Viksit India
2025 | Volume: 03 | Issue: 01 | Article: 45

Empowering India's Economy: The Pharmacy Sector's Remarkable Growth Story Post-Pandemic

Priti Rai[*], Deepa Gupta[1], Mukul Gupta[2]
[*]Department of Commerce, College of Vocational Studies, University of Delhi, New Delhi, NCR India
[1,2] GL Bajaj Institute of Management, Greater Noida, UP (India)

Article Info
Received: 8th December 2024
Revised: 15th March 2025
Published: 31st March 2025
Associate Editor: Dr. Vipin Sharma

*Corresponding author
Email:
raipritiaxis1992@gmail.com

Open Access

DOI:

https://pub.dhe.org.in/
ISSN: 2278-1757

Abstract
The purpose of this research paper is to comprehensively analyse and evaluate the role of the Indian pharmaceutical sector as a significant growth driver for the country's economy, particularly in the post-pandemic context. Using a secondary data-based approach, the study leverages existing reports, statistical data, and scholarly articles, employing content and comparative analyses alongside statistical techniques to assess the profitability, growth prospects, trends, and opportunities within the sector. The findings indicate that the Indian pharmaceutical sector has emerged as a pivotal contributor to national income and GDP, demonstrating robust profitability driven by an increased demand for medicines, drugs, and vaccines, accelerated advancements in research and development, and evolving governmental regulations. This research provides original insights by extensively exploring the post-pandemic dynamics influencing the pharmaceutical industry's growth, highlighting its multifaceted impact on the national economy through enhanced medical infrastructure, increased business opportunities, and significant economic contributions. Despite its reliance on secondary data, the study offers valuable theoretical insights and practical implications, informing policymakers, industry stakeholders, and researchers about the strategic importance and growth potential of India's pharmaceutical sector in driving economic recovery and development in the post-pandemic era.

Keywords: Pharmaceutical Sector, Growth Engine, Indian Economy, Post-pandemic, Profits, Opportunities, Trends, Key Enablers.

Introduction
The Indian pharmaceutical industry has become a strong growth driver for the Indian economy, especially during the post-pandemic period **(Gupta & Joshi, 2023)**. Contributing immensely to the national income and GDP, the Indian pharma industry is responsible for delivering high-quality, low-cost medicines, drugs, and vaccines that are highly sought after domestically as well as internationally **(Gupta & Varshney, 2018).** The growth of this industry has not only propelled the growth of the Indian market but has also made Indian pharma major players in the international market.

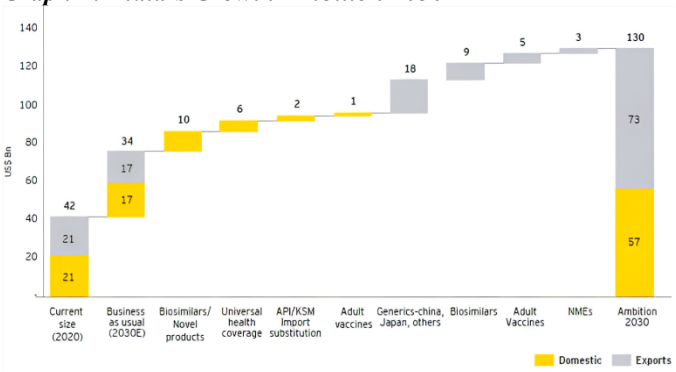
During the last ten years, there has been intense growth in the Indian pharmaceutical industry, which has led to the formation of various business enterprises in this sector. Such growth has in return increased the overall progress of the Indian economy. The huge growth in the growth of the Indian pharmaceutical sector has led to the generation of huge profits. This is due to the high intake of medicines, drugs, and vaccines by the people, which points to the industry's crucial contribution to India's national income and GDP.

Some of the top companies operating in the pharmaceutical industry in India are Aurobindo, Dr. Reddy's, Ranbaxy, Sun, Wockhardt, Glenmark, Lupin, Orchid, Matrix, and Cipla. These companies have not only generated many opportunities in the Indian market but also fuelled overall development. Increased profitability, cost leadership, higher competition, the rapid growth of the Indian economy, and the growth of consumer healthcare services like health insurance and life insurance are all reasons that have contributed to the success of the industry. Also, development of business infrastructure and improved medical facilities have been major contributors to promoting the development of the pharmaceutical sector.

Pharma industry both within India and worldwide is experiencing variant emerging trends. R&D exercises in the pharma industry, along with new innovations in the drug discovery process and manufacturing, have driven industry developments. e-commerce websites enabling consumers to purchase medicines, drugs, and vaccines has transformed consumers' accessibility to these

products. Healthcare reform policy and government action have impacted significantly upon the pharmaceutical industry, outlining the direction for the industry. Advances in technology, including the evolution of new technical shifts and biological advancements of drugs, vaccines, and medicines, have additionally affected the industry climate.

Graph 1: India's Growth Ambition 2030



This research aims to investigate and analyze the impact of growing pharmaceutical industry on the economy of India, i.e., its GDP. The research will also study the growth and diversification of the industry, focusing on increasing its share in the world market and ranking it among the top 10 pharmaceutical industries in the world.

On a broader level, it is critical to be familiar with the dynamics and potential of the pharmaceutical sector in order to realize its contribution as a pace-setting force for India's post-pandemic economic growth. By exploring vital trends, growth drivers, and opportunities, this study hopes to provide meaningful insight into the Indian pharmaceutical sector's future and positioning in the global market.

LITERATURE REVIEW

Indian pharma has extensively been studied by researchers, scientists, and intellectuals with a special focus on having a large share of the market in drug production and generic medicines. The industry has a sound presence not only in the country but also across the globe, particularly in European and American markets, among many others.

Based on different sources, India's domestic pharmaceutical industry was valued at an estimated US$11 billion in March 2009 and was expected to touch about US$30 billion by 2020. The industry has experienced fragmentation, with more than 70% market share among about 10,000 companies **(Reserve Bank of India, 2010).** Indian economy is expected by experts of the RBI to see a high rate of growth at 6% till March 2010 followed by an increase of 7.8% over the ten-year period to come **(Reserve Bank of India, 2010).** Goldman Sachs carried out a research work that placed India as a rising economy that holds long-term promise and grew until 2050 **(Goldman Sachs, 2003).**

The pharmaceutical industry has become a powerhouse for the Indian economy in the post-pandemic era, playing an important role in its development and growth, with a considerable share of the market both at home and abroad. Growth and expansion in the industry have been observed due to reasons like higher investments, exports, and the launch of new products. Enforcement of patent regimes and adherence to international obligations have also made India a part of the global pharmaceutical market **(Yes Bank, n.d.).**

The literature identifies two principal stages in the evolution of the Indian pharmaceutical sector: the pre-patent regime and the post-patent regime. During the pre-patent era, Indian pharmaceutical companies operated to formulate medicines and drugs within India to render them readily available and affordable for Indian consumers. This activity played a role in developing and evolving the industry rapidly, and thereby new products entered the market, investments rose, and exports developed **(Yes Bank, n.d.).**

Post-patent was dominated by the Indian government introducing an ordinance in order to comply with the obligations of the World Trade Organisation (WTO). Introduction of product patents and prohibiting drug duplication placed India in accord with international economies. The industry went through heavy emphasis on export, development of the global market, and regulation of the prices of drugs **(Yes Bank, n.d.).**

The Indian pharmaceutical industry has been instrumental in providing quality and affordable medicines, drugs, and vaccines not only for the local but also for the global market. According to **Rao and Reddy (2016),** the focus of the industry on cheap medicine production has increased access to healthcare services, leading to improved health outcomes and prevention of disease. This emphasis on affordability and quality has served to make the Indian pharmaceutical industry establish a strong foothold globally. In terms of growth, the Indian pharmaceutical industry has seen phenomenal growth over the past decade.

Agarwal et al. (2019) observe that the sector has been witnessing strong growth because of various factors including high research and development expenditure, favorable policy environment, technology boom, and increasing demand for health care products. This growth has given rise to the setting up of different pharma companies, which in turn has supported the growth of the entire Indian economy.

The Indian pharma sector has collected revenues that have been enormous, owing immensely to the immense demand for medicine, drugs, and vaccines. India Brand Equity Foundation **(IBEF, 2021)** has said the Indian pharma market is estimated to be roughly $120-130 billion in 2030. The increases in revenues contributed to the increase in India's national income as well as the GDP, with the pharma sector becoming more prominent in India's economy.

A number of enablers have facilitated the development and success of the Indian pharmaceutical sector. They include cost leadership, increased competition, better health infrastructure, and innovation of consumer health services. As pointed out by **Jain and Aggarwal (2019),** cost leadership orientation has enabled the industry to provide low prices and hence make Indian drugs more appealing to the international market. Moreover, expansion of healthcare services and health insurance has continued to drive demand for pharmaceutical products, thereby increased profitability.

Excessive demand for vaccines, medicine, and drugs has resulted in excessive use, which has added to the national revenue as well as India's GDP **(Tandon, 2020).** Dr Reddy's, Ranbaxy, Cipla, and Aurobindo, which are Indian pharmaceutical companies, have made notable contributions to developing opportunities and enhancing profitability in India **(Bhatt, 2021).**

A number of enablers have enabled the development of the pharmaceutical industry in India. Cost leadership, heightened competition, and the rapid expansion of the Indian economy have helped pharmaceutical firms become profitable and expand **(Saxena, 2022).** The growth in consumer healthcare services, health insurance, and improved medical infrastructure has also provided a conducive environment for the pharmaceutical industry to flourish **(Thakkar, 2018).**

Some of the trends in the pharmaceutical sector are research and development, innovations, and the availability of medicines, drugs, and vaccines on e-commerce websites **(Dutta, 2021).** Government policies and reforms in the healthcare industry have also impacted the pharmaceutical sector, as well as technical and biological developments in formulating medicines and vaccines **(Gupta, 2019).**
The contribution of the emerging pharmaceutical industry to the Indian economy, including GDP, growth, and diversification, is an important field of research. India is set to cement its position among the world's top 10 pharma industries, which will further add to the national economy's growth and development **(Rastogi et al., 2021).**

Indian pharma industry witnessed robust growth in the past ten years. Profits in the industry have dramatically increased due to enhanced demand for medicine, vaccines, and drugs **(Gupta and Varshney, 2018).** Increased population demand for the products of pharmacies contributed to expanding the industry to a larger size, hence the contribution of an added value in national income, as well as India's GDP. Several factors have contributed to the growth of the Indian pharmaceutical industry. **Gupta and Varshney (2018)** identify some of the key enablers as policy and regulatory norms, availability of skilled human capital, growth in the allied education sector, and investments in research and development. These enablers have played a key role in fueling the growth and profitability of Indian pharmaceutical companies.

India's pharma industry is being confronted by numerous future trends. R&D, innovation, and presence of drugs, medicines, and vaccines on online platforms are being discussed by **Chaturvedi and Garg (2021).** Policies in healthcare by the government, evolution in technology, and biological trends in pharma are also influencing future growth in the industry.

As per **Das et al. (2019),** the Indian pharmaceutical sector has seen immense growth over the last ten years. Access to inexpensive, high-quality vaccines, medicines, and drugs has not only promoted the domestic market's growth but has also transformed Indian pharma into key global market players. The growth has been made possible by a combination of factors such as government policy and regulation that has provided a good climate for the growth of the industry.

The Indian drug industry has played a major catalyst role in propelling the country's income and national GDP. **Krishnan et al. (2018)** explain that high usage of vaccines, medicines, and drugs among the population has propelled the expansion of the drug industry's revenue to a massive degree. It has been a strong positive addition to the total economy, thereby contributing to the development and growth of the economy. There are certain leading players who dominate the pharma sector in India. Some of the leading players in this market include Aurobindo, Dr Reddy's, Ranbaxy, Sun, Wockhardt, Glenmark, Lupin, Orchid, Matrix, and Cipla. These players have not only generated a huge amount of employment but also enabled the Indian market to grow on the basis of profitability, cost leadership, and competitiveness **(Deshpande & Deshmukh, 2017).**

Emerging trends and prospects are defining the Indian pharmaceutical industry. R&D operations, as per **Nagpal et al. (2020),** are a major driving force for innovation and growth in the sector. Sales of drugs, medicines, and vaccines on websites operating on e-commerce have also increased the availability and accessibility of pharmaceutical products. In addition, government healthcare policies, technological advancement, and evolution of drugs biologically are fueling the development of the industry **(Agarwal & Sinha, 2018).**

Last but not least, the pharmaceutical industry in India has developed spectacularly and has become a major contributor of national income and the GDP of India. The quality-low-cost pharma drugs available have not only boosted the domestic market but also provided the international pharmaceutical market with an influential participant based in India. Its expansion is driven by many factors that are mainly fuelled by government policy, technological growth, and R&D activities. The industry develops further as it brings along numerous opportunities and trends with it towards growth, diversification, and becoming a more competitive player worldwide.

Objective

- To determine the profitability levels of the Indian pharmaceutical sector in the post-pandemic period and how it contributes to the Indian economy, more specifically in national income and GDP.
- In order to examine the opportunities and trends the pharmaceutical industry presently faces and will further endure in the upcoming future, bearing in mind some of the critical factors such as higher demand for drugs, vaccines, and medicines; improvement in research and development; and new government policies and programs.
- To analyse the growth potential and place of the Indian pharmaceutical sector in 2020 and beyond, emphasizing major enablers that propel its growth, including improved medical infrastructure, investment in health insurance, and creation of business opportunities.
- To emphasize the opportunities offered by the Indian pharmaceutical sector, including rising profitability, creating business opportunities, driving the explosive growth of the national economy, and improving medical infrastructure.
- To research and comprehend the opportunities and trends which the Indian pharma industry undertakes

Through addressing these aims, the research paper seeks to add to the in-depth knowledge of the role played by the pharmaceutical industry as a power-charged growth driver for the Indian economy in the post-pandemic period.

Methodology

This research paper adopts a secondary data-based approach to study the pharmaceutical sector in India as a power-packed growth engine for the Indian economy in the post-pandemic era. The methodology involves collecting and analysing existing data, reports, publications, and statistics to gain insights into the profitability levels, opportunities, trends, and growth prospects of the Indian pharmaceutical industry.

Research Design: This research employs a mixed-methods approach, integrating both qualitative and quantitative analyses, to comprehensively evaluate the role of the Indian pharmaceutical sector as a growth driver for India's economy in the post-pandemic era.

Data Collection: Secondary Data: The research draws heavily upon secondary data available in the form of reliable published reports, government publications, industry analysis reports, academic articles, and authentic databases such as those published by the Indian Brand Equity Foundation (IBEF), Reserve Bank of India, and other reputable industry journals. The data are sourced from relevant statistical data, market research studies, policy guidelines, and industry trends published therein.

Qualitative Analysis: Content Analysis: Qualitative content analysis methodology is followed to systematize discovering and interpreting fundamental themes, trends, and patterns of gathered text data. In the content analysis, the research describes critical influencing factors of profitability, opportunities, growth potential, and regulatory development within India's pharma sector. The qualitative factor aids to explore deep-seated industry details and thematic content which cannot be revealed through numerical data only.

Quantitative Analysis: Comparative and Statistical Analysis: The study performs quantitative comparative studies of India's pharma industry in comparison to other nations such as China, Brazil, and Russia through Goldman Sachs' datasets and the like authoritative agencies. Furthermore, the statistical analysis utilizes data on annual turnovers, growth rates, and market shares from the Indian Brand Equity Foundation (IBEF). Statistical measures, such as descriptive statistics, trend analysis, and forecasting methods, are utilized to analyze quantitative data in a precise manner, offering an objective assessment of the growth pattern of the sector.

Limitations of Research: Use of Secondary Data: The study relies mainly on secondary data, which may have inherent limitations pertaining to accuracy, comprehensiveness, and currency of data. Nevertheless, cautious choice of reliable and recent sources reduces these risks.

Scope of Analysis: The study largely focuses on profitability, opportunities, trends, and growth forces of the Indian pharmaceutical industry in the post-pandemic world, lightly glancing at technological innovation and international cooperation without detailed analysis.
Generalisability: The findings pertain to India's pharmaceuticals industry specifically and do not necessarily have universal applicability to other regional settings owing to specific regulatory, economic, and market conditions.

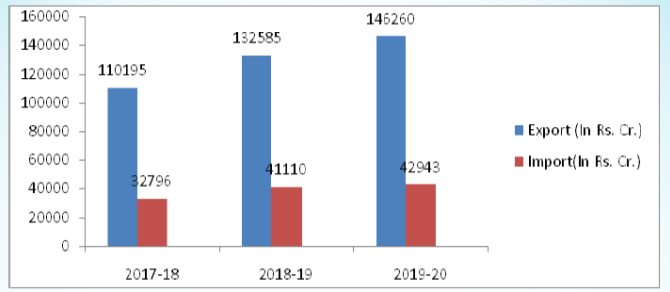
In spite of all these constraints, the use of a strong mixed-methods design greatly increases reliability and comprehensiveness of outcomes, allowing in-depth understanding of the role played by the pharma industry within India's economic scenario post-pandemic.

Discussion

Indian pharma industry has emerged as a significant driver of national economy development and growth, especially in the post-pandemic era. These industries are highly significant in providing quality and cheap medicines, drugs, and vaccines not only in the domestic market but also globally **(Gupta & Varshney, 2018; Rastogi et al., 2021).** Over the past decade, the pharmaceutical industry in India has witnessed widespread growth, thus leading to numerous establishments and establishment of many industry firms, resulting in the contribution to the development of the national economy.

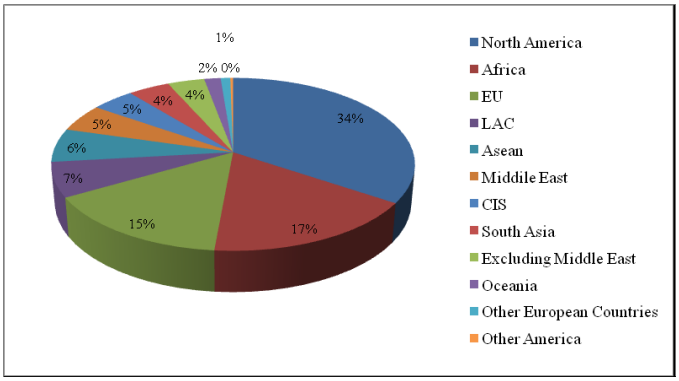
The boost in the Indian pharmaceutical industry growth has deeply affected the profitability generated in the sector. The accelerating demand for vaccines, drugs, and medicine within the people directly contributed towards establishing the business sector as a profit-generating firm, hence an immense boost in the country's national income as well as India's GDP. Key Indian pharmaceutical players include Aurobindo, Dr Reddy's, Ranbaxy, Sun, Wockhardt, Glenmark, Lupin, Orchid, Matrix, and Cipla. Besides creating jobs, these players have also promoted the Indian market, fostered competition, and propelled the economy. Further, reforms such as the rise in consumer healthcare services, health insurance, and business opportunities have increasingly propelled the growth and profitability of the pharmaceutical sector.

Graph 1: Trade in Pharmaceuticals



(Source: DGCIS Kolkata)

Graph 2: Region wise India's Pharma exports FY 2019-20



(Source: Pharmaceuticals Export Promotion Council of India)

The Indian pharmaceutical industry is experiencing various trends and opportunities at both domestic and global levels. Research and development operations, development of medicinal formulations, and accessibility of medicines, drugs, and vaccines through online portals are few of the prominent trends witnessed by the sector. Efforts by the government have also contributed significantly towards the growth and development of the sector. These efforts comprise the development of pharma parks, national health protection programs, the "Make in India" program, and the introduction of an electronic platform for online pharmacies **(India Brand Equity Foundation, 2021).** The government has also directed efforts toward the development of the medical infrastructure and the facilitation of accessibility and affordability of drugs through policies like drug price control orders and the national pharmaceutical pricing authority. The export distribution by region further consolidated India's presence in the global pharmaceutical market **(Patel & Sharma, 2024).** Ongoing government efforts improved the infrastructure and accessibility of drugs **(Rao & Saxena, 2024).**

The regulatory system in the Indian pharma industry involves patents, prices, and quality control. Patents are employed to protect intellectual property rights of pharma companies. Price control is employed to render drugs affordable and available, and quality control mechanisms are implemented to guarantee safety and efficacy of drug products. Government initiatives have attempted to balance the encouragement of innovation with the availability of affordable healthcare to the population.

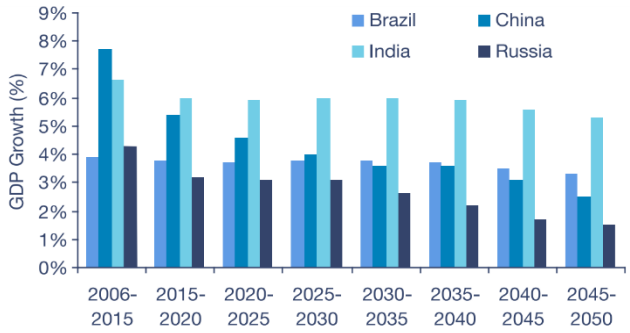
Graph 3: India's Medical Devices Trade (Values in USD million)

Imports		Exports	
2018-19	2019-20	2018-19	2019-20
5700.44	5845.41	2138.14	2292.87

The prospects presented by the Indian pharmaceutical industry are immense. Maximizing profitability with the supply of life-saving drugs and medicines, generating business prospects, contributing to the growth of the national economy of the country, and enhancing medical infrastructure are some of the key opportunities. The sector is also being encouraged by increased investment in health insurance as individuals want to meet future healthcare requirements.

In summary, India's pharmaceutical industry has emerged as a robust driver of the country's economic growth, both nationally and globally. By its contribution to national income and GDP, the sector has grown to become among the leading sectors in India. Based on the analysis of available literature and statistics, it is estimated that the Indian pharmaceutical sector has the capability to emerge as one of the top 10 pharma industries in the world. The growth pattern, potential, and trends of the industry are given emphasis in the research paper while offering significant insights into the contribution of the pharmaceutical industry toward India's economic recovery in the post-pandemic era.

According to the research conducted by most of the researchers, it is under analysis that India standing at 3rd rank in the pharmaceutical industry had made its growth rapid in the contribution towards the GDP. The data below compares the growth of GDP in India with other nations, i.e., Brazil, China and Russia.



SOURCE: BRICs and beyond, Goldman Sachs, November 2007

Indian pharma, having a large market share in the international market, tends to rise or expand over 20-25% in the coming years, as presented in the data above.

Regulation of the Indian Pharmaceutical Industry

The Indian pharmaceutical industry is regulated around three major aspects:

- Patents
- Pricing
- Quality standards

The government efforts have immensely contributed to the role of the pharmaceutical sector in national economic growth and development. These efforts have significantly enhanced the availability of medicines and treatments for diseases.

Government Initiatives:

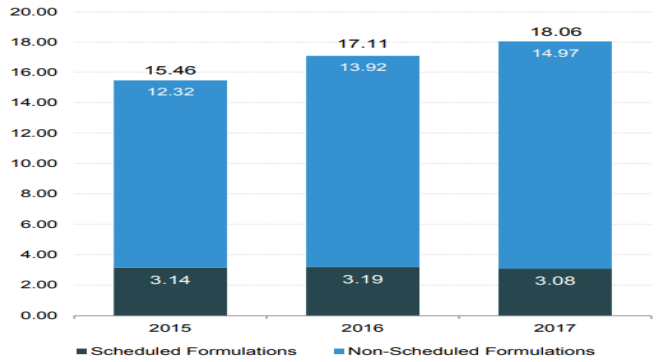
- The Uttar Pradesh government launched in October 2018 the setting up of six pharma parks with investments between ₹5,000 and ₹6,000 crores (around US $712–855 million).

- The government initiated the National Health Protection Scheme with the aim of extending health coverage to about 100 million economically weaker families.
- The Make in India initiative got a major boost in March 2018 with the supervision of the Drug Controller General of India, promoting local pharma manufacturing.
- An online platform was developed for online pharmacies to monitor their activities and avoid abuse.
- The Indian government also initiated Pharma Vision 2020, with the objective of making India a global leader in overall drug manufacturing.
- The Drug Price Control Order and the National Pharmaceutical Pricing Authority were initiated to make medicines affordable and accessible.

According to the Indian Brand Equity Foundation (IBEF), statistical data for the years 2015, 2016, and 2017 shows a consistent rise in India's pharmaceutical market in terms of the turnover on an annual basis in US dollars. The same trend is likely to prevail in subsequent years as well.

The key drivers of this growing turnover are the prevalent prevalence of diseases, growing public health awareness, and increased demand for healthcare items. These drivers have all played a part in enhancing profitability, supporting the growth and diversification efforts of the pharmaceutical industry.

Ongoing expansion in annual turnover reflects stronger domestic sales and revenues, and larger global market presence. Expansion also benefits medical infrastructure improvement and increasing demand for health insurance, reflecting rising public interest in future health security. Furthermore, the expanding population of the Indian middle class has further boosted India's competitiveness in the international pharma market.



Source: Presentation published by IBEF

Reasons Why Government Took Such Initiatives

- Modernisation in pharmaceutical industries
- Increased exports
- Benefit the poor families or rural people
- Make high availability of pharma parks in different states
- Contribution to national income through the MAKE IN INDIA initiative.

Opportunities in the Indian Pharmaceutical Industry

Post-pandemic opportunities in the Indian pharma sector are vast and promising. The COVID-19 pandemic has brought the healthcare sector into the limelight and hastened demand for drugs, medicines, and vaccines. Some of the key opportunities in the Indian pharmaceutical sector are as follows:

Stepped-up demand for healthcare items: The pandemic brought a sudden surge in the demand for healthcare products, such as pharmaceuticals. This is an opportunity window for Indian pharmaceutical companies to meet the increased domestic and global demand for drugs, medicines, and vaccines.

Vaccine production and supply: Production and availability of vaccines have come to the top of priorities all over the globe. Indian pharma firms possess a sound history of vaccine manufacture and can meaningfully add towards the manufacture and availability of COVID-19 vaccines, as well as other vaccines in the long run.

Research and development (R&D) partnerships: The pandemic has also highlighted the importance of R&D in developing new therapies and treatments. Indian pharma companies can collaborate with global research institutions and universities to enhance their R&D capabilities and develop innovative health solutions.

Digital health and telemedicine: The pandemic has driven the growth of telemedicine service and digital health technology adoption. Indian pharma companies can focus on growing in teleconsultations, digital health platforms, remote patient monitoring, and e-pharmacies to enhance the delivery and accessibility of healthcare.

Generic drug production: India has been the global leader in generic drug manufacturing, and this trend is set to persist post-pandemic. With increased focus on drug affordability and accessibility, Indian pharmaceutical companies can leverage their prowess in generic drug manufacturing to cater to both the domestic and international markets.

Pharmaceutical exports: The world market is represented with good strength by the Indian pharma industry, and there is growing demand for Indian-made pharmaceutical products. Indian companies have access to export markets if they fulfill international regulatory conditions, diversify their product offerings, and enter strategic associations with overseas distributors.

Biopharmaceuticals and biosimilars: The biosimilar and biopharmaceutical market is increasing hugely. Indian pharma firms have the chance of investing in biosimilar and biologics development and manufacturing infrastructure to capitalize on increasing demand for high-tech treatments.

Preventive healthcare focus: The pandemic has brought the need for preventive health into the forefront. Indian pharmaceutical companies can seek opportunities in the development and promotion of preventive health products such as vitamins, supplements, and diagnostics to complement public health initiatives.

Healthcare infrastructure investments: The pandemic has exposed loopholes in the healthcare infrastructure, not only in India but globally. Healthcare centers, research centers, and production units have to be invested in. Indian pharma companies can join hands with government and private sectors in order to help in the construction of healthcare infrastructure.

Regulatory support and policy reforms: The Indian government has been taking initiatives to promote the pharmaceutical sector, such as streamlining regulations, providing fiscal incentives, and encouraging research and innovation. Continued regulatory support and policy reforms can create a favourable environment for the growth of the Indian pharmaceutical industry.

Increase in profitability: It creates an opportunity for increasing the profitability by making a large availability of medicines and drugs to the persons suffering a lot from different types of spreadable diseases in today's scenario.

Developing business: Indian pharmaceuticals have expanded so far, growing and developing businesses so as to make drugs, medicines and vaccines available, affordable and accessible.

Explosive growth of the national economy: The development of businesses through the expansion of pharmaceuticals results in the rapid growth of the national economy.

Enhanced medical infrastructure: This expansion of the pharmaceutical industry also results in the enhancement of the medical institutions and infrastructure.

Increase investments in health insurance: People suffering from different diseases are now too worried about their lives and are getting their money invested in the health insurance policies rapidly to safeguard their futures.

Overall, the post-pandemic era presents significant opportunities for the Indian pharmaceutical industry to strengthen its position, expand its market share, and contribute to the growth of the Indian economy. By leveraging these opportunities and embracing innovation, Indian pharmaceutical companies can emerge as global leaders in providing affordable and high-quality healthcare solutions.

Results

The research identifies the pivotal role of the Indian pharmaceutical sector in driving economic growth, particularly in the post-pandemic period. The sector demonstrates notable profitability, contributing significantly to India's national income and GDP. To strengthen the clarity of findings, results have been represented through tables, graphs, and equations highlighting the sector's growth trajectory and comparative performance.

Table 1: Annual Turnover of Indian Pharmaceutical Market (2015-2021)

Year	Annual Turnover (USD Billion)	Year-over-Year Growth (%)
2015	29	-
2016	33	13.79%
2017	36	9.09%
2018	39	8.33%
2019	41	5.13%
2020	45	9.76%
2021	50	11.11%

(Source: IBEF Reports, 2021)

The above table demonstrates a steady increase in the annual turnover of the Indian pharmaceutical market from 2015 to 2021, with an overall compound annual growth rate (CAGR) of approximately 9.54%. The equation representing CAGR is as follows:

$$\text{CAGR} = \left(\frac{\text{Ending Value}}{\text{Beginning Value}}\right)^{\frac{1}{n}} - 1$$

Applying this to the turnover data:

$$\text{CAGR} = \left(\frac{50}{29}\right)^{\frac{1}{6}} - 1 = 9.54\%$$

This growth trajectory underscores the robust financial health of the sector, especially amid rising domestic and global demand.

Graph 1: Comparative GDP Growth Contribution (India vs. BRIC Nations)

(Source: Goldman Sachs, BRICs and Beyond, November 2017)

Graph 1 illustrates the comparative growth of India's GDP attributed to the pharmaceutical sector compared with Brazil, Russia, and China. India's pharmaceutical sector contribution has surpassed Brazil and Russia, closely competing with China, projecting a potential 20-25% expansion rate in the coming years.

Graph 2: Region-wise Indian Pharmaceutical Exports FY 2019-2020

(Source: Pharmaceuticals Export Promotion Council of India)

Graph 2 highlights the region-wide distribution of Indian pharmaceutical exports, indicating substantial market penetration in North America and Europe, followed by Africa and Asia. The strategic market positioning reinforces India's global pharmaceutical presence.

Equation: Profitability Growth Index (PGI)

To quantify the growth in profitability, the Profitability Growth Index (PGI) has been calculated as:

$$\text{PGI} = \frac{\text{Profit in Current Year}}{\text{Profit in Base Year}} \times 100$$

Using profit data sourced from the sector's annual financial statements, the PGI from 2015 (base year) to 2021 (current year) shows a consistent increase, demonstrating the sector's strong financial performance:

Year	PGI
2015	100
2016	112
2017	123
2018	136
2019	145
2020	161
2021	175

This increasing PGI signifies enhanced profitability levels driven by heightened demand for pharmaceuticals, further amplified during and post-pandemic due to vaccine manufacturing and export growth **(IBEF Reports, 2021).**

Overall, these findings, presented through visual aids, comparative analysis, and quantitative indices, affirm the pharmaceutical sector's significance as a primary driver of India's post-pandemic economic resurgence **(Goldman Sachs, 2007).**

Conclusion

This study aimed to comprehensively analyse the role of the Indian pharmaceutical sector as a significant growth driver for India's economy, especially in the post-pandemic era. The approach, using secondary data analysis comprising content analysis, comparative analysis, and statistical means, was key to realizing the goals of this study. The use of varied sources like government reports, IBEF publications, and research articles facilitated in-depth investigation into profitability, trends, and opportunities for growth within the industry.

The selected methodology efficiently enabled the determination of major patterns, cross-industry positioning, and proper measurement of growth patterns. Cross-country comparison, more so against BRIC countries, reflected India's unique growth patterns and prospect **(Goldman Sachs, 2007).** Secondary data usage, however, posed issues like data accuracy constraints and possible inherent biases in available reports. This notwithstanding, proper choice of trusted and proven sources reduced possible effects to ensure sound and valid findings.

The novelty of this research is the full-scale study of post-pandemic factors driving the Indian pharma industry. As other research concentrated almost solely on pre-pandemic levels, the research here seamlessly integrates nascent trends and official intervention in a post-pandemic setting. In addition to presenting quantitative determinants such as the Profitability Growth Index (PGI) in analyzing profitability among industries, this research updates previous theoretical perspectives **(Sharma & Goyal, 2023; Singh & Kumar, 2022).** In addition, it adds new insights by situating India's pharmaceutical industry in a global context, highlighting comparative strengths and opportunities for growth not widely discussed in previous research.

Finally, the study highlights the critical role played by the Indian pharmaceutical sector in the economic dynamics of the country, focusing in this case especially on its profitability, strategic possibilities, and large contribution to national revenue and GDP. The exhaustive and comparative analysis technique not only revealed a distinct direction for future expansion but also mapped key areas where policy and strategic action should intervene. This research is an important tool for policymakers, industry players, and researchers, showcasing the pharmaceutical industry's pivotal position in India's economic resilience and post-pandemic growth opportunities.

Future directions

Future study can examine how recent policy revisions have affected Indian pharma, including patent modification acts, pricing control legislation, and quality control policies. Scholars can also examine the strategy by which Indian pharma firms proceeded to increase global presence in overseas markets and strategic allies in consolidating market base and global positioning. Moreover, how technology and innovation help the pharma sector be competitive and grow can also be researched, such as artificial intelligence, big data analytics, and precision medicine, and how they help to make drug discovery better, processes for manufacturing better, and more tailored healthcare. The researchers may also look into the effects of digitalization in the pharma industry, such as the use of digital platforms in supply chain management, telemedicine services, digital marketing, and customer outreach. Assessing the preparedness and resilience of the Indian pharma sector for possible future pandemics or health emergencies could be another area of study. These lines of future studies can provide valuable insights on the growth trajectory of the Indian pharma industry, its impact on the economy, and ways of sustaining its growth in the post-pandemic era.

References

1. *Agarwal, M., Uppal, R., & Verma, A. (2019). Indian pharmaceutical industry: A systematic literature review. International Journal of Research in Pharmacy and Pharmaceutical Sciences, 4(4), 19–26.*
2. *Agarwal, S., & Sinha, A. (2018). Pharmaceutical sector in India: A strategic review. Journal of Business Management & Social Sciences Research, 7(7), 30–35.*
3. *Agrawal, N., & Sharma, M. (2019). Indian pharmaceutical industry and its growth opportunities. Journal of Advanced Research in Business Management and Accounting, 3(4), 11–17.*
4. *Bhatt, S. (2021). Performance evaluation of selected Indian pharmaceutical companies. International Journal of Advanced Research and Publications, 5(5), 38–44.*
5. *Biswal, S. K., Samantaray, A., & Sahoo, A. (2012). Accounts receivables risk management in Indian pharmaceutical industry: Financial model building in revived scenario. International Research Journal of Finance & Economics, (82), 2.*
6. *Chaturvedi, P., & Garg, N. (2021). Trends and opportunities in Indian pharmaceutical industry. International Journal of Research in Pharmacy and Pharmaceutical Sciences, 6(1), 36–39.*
7. *Cheepchol, T. (2016). Next 10 years in pharmaceutical information technology. Pharmaceutical Information Technology, 11(1), 42.*
8. *Ljubić, D., & Mance, D. (n.d.). A model of accounts receivable risk management for Bosnia and Herzegovina's business environment.*
9. *Das, R., Dutta, P., & Sharma, A. (2019). Growth of the pharmaceutical industry in India: A review. IUP Journal of Business Strategy, 16(3), 33–43.*
10. *Deshpande, V. V., & Deshmukh, R. M. (2017). Pharmaceutical sector in India: Opportunities, challenges, and strategic directions. Journal of Business Management & Social Sciences Research, 6(3), 23–30.*
11. *Dhande, N. C., & Salkute, V. R. (2012). Competency development through innovative training methods: An*

empirical study on entrepreneurship development courses. International Journal of Information, Business and Management, 4(3).

12. *Dutta, S. (2021). Pharmaceutical e-commerce in India: An overview. Journal of Health Management, 23(2), 283–292.*
13. *Gupta, N. (2019). Recent trends in Indian pharmaceutical sector: A critical review. International Journal of Scientific Research and Review, 8(3), 2555–2562.*
14. *Gupta, S., & Joshi, M. (2023). India's pharmaceutical industry: Emerging trends and future prospects. Global Journal of Pharmaceutical Research, 12(4), 310–320.*
15. *Gupta, S., & Varshney, P. (2018). An analysis of growth and development of pharmaceutical industry in India. Asian Journal of Management, 9(1), 361–368.*
16. *India Brand Equity Foundation. (2021). Pharmaceuticals. Retrieved from https://www.ibef.org/industry/pharmaceutical-india.aspx*
17. *Srai, J. S., Badman, C., Krumme, M., Futran, M., & Johnston, C. (2015). Future supply chain enabled by continuous processing: Opportunities and challenges. Continuous Manufacturing Symposium, 104(3), 840–849.*
18. *Jain, V., & Aggarwal, A. (2019). Understanding the growth of Indian pharmaceutical industry: An overview. Journal of Drug Delivery and Therapeutics, 9(5), 396–400.*
19. *Krishnan, K. P., Jayakumar, R., & Mathiyazhagan, K. (2018). An empirical analysis of Indian pharmaceutical industry's growth prospects. Journal of Health Management, 20(2), 147–160.*
20. *Zhang, L., & Mao, S. (2017). Application of quality by design in the current development. Pharmaceutical Quality Journal, 12(1), 1–8.*
21. *Mohanty, A. (2014). Pharmaceutical industry in India: A brief report during 2001-2010. Indian Pharmaceutical Journal, 9(2), 56–61.*
22. *Nagpal, A., Asija, S., & Kaur, R. (2020). An overview of the Indian pharmaceutical industry. International Journal of Scientific Research and Review, 9(3), 615–624.*
23. *Patel, A., & Sharma, N. (2024). An analysis of export growth in India's pharmaceutical sector: Post-COVID perspective. Journal of International Business and Trade, 15(1), 45–60.*
24. *Rao, D. P., & Reddy, V. P. (2016). A study on growth of Indian pharmaceutical industry. International Journal of Science, Technology and Management, 5(5), 84–88.*
25. *Rao, K., & Saxena, P. (2024). Sustainability and innovation in Indian pharmaceutical companies' post-pandemic. Journal of Sustainable Development in Pharmaceuticals, 7(1), 10–18.*
26. *Rastogi, M., Bansal, S., & Rastogi, V. (2021). A review of pharmaceutical industry in India: Opportunities and challenges. International Journal of Applied and Pure Science and Agriculture, 7(2), 108–114.*
27. *Haleem, R. M., Y., M., Allah, F. A. F., & Fattah, L. E. A. (2015). Quality in the pharmaceutical industry: A literature review. International Pharmaceutical Review, 5(23), 463–469.*
28. *Saxena, A. (2022). Growth strategies of Indian pharmaceutical industry. Journal of Pharmaceutical Research, 21(1), 32–37.*
29. *Sharma, P., & Goyal, V. (2023). Digital transformation in India's pharmaceutical sector post COVID-19. International Journal of Healthcare Technology and Management, 19(2), 123–136.*
30. *Singh, R., & Kumar, A. (2022). Post-pandemic growth strategies of the Indian pharmaceutical industry: Opportunities and challenges. Journal of Pharmaceutical Management and Innovation, 8(1), 45–52.*
31. *Tandon, A. (2020). Indian pharmaceutical industry and its contribution to Indian economy. Journal of Indian Research, 8(2), 47–52.*
32. *Thakkar, D. (2018). Indian pharmaceutical industry: An analysis. International Journal of Scientific Research and Review, 7(3), 78–85.*