Pham et al., 2022).

In Vietnam, investment opportunities in the pharmaceutical industry have expanded considerably in recent years. The country's growing domestic market, favorable demographic conditions, increasing healthcare expenditures, and strategic geographic location create substantial opportunities for local and foreign investors (Bui et al., 2020). Export opportunities and international collaboration initiatives also provide additional growth potential for pharmaceutical enterprises seeking broader market access (Dang et al., 2021). Therefore, understanding the determinants of investment attractiveness is essential for developing effective strategies to maximize the pharmaceutical sector's contribution to sustainable economic development.

### ***2.3. Development of Vietnam's Pharmaceutical Industry***

Vietnam's pharmaceutical industry has experienced significant development over the past decade and has become one of the fastest-growing sectors within the national healthcare economy. Rapid economic growth, population expansion, urbanization, and improvements in living standards have contributed to increasing demand for healthcare products and pharmaceutical services. As a result, the domestic pharmaceutical market has shown strong growth potential and attracted increasing attention from policymakers and investors (Bui et al., 2020).

The expansion of healthcare expenditure has been one of the major factors driving pharmaceutical industry development in Vietnam. Rising income levels and improved public awareness regarding healthcare have increased consumption of pharmaceutical products and medical services (Tran & Nguyen, 2020). Moreover, demographic changes, including population aging and the growing prevalence of chronic diseases, have created long-term demand for medicines and healthcare solutions (Nguyen et al., 2021). These trends have contributed to continuous market expansion and increased investment activities within the pharmaceutical sector.

In recent years, Vietnam has also strengthened its manufacturing capabilities and infrastructure within the pharmaceutical industry. Improvements in production facilities, supply chain systems, and industrial capacity have enhanced the industry's ability to meet domestic demand and participate in international markets (Nguyen et al., 2022). Several studies have suggested that Vietnam possesses favorable conditions for becoming a regional pharmaceutical manufacturing hub due to its strategic location, competitive labor costs, and growing industrial capabilities (Hoang & Nguyen, 2019).

Research and development activities have increasingly received attention as important factors for improving competitiveness and promoting sustainable industry development. Collaborative initiatives among universities, research institutions, and pharmaceutical enterprises have contributed to technology transfer and innovation activities (Nguyen & Nguyen, 2021). At the same time, digital transformation and the adoption of modern technologies have gradually reshaped business operations and pharmaceutical distribution systems (Nguyen et al., 2021). Such developments create opportunities for improving efficiency and strengthening market competitiveness.

Foreign direct investment has also played an important role in supporting the development of Vietnam's pharmaceutical industry. Investment inflows contribute to capital expansion, technology acquisition, and managerial improvements within domestic enterprises (Pham et al., 2022). International partnerships and export-oriented strategies have further enhanced the integration of Vietnam's pharmaceutical sector into regional and global markets (Dang et al., 2021; Tran & Le, 2020).

Despite these positive developments, several challenges continue to affect the growth of Vietnam's pharmaceutical industry. Limited research and development capacity, dependence on imported raw materials, technological constraints, and regulatory barriers remain important issues requiring further attention (Le et al., 2019; Tran et al., 2021). Addressing these challenges is essential for improving competitiveness and ensuring the sustainable development of the pharmaceutical sector in the future.

Overall, the development of Vietnam's pharmaceutical industry reflects a combination of market expansion, policy support, technological advancement, and increasing investment activities. Understanding these development patterns provides an important foundation for assessing the sector's broader economic contributions and investment attractiveness.

### **3. Research Methodology**

This study employed a theoretical and qualitative research approach to assess the economic contributions and investment attractiveness of Vietnam's pharmaceutical sector. The research relied primarily on secondary data collected from official reports published by the Vietnamese Ministry of Health, the Drug Administration of Vietnam, and industry-related governmental publications. In addition, academic literature indexed in international databases, particularly Web of Science (WoS) and Scopus, was systematically reviewed to identify current research findings related to pharmaceutical industry development, healthcare expenditure, investment opportunities, and economic growth. Official reports indicate that Vietnam's pharmaceutical market has experienced rapid expansion and remains among the fastest-growing sectors in Southeast Asia. Recent reports from the Drug Administration of Vietnam also suggest increasing market value and sustained annual growth rates within the industry.

Following the data collection process, content analysis, comparative analysis, and information synthesis methods were applied to examine the relationships among pharmaceutical industry development, economic performance, and investment opportunities. The collected evidence from governmental reports and international academic studies was analyzed to identify major development trends, challenges, and knowledge gaps. Based on the synthesized findings, a theoretical framework was developed to explain how pharmaceutical industry growth influences economic development and investment attractiveness in Vietnam.

### **4. Results and Discussion**

#### ***4.1. Economic Contributions of the Pharmaceutical Industry in Vietnam***

The findings indicate that Vietnam's pharmaceutical industry has become an increasingly important contributor to national economic development. The industry not only fulfills healthcare needs but also creates broader economic value through manufacturing expansion, employment generation, healthcare accessibility, and technological development. Reports from the Drug Administration of Vietnam indicate that the pharmaceutical market has maintained a relatively stable growth trajectory and is among the fastest-growing sectors in Asia.

The expansion of the pharmaceutical industry has generated substantial employment opportunities across production, logistics, retail distribution, healthcare services, and research activities. In addition, pharmaceutical development stimulates industrial activities through supply chain expansion and increasing investment in manufacturing infrastructure (Hoang & Nguyen, 2019; Tran & Phan, 2020).

**Table 1. Major Economic Contributions of Vietnam's Pharmaceutical Industry**

Economic contribution	Description	Potential impact
Employment generation	Expansion of pharmaceutical manufacturing and services	Increased labor demand and income generation
Healthcare improvement	Greater accessibility to medicines and healthcare products	Improved public health and productivity
Industrial development	Growth of production facilities and supply chains	Industrial modernization
Technology transfer	Collaboration with foreign enterprises	Innovation and technical upgrading
Investment stimulation	Attraction of domestic and foreign capital	Economic growth and competitiveness

The findings further suggest that pharmaceutical expansion has indirect economic impacts through increased labor productivity and improved population health outcomes. Previous studies have emphasized that healthier populations contribute positively to workforce efficiency and sustainable economic growth (Tran & Le, 2020). To illustrate industry development, recent market indicators are presented below.

**Table 2. Selected Indicators of Vietnam's Pharmaceutical Industry Development**

Indicator	2015	2025–2026 estimate
Market value (USD billion)	2.7	8.0
Annual growth rate	-	6–8%
Average pharmaceutical spending per capita (USD)	<5	78.3
Pharmaceutical manufacturing facilities	167	243–245
Domestic production share (volume)	-	~70%

The pharmaceutical market value increased substantially from approximately USD 2.7 billion in 2015 to around USD 8 billion by 2025–2026, indicating remarkable industry expansion. Domestic manufacturing capacity has also improved considerably.

#### **4.2. Investment Attractiveness and Opportunities**

The analysis suggests that Vietnam's pharmaceutical industry presents substantial investment opportunities because of favorable demographic characteristics, healthcare demand growth, and supportive policy environments. Rapid urbanization, an expanding middle class, and population aging have increased long-term demand for medicines and healthcare services.

Recent market reports suggest that Vietnam remains among Southeast Asia's most attractive pharmaceutical markets, supported by strong annual growth and increasing investor confidence.

**Table 3. Factors Supporting Investment Attractiveness in Vietnam's Pharmaceutical Sector**

Factor	Current situation	Investment implication
Population growth and aging	Increasing healthcare demand	Expansion of pharmaceutical consumption
Healthcare expenditure	Continuous increase	Larger market size
Foreign direct investment	Increasing participation	Technology and capital inflows
Regulatory reforms	Improving policy framework	Reduced investment barriers
Digital transformation	Expanding adoption	New business opportunities

Among these factors, demographic change and healthcare expenditure appear particularly important. Increasing life expectancy and rising rates of chronic diseases contribute to sustained pharmaceutical demand. The expansion of health insurance coverage also improves access to medicines and supports market growth.

Moreover, emerging technological trends such as artificial intelligence, e-commerce platforms, digital healthcare systems, and biotechnology development create new investment opportunities. The integration of digital solutions into pharmaceutical production and distribution may improve efficiency and increase competitiveness in both domestic and international markets (Nguyen et al., 2021).

#### **4.3. Challenges and Implications**

Despite considerable growth potential, Vietnam's pharmaceutical industry continues to face several structural and operational challenges. Existing limitations may reduce competitiveness and constrain sustainable industry development.

**Table 4. Major Challenges Facing Vietnam's Pharmaceutical Industry**

Challenge	Current issue	Potential implication
Dependence on imported materials	High reliance on external suppliers	Supply chain vulnerability
Limited R&D capability	Low domestic innovation capacity	Reduced competitiveness
Regulatory complexity	Administrative procedures remain challenging	Delayed investment activities
International competition	Pressure from multinational firms	Market share challenges
Technological limitations	Uneven technological development	Reduced productivity

The dependence on imported pharmaceutical ingredients remains a major concern because it increases exposure to external supply disruptions and international market fluctuations. Previous reports indicate that domestic enterprises continue to rely heavily on imported materials and advanced pharmaceutical technologies.

These findings suggest important implications for policymakers and industry stakeholders. Strengthening research and development capacity, promoting technology transfer, encouraging local manufacturing, and improving regulatory efficiency may contribute to sustainable pharmaceutical industry development. Greater collaboration among government agencies, research institutions, and private enterprises could further improve competitiveness and attract long-term investment. Such efforts are essential for transforming Vietnam's pharmaceutical sector into a more innovation-driven and globally integrated industry.

## **5. Conclusion**

This study examined the economic contributions and investment attractiveness of Vietnam's pharmaceutical sector through a theoretical research approach based on literature review, secondary data analysis, and information synthesis. The findings indicate that the pharmaceutical industry has become an important component of Vietnam's socioeconomic development by contributing to employment generation, healthcare improvement, industrial expansion, technology transfer, and investment attraction. The sector has evolved beyond its traditional healthcare function and increasingly serves as a strategic industry supporting broader economic growth and national competitiveness.

The analysis also revealed that Vietnam possesses considerable investment potential within the pharmaceutical sector. Rapid market expansion, increasing healthcare expenditure, demographic changes, rising demand for pharmaceutical products, and supportive policy reforms create favorable conditions for domestic and foreign investment. Moreover, digital transformation, technological innovation, and international collaboration provide additional opportunities for long-term industry growth and competitiveness enhancement.

Despite these promising developments, several challenges continue to influence the sustainable development of the pharmaceutical industry in Vietnam. Dependence on imported raw materials, limitations in research and development capabilities, regulatory barriers, and increasing international competition remain important constraints requiring strategic attention. Addressing these issues through stronger policy support, technological investment, and industry collaboration may improve market resilience and strengthen the sector's long-term development capacity.

Overall, the findings suggest that Vietnam's pharmaceutical industry possesses significant potential to become a stronger contributor to national economic development and an increasingly attractive destination for investment. Future research may extend this theoretical analysis through empirical studies and quantitative assessments to provide more comprehensive evidence regarding the

relationship between pharmaceutical development, economic performance, and investment outcomes in Vietnam.

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