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Indian Manufacturing Sector: Miles Travelled, Miles yet to go

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Abstract

Since India's independence in 1947, Indian Economy has undergone major changes, especially the manufacturing sector. This paper tries to analyse the performance of Indian Manufacturing sector. It takes into account various phases of stagnation and growth experienced by this sector since 1950. From adoption of mixed economy to Economic reforms to Post-pandemic India, this paper tries to incorporates all the major events that shaped the Indian manufacturing sector and have placed India on the 5th pedestal in global manufacturing market today. It also brings out the comparison between India and China on the grounds of IIP, manufacturing sector as share in employment and GDP. The review concludes with an overall performance of industrial sector with some suggestions for establishing India as a manufacturing hub.

Keywords: Manufacturing Sector, Industrialisation, New Economic Reforms, India-China, Post-Pandemic, GDP

1. Introduction

Before the onset of Industrial Revolution, Indian manufacturers accounted for a quarter of world's industrial output (Maddison, 2007)^[16]. But, the discriminatory policies of British Rule, Industrial Revolution and the rise of modern industry led to the decline of Indian manufacturing sector (Roy, 2016).

On the dawn of Independence, the Indian manufacturing sector was in a state of ruin. It was extremely under-developed with a feeble infrastructure (Basu, 2014). The consumer goods industries dominated the lopsided industrial development with a ratio of 62:38 in relation to the producer goods in 1953 (Bagchi, 2000)^[5], lacking export orientation. Ownership was highly concentrated, extreme shortage of technical and managerial skills, lack of government intervention in industrial sector were few of the reasons behind the under development.

To overturn the harm caused by the exploitative policies of Britishers, many steps were taken for the revival of industrial sector, ranging from the Industrial Policy Resolution of 1948, the Industries (Development and Regulation) Act, 1951, the First and Second Five Year Plan, the Industrial Policy Resolution of 1956.

This paper aims to provide an in-depth analysis of the performance of the manufacturing sector in India. By examining key indicators, trends, challenges, and opportunities, it seeks to offer valuable insights into the sector's contribution, growth potential, and competitiveness.

2. Data and Methodology

The methodology focuses on the analysis and critical evaluation of secondary data, which is gathered from various authentic sources (like MOSPI, Economic Survey, RBI, UNIDO, World Bank etc.) as well as other public and verified reports. Data has been compiled and represented through various graphs for better understanding and easy comprehensibility. The data majorly hovers around the present era but to get a clear picture, at some places the data is taken from 1950 and trend shown since then.

3. Theoretical Overview

Evolution of Indian Manufacturing Sector: Periods of stagnation and growth

Having suffered severely in the hands of British Raj, after independence, Indian manufacturing sector had witnessed many phases of growth and stagnation, reflecting India's evolving economic policies and global economic dynamics (Kochhar, 2010). The boom in early growth phase (1950s-1960s) was an outcome of post-independence initiatives like adopting mixed

economy model with inclination towards state. The First Five-year plan (1951-1956) majorly focused on agriculture but also laid the ground for industrial growth. In the year

1955-56, the annual growth rate of Indian manufacturing sector rose to 11.7% (Fig 1).

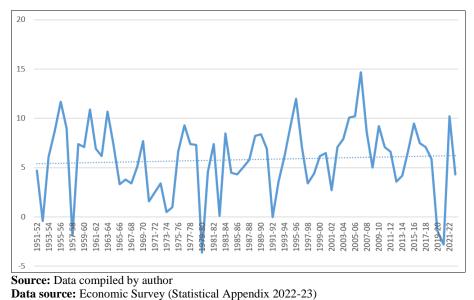


Fig 1: Annual Growth Rate of Manufacturing Sector in India since 1951

The Second Five-year plan (1956-1961) emphasised on heavy industries for establishing a strong industrial base. Also, the Industrial Policy Resolution of 1956 aimed at promoting industrialization through state ownership of key sectors. Many infrastructure development projects such as dams (e.g., Bhakra Nangal Dam), power plants, and transport networks, which supported industrial. The establishment of Public Sector Enterprises in core industries like steel, mining, heavy machinery, and energy. At the end of 1960-61, the Indian manufacturing sector growth rate was 10.9%.

Then, the stagnation period crept in. The period between1965-1980 saw a slowdown resulting from various challenges faced by India, majorly the wars and political instability. The Indo-Pak wars of 1965 and 1971 strained the economy, diverting resources to defence. In 1965-66 the manufacturing sector annual growth rate reduced significantly from 7.4% directly to 3.3% and remained around 3% in following 3 years till 1968. As the economy along with the manufacturing sector was recovering (in 1969-70 manufacturing sector annual growth rate was 7.7%) then the second Indo-Pak war happened in 1971 pushing manufacturing sector backwards at the annual growth rate of 1.6%. Afterwards, the Emergency period (1975-1977) led to political unrest and uncertainty, affecting industrial activities. Economic challenges also tested India. As regards climatic factors, severe droughts in the late 1960s led to food shortages and economic difficulties. High inflation and fiscal deficits hampered economic stability. Further fuel was added by Restrictive Industrial Policies adopted by the government towards private sector. Strict policies on employment and shut down of industry even in case of loss, overtake of private industries by government etc demotivated the private sector to take major initiatives. The 'License Raj' system along with Industrial disputes and labour strikes (due to strong trade unions) further disrupted production.

Things were made easier when the then governments started liberalising the strict Licencing system, leading to growth in 1980-1990. The government began to relax controls on industry, reduce import tariffs, and encourage technological upgrades. They also focused more on technological advancements. Meanwhile the tremendous growth in Services Sector helped in overall economic growth.

The New Economic Reforms of 1991 and aftermath

The major turn-over started with the Economic Liberalization in 1991. The enactment of LPG (Liberalisation, Privatisation & Globalisation) Policy in 1991 marked it as a landmark year in the economic history of Post-Independence India (Rangarajan 2003)^[19]. When the country was going through a severe economic crisis due to adverse BOP (Balance of Payments) conditions, dismantling the License Raj, devaluing the rupee, privatisation in earlier government reserved areas, opening the economy to foreign trade and investment and exchange rate management proved to be a bold step as it improved the productivity and efficiency of the system. It led to a phase of boom as the removal of industrial licensing requirements and reduction in tariff barriers attracted both domestic and foreign investments. As a result, industries like automotive, pharmaceuticals, information technology, and telecommunications saw significant growth. The reforms during 1991-94 accelerated GDP growth to above 7% p.a. and industry growth rate to above 9% p.a. The decadal years from 1991 to 2001 marked a significant transition for Indian economy. Though the pace of reforms slowed in mid 1990s accompanied by worsening fiscal balances resulting in loss of investment and exports momentum and slow economic growth after 1997 (Kapila, 2021)^[13]. During that period, agricultural sector growth declined significantly with yearto-year fluctuation and industrial growth also decelerated with milder fluctuations (Ahluwalia, 1987, 1991^[3], 2006^[4]). The Asian Financial Crisis of 1997-1998, led to a decline in export demand, negatively affecting industries dependent on foreign markets, marking its slowdown. Financial markets experienced volatility, and investor confidence was shaken.

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The Dawn of a New Century

The onset of a new century opened new prospects for Indian manufacturing sector. In early 2000s, the IT boom, along with growth in business process outsourcing (BPO) and knowledge-based industries, drove industrial and economic growth. Policies aimed at improving infrastructure, such as the National Highway Development Project, spurred industrial expansion. But this boom was short lived as the world faced Global Financial Crisis (2007-2008). The crisis led to reduced global demand, impacting exports of the country, additionally credit constraints and uncertainty led to a slowdown in industrial investment and production. The annual growth rate of Indian manufacturing sector fell from 8.6% in 2007-08 to 5% in 2008-09. As Post-Crisis Recovery (2010-2012) with the help of government stimulus packages and global recovery helped revival of industrial growth as in 2009-10 and 2010-11, the manufacturing growth rate increased to 9.2% and 7.1% respectively. Focus on infrastructure projects, urbanization, and consumer demand fuelled industrial expansion. But the political instability, red tapism and corruption scandals led to a slowdown in decision-making and implementation of policies also high inflation and interest rates deterred investment. Manufacturing sector growth rate fell from 6.6% (in 2011-12) to 3.6% (in 2012-13).

With a change in government, new policies were framed and brought to life for the betterment of manufacturing sector. The Make in India Initiative (launched in 2014) aimed at transforming India into a global manufacturing hub. Simplification of regulatory processes, improvement in ease of doing business, and incentives for manufacturing boosted industrial growth. All these marked a boom in the sector. As a result, the growth rate of manufacturing sector increased to 9.5% (in 2015-16) from 6.7 (in 2014-15) and 4.2% (in 2013-14).

But soon enough India faced some economic challenges in the period 2019-2020 leading to slowdown. Issues like high level of non-performing assets (NPAs) in banks, declining consumption, and weak investment climate slowed industrial growth at 5.9% (in 2018-19) (dropped from 7.1% in 2017-18). Things were not that good enough when COVID-19 hit. The COVID-19 pandemic caused a severe contraction in industrial activity due to lockdowns and supply chain disruptions. The annual growth rate of manufacturing sector became negative at -1.4% and -2.8% in the years 2019-20 and 2020-21 respectively.

Post- Pandemic India

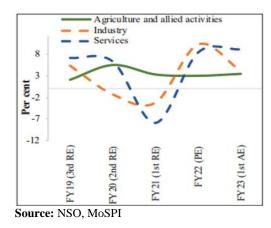
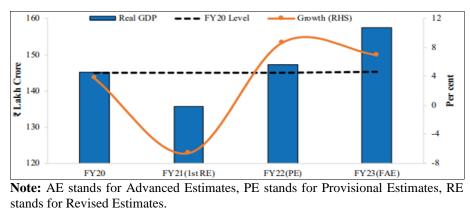


Fig 2: YoY growth of Real GVA components

The economies around the world experienced slow down during COVID-19 pandemic as all the major production activities were shut down for a certain period of time due to complete or partial lockdown. In India also year 2020 was marked with periodic lockdowns during the month of March and April. As is evident from Fig 2, the manufacturing and services sector saw a downfall with negative growth rate around -5% and -7% respectively. Though, the growth of agricultural sector was always positive even in that duration too. Since 2021, the economy has recovered (Fig 3). The economic growth rate remained resilient. The manufacturing sector recovered rapidly than other sectors depicting a V-shaped recovery growth.



Source: NSO, MoSPI

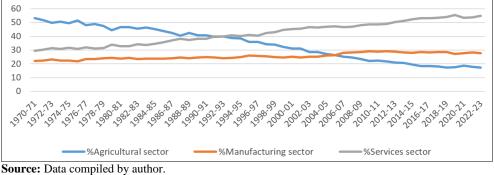
Fig 3: Economic growth remains resilient

In the Post-Pandemic Recovery (2021- till Present), India has seen gradual recovery driven by government initiatives focused self-reliance (Atmanirbhar on Bharat). infrastructure development, and digitalization. The manufacturing sector grew at 10.2% in 2021-22 (Fig 1). Sectors like pharmaceuticals, digital services, and renewable energy have shown strong growth, while traditional manufacturing faces challenges like supply chain

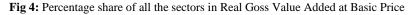
disruptions and inflation.

4. Sectors of the Indian Economy as part of GVA:

After the pandemic, not all the sectors of the Indian Economy grew at the same pace. The agricultural sector which had put on a stellar show during the pandemic years receded in importance, while the contribution of other sectors grew. (Fig 4).



Data source: RBI Handbook on Statistics



The Fig 4 shows the percentage share of agriculture, manufacturing and service sector over these periods. It shows even more clearly how the growth rate of services has accelerated while that of agriculture has declined. The growth of industry has been more modest than that of services, averaging 6 per cent during the 1990s and though a little higher since the turn of the century, growth in the industrial sector still remains below that of the services sector. However, the manufacturing sector in India also faces challenges that need to be addressed to optimize its performance. These challenges include infrastructure bottlenecks, regulatory complexities, skill shortages, access to finance, and market uncertainties. It is crucial to identify and overcome these challenges to facilitate sustained growth and development in the manufacturing sector. Moreover, the manufacturing sector's performance is influenced not only by domestic factors but also by global trends and market dynamics. International trade policies, geopolitical developments, technological advancements, and changing consumer preferences can impact the sector's growth trajectory.

Manufacturing verses Services Sector

Kuznets and Chenery propose a traditional view suggesting a rapid increase in manufacturing's share of the economy alongside a decline in agriculture, with uncertain or modest effects on services (Kuznet, 1971)^[15] (Chenery, 1960)^[7]. However, India's structural reforms journey has been different. Between 1980 and 2002, share of services in value added increased significantly from 37% to 49%, while that of manufacturing remained broadly unchanged at around 16% (Fig 4). The decline in agriculture mirrored the performance of services during this period. Similarly, employment shares saw a rise in services from 19% to 22% and a slight increase in manufacturing from 14% to 18%.

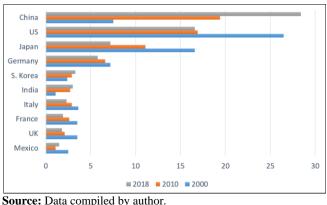
When comparing India's sectoral evolution with other countries, manufacturing performance tended to be less robust. However, India's performance in the services sector stood out significantly. India's share of services was notably higher than in other countries, with the services sector experiencing a substantial increase in size compared to other countries.

While Indian manufacturing showed signs of lagging behind other similar countries' average performance, the services sector experienced remarkable growth (Kochhar K 2006)^[14]. The recent trend in the last decade (2011-2021) also shows the dominance of Services sector in the Indian economy, but, due to diligent efforts of the government, through various schemes like Make in India initiative, Industrial Corridor Development Programme, Ease of Doing Business, Production Linked Incentive scheme, National Logistics Policy etc., substantial growth can be witnessed in the manufacturing sector as well.

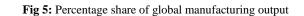
5. India and the world

"In 10 years, India has moved from the 10th largest economy of the world to the 5th largest economy of the world. In 10 years, India is now seen as a country with immense potential which is backed by impressive performance." (PM Narendra Modi). In present scenario when we are aiming at making India a \$5 Trillion Economy, we must analyse where we stand on the global stage.

Top 10 manufacturing countries in the World:



Data Source: UN Statistics Division, World Economic Forum

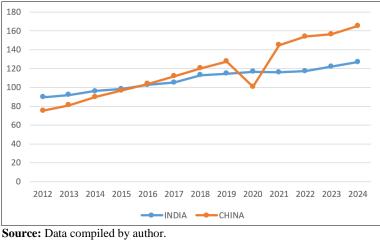


The Indian manufacturing sector has experienced stagnation for a quarter century, in contrast to many Asian economies (like Japan, South Korea, China etc.) that have moved up the technology ladder with a rapid increase in manufacturing in domestic output and global trade (Rodrik, 2016)^[20]. Despite the hurdles, Indian economy has performed well over the past few years and has secured the position of being the 5th largest economy in the world since 2022. Ten years ago, India was the 10th largest economy in the world, with a GDP of \$1.9 trillion at current market prices. In 2022, it is the 5th largest with a current GDP of \$3.7 trillion (estimate FY24), despite the pandemic and despite inheriting an economy with macro imbalances and a broken financial sector. India is expected to become the third-largest economy in the world with a GDP of \$5 trillion in the next three years and touch \$7 trillion by 2030 on the back of

continued reforms (Press release, Ministry of Finance, Government of India). Likewise, the contribution of Indian manufacturing sector in the world has also increased immensely. As per the data (Fig 5), India contributed to 3% share of global manufacturing output in 2018, securing the 6^{th} position then (China, USA, Japan, Germany, South Korea securing the top positions respectively). This shows an increase over the decades from 2.7 % in 2010 and 1.1%

in 2000. Though there are miles yet to be covered, as China, the "World's Factory", contributes towards 28.4% (2018) share in global manufacturing output, which is 10 times of what India does. China became the world's largest manufacturing country in 2010 and has maintained that position 14 years since.

India and China



Data Source: UNIDO

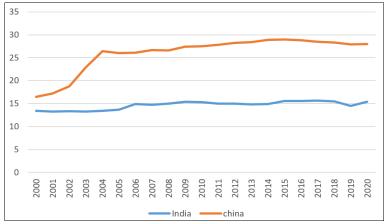
Fig 6: Index of Industrial Production (Base year- 2015) (seasonally adjusted)

In the recent past, as per the UNIDO data, the IIP (Index of Industrial Production) of China and India were roughly around the same level during 2014-17; but this was when China had already surpassed India in absolute terms and had a high base as compared to India. In the 1950s India and China had same level of industrialisation (Raj 2006)^[22]. But as it is clearly evident from Fig 5 that China surpassed every nation to become the 'world's largest manufacturing hub'. Though there was a decline in China's IIP in 2020 due to

Corona Virus Pandemic, but since its recovery, China has shown drastic progress in manufacturing sector. This resulted in constantly increasing gap between India's IIP and China's IIP since 2021.

Manufacturing sector's contribution in GDP and employment generation

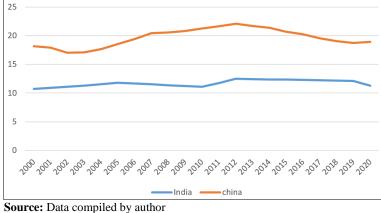
Comparative analysis of India with China



Source: Data compiled by author

Data Source: The World Bank Group

Fig 7: Manufacturing value added as a proportion of GDP (%)



Data Source: The World Bank Group

Fig 8: Manufacturing employment as a proportion of total employment (%)

Keeping the population of the world's most populous (India) and the second most populous (China) country in mind, the manufacturing sector employs a major portion of it. Since manufacturing generates majority of the employment opportunities of every kind of labours be it skilled, semiskilled and non-skilled workers. The sector which employs majority of the country's population, dominates the economy. Hence, when we closely observe the cases of India and China, it is evident from the Fig 8, that China employs majority of its total workforce in manufacturing sector thus contributing a majority in its GDP establishing it as a manufacturing hub. Fig 7 also shows that there has been a sharp rise in proportionate contribution of manufacturing sector in GDP around 2004 (18% in 2002 to 27% in 2004) and that level has been maintained since then. Whereas India employs around 10% of its total labour force in manufacturing sector but contributing to only around 15% of its GDP. This shows the major reason behind why India is lagging behind (Siddiqui, 2019)^[24]. With the largest demographic dividend, India competitively stands a chance to strengthen its manufacturing base and increase its employment of greater workforce in the manufacturing sector to the overall GDP.

6. Result and discussion Trends and Pattern of Industrial Growth

Table 1: Long-term Growth Rates of Indian Economy (1951-2010) (% per yea	r)
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S. No	Sector	1951-1980	1981-1991	1991-2000	2001-2010	1992-2010	1951-2010
1	Agriculture	2.2	3.1	2.7	2.9	2.7	2.6
2	Industry	5.3	7.4	5.7	7.8	7.1	5.5
3	Services	4.6	7	7.6	9.4	8.5	5.8
4	GDP	3.6	5.6	5.6	7.9	6.8	4.6

Source: National Accounts Statistics, various issues

Notes: a. Agriculture includes allied activities like forestry & fishing, mining and quarrying

b. Industry includes Manufacturing; construction; electricity; gas and water supply

c. Services includes Trade, hotels, transport & communication; Financing, real estate and professional services; Public administration, defence and other services.

Over the last seven decades between 1951- 2010, manufacturing sector grew more (5.5%) than the annual domestic output growth (4.6%). This growth is mainly accompanied by diversification in output, regional composition, ownership and organisational pattern (Kapila, 2021)^[13]. It is clearly evident from the Table 1 that till the 1980s, the manufacturing was economy's leading sector but services had surpassed it since 1990s. The stagnation of Indian manufacturing sector can be attributed to many reasons discussed earlier. But, in the following decade i.e. 2001-2010, witnessed acceleration in GDP growth to 7.9% p.a. with industrial and services growth to 7.8% p.a. and 9.4% p.a. respectively.

Thus, the Indian economy can be periodically classified in 6 phases (Acharya *et al.* 2006)^[1]:

- 1. **1951-52 to 1966-67:** Evolution of industrial development strategy.
- 2. **1967-68 to 1980-81:** Inward orientation and industrial stagnation.
- 3. 1981-82 to 1990-91: Deregulation, and acceleration of

growth.

- 4. **1991-92 to 2000-01:** Economic reforms and service-led growth.
- 5. **2001-02 to 2010-11:** Growth resurgence and global crisis encompassing industrial growth and a period of fluctuating trends.
- 6. **2011-12 to 2022-23:** Significant rise in industrial growth rate due to various policy implication such as Make in India, Startup India, Production Linked Incentives etc. The world economic slow-down during the covid-19 pandemic resulted in negative growth but soon the economy witnessed a V-shaped recovery.

India and the World: Despite facing stagnation in its manufacturing sector over the past 25 years, India has demonstrated economic resilience, climbing from the 10th to the 5th largest global economy by 2022, with a GDP of \$3.7 trillion. Future projections anticipate India becoming the third-largest economy by 2027 and reaching \$7 trillion by 2030, driven by ongoing reforms. However, India lags in

global manufacturing output, holding a mere 3% share in 2018, ranking 6th globally behind China's dominant 28.4%. Although manufacturing employs 10% of India's workforce, its contribution to GDP is only 15%, highlighting significant disparities compared to China. Achieving sustained manufacturing growth remains a challenge for India despite its demographic advantage. But, India's potential to strengthen its manufacturing base and leverage its demographic dividend is certainly promising.

7. Conclusion

The manufacturing sector holds a pivotal position in India's economic framework, contributing substantially to its gross domestic product (GDP) and employment generation. It has traversed various phases of evolution, shaped by internal dynamics and external influences. Traditionally, India's manufacturing canvas has been diverse, encompassing traditional crafts like textiles and handicrafts, alongside modern industries such as automobiles and electronics. However, until the 1990s, the sector operated within a framework of extensive government regulations, protectionist policies, and a dominant public sector presence.

The watershed economic reforms of 1991 started a new era for Indian manufacturing, characterized by liberalization, privatization, and globalization. These reforms aimed to dismantle trade barriers, attract foreign investment, and foster competitiveness, leading to India's deeper integration into the global economic landscape. Consequently, industries like information technology (IT), automotive, and pharmaceuticals witnessed significant expansion.

Despite progress, the sector faces challenges such as inflexible labour regulations, inadequate infrastructure, financing constraints, and bureaucratic hurdles. To overcome these, various government initiatives like "Make in India", "Production Linked Incentive Scheme"," Skill India" etc. have been launched by the government in recent past. These schemes and policies aim to rejuvenate the manufacturing sector, with a focus on domestic production, foreign investment, and skill enhancement. These endeavours aim to leverage India's demographic dividend, abundant labour pool, and emerging market prospects to propel manufacturing-led growth.

Additionally, the COVID-19 pandemic has highlighted the need for resilience and self-reliance in the manufacturing sector. The crisis exposed vulnerabilities in global supply chains, prompting renewed emphasis on domestic manufacturing capabilities, especially in critical sectors like healthcare, pharmaceuticals, and electronics.

Looking ahead, the Indian manufacturing sector must prioritize innovation, technology adoption, and sustainable practices to enhance competitiveness and resilience. Policy reforms that address structural impediments, streamline regulations, and foster a conducive business environment are vital for stimulating growth. Moreover, investments in infrastructure, skill development, and research and development are indispensable for driving long-term prosperity and global competitiveness.

In conclusion, while the Indian manufacturing sector has achieved significant milestones, it faces formidable challenges that necessitate strategic interventions and collaborative efforts from policymakers, industry stakeholders, and other actors. By surmounting these challenges and seizing emerging opportunities, India can unleash the full potential of its manufacturing sector, driving economic growth, job creation, and prosperity for its populace.

8. Policy Recommendations

In order to bolster the Indian manufacturing sector amidst the current challenges, several policy recommendations can be proposed. Firstly, labour market reforms are essential to facilitate smoother hiring and firing processes, fostering adaptability for businesses while safeguarding workers' rights. Secondly, prioritizing infrastructure development is crucial, necessitating increased public investment and private sector participation to improve transportation, energy, and logistics networks. Thirdly, enhancing access to finance for small and medium-sized enterprises (SMEs) is imperative, achieved through measures like credit guarantee schemes and simplified loan approval processes to empower SMEs to modernize their operations. Skill development programs need revamping to bridge skill gaps and align training with industry needs, fostering collaboration between government, industry, and educational institutions. Furthermore, promoting innovation by providing incentives for research and development (R&D) activities can spur technological advancement in the manufacturing sector. Simplifying regulatory processes and reducing bureaucratic hurdles can improve the ease of doing business, encouraging investment and entrepreneurship making it possible for large masses. Environmental sustainability must also be prioritized, with policies promoting green technology adoption and enforcing environmental regulations. Export promotion strategies should be implemented to increase market access for Indian manufacturers, leveraging trade agreements and export incentives. Embracing digital transformation through the adoption of automation and artificial intelligence can enhance manufacturing efficiency and competitiveness. Lastly, fostering public-private (PPPs) partnerships can accelerate infrastructure development and technology adoption, leveraging the strengths of both sectors. These policy recommendations collectively aim to create an enabling environment for manufacturing growth, attracting investment, and enhancing India's competitiveness in the global market.

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