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A Comprehensive Study Of Indian Automobile Sector With Reference To Production, Domestic Sales And Exports From 2016-17 To 2024-25

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ABSTRACT

The Indian automobile sector is one of the largest and most dynamic industries in the country, playing a crucial role in economic growth, employment generation, and industrial development. This paper examines the performance of the Indian automobile industry with a focus on three key dimensions: production, domestic sales, and exports. It analyses recent trends across different vehicle segments, including passenger vehicles, commercial vehicles, two-wheelers, and three-wheelers. The study highlights the impact of factors such as rising income levels, urbanization, government initiatives, technological advancements, and increasing global demand on the sector's growth. Furthermore, the paper discusses India's emergence as a global manufacturing and export hub for automobiles. The findings indicate that despite cyclical challenges, the Indian automobile sector continues to demonstrate strong growth potential, supported by a large domestic market and expanding export opportunities.

Key Words: Indian automobile sector; vehicle production; domestic sales; automobile exports; economic growth; manufacturing industry

Introduction:

India's automotive industry is one of the successful cases of India's economic liberalization strategy set into motion since 1991. The industry which was dominated by a few domestic manufacturers was hardly known for any innovations before 1991, but is now one of the fastest growing manufacturing industries not just in India but globally as well. In 2010, India has emerged as the second fastest growing car market in the world next only to China. Sales of two wheelers crossed 10 million units during the year, a first, with all major two-wheeler manufacturers registering high double-digit growth. There are many instances of innovations in the industry, the Tata's Nano car being one of the celebrated examples of these innovation efforts. All told, it is an industry that is truly successful in introducing a range of new products not just in the domestic market but in the international market as well.

Indian automobile industry has long been a reliable barometer of economic performance, given its critical role in both macroeconomic expansion and technological advancement. Within the sector, the two-wheeler segment dominates in terms of volume, driven by a growing middle class, a predominantly young population, and rising demand from rural markets. Demand for commercial vehicles has also

strengthened, supported by the expansion of logistics and passenger transportation services. Market growth is expected to be shaped by emerging trends such as vehicle electrification, particularly in three-wheelers and small passenger cars. India has also established itself as a prominent auto exporter with strong growth prospects in the near future. Automobile exports rose 19% in FY25 to over 5.3 million units, led by robust demand for passenger vehicles, two-wheelers, and commercial vehicles in global markets. Complementing this momentum, government initiatives such as the Automotive Mission Plan 2026, the scrappage policy, and the production-linked incentive (PLI) scheme are expected to position India as a global leader in both the two-wheeler and four-wheeler markets.

Indian automobile industry has experienced robust growth over the last decade (2014-2024), transforming into a global hub with a CAGR of 8.63% (FY16-FY24) and contributing roughly 6% to national GDP. Driven by the "Make in India" initiative, vehicle production soared to 28 million units by FY24, with significant shifts towards SUVs, EV adoption (4.4 million registered), and increased exports

The automobile industry in India benefits from factors such as the availability of skilled labour at low cost, robust R&D centres, and affordable steel production. It also provides significant investment opportunities and generates both direct and indirect employment for skilled and unskilled workers. The electric vehicle (EV) sector alone is projected to create five crore jobs by 2030, underscoring its potential as a major driver of employment and growth. To support this expansion, the Ministry of Heavy Industries (MHI) has extended the tenure of the Production Linked Incentive (PLI) Scheme for Automobile and Auto Components by one year.
The scheme now offers incentives on determined sales over five consecutive financial years from 2023-24 to 2027-28, with disbursements in the subsequent year. It has already proven highly successful, attracting proposed investments of US$ 8.1 billion (Rs. 67,690 crore) against the original target of US$ 5.1 billion (Rs. 42,500 crore), with US$ 1.6 billion (Rs. 13,037 crore) invested by December 31, 2023.

Looking ahead, the government is working to overhaul the country's transportation system by creating an integrated EV mobility ecosystem with a low carbon footprint and high passenger density, especially in urban areas. Its long-term strategy and policies are designed to accelerate EV adoption in line with growing customer demand for cleaner and more efficient transportation solutions. With these initiatives, India is also well positioned to become a global leader in shared mobility by 2030, opening new avenues for electric and autonomous vehicles.

Review of Literature:

Pankaj Gupta and Pooja Vidyarthee (2022) analysed the performance of Indian automobile sector and found that the environmental and consumer expectations are always putting pressure on the global automobile sector. Fuel efficiency, gas emissions, safety, and affordability are some of the challenges confronting the business. More than ever, automobile manufacturers are under intense pressure to provide automobiles that are both affordable and high quality, as well as easy to manufacture.

Jha, Praveen K, .Mishra, Preksha Singh (2023) studied the current performance of automobile sector in India. This paper attempted to assess the current state of the automotive industry in India against the background of the pandemic using both primary and secondary sources. For this purpose, two surveys were conducted in India in 2022 and early 2023; the first was undertaken in select automobile clusters and auto components manufacturers while the second, focused on multiple stakeholder categories across the industry - companies, policymakers and Trade Unions. The impact of the crisis, the subsequent 'recovery' and the future prospects of the sector have been examined through the lens of the industry performance and that of the world of work.

Mohammad Faisal Noor et.al (2024), undertook a study to identify and to evaluate the challenges specific to the Indian automobile industry's implementation of Industry 4.0 to address this. Leveraging Latent Dirichlet Allocation (LDA), a machine learning-based text analysis algorithm were employed. The research framework involved collaboration with original equipment manufacturers (OEMs), suppliers, and academic experts who ranked 20 challenges by influence. Findings reveal divergent perspectives.

Krishan Kumar et.al (2024), examined segment wise contribution of production and sales of automobiles in the Indian economy from 2010-2011 to 2019-2020. The authors studied the contribution of the automobile industry and the impacts were measured by applying compound annual growth rate. The results indicate that the production of the automobile industry in different segments showed an increasing trend. The passenger vehicles, commercial vehicles, three-wheeler and two-wheelers are growing at 2.9%, 1.3%, 4%, and 6.10% respectively. Similarly, the sales of the passenger, commercial, three-wheeler and two-wheeler are improving at 2.7%, 1.7%, 3%, 5.7% CAGR respectively. In the year 2019-2020, the production and domestic sales of the different segments of the automobiles industry declined steadily.

Objectives

The present study based on following objectives:

1. To study the production trend in Indian automobile sector
2. To analyse the sales and the export performance of Indian automobile sector and
3. To see the challenges faced by Indian automobile sector

Methodology:

The automobile industry, along with the auto components industry is one of the core industries in India. A well-developed transportation system plays a key role in the development of an economy. India is no exception to it. Automobile is one of the largest industries in the global market. Owing to its strong forward and backward linkages with several key segments of the economy Automobile sector occupies a prominent place in the fabric of Indian economy. Keeping the theoretical background in mind, an attempt has been made to analyse the performance of Indian automobile sector in the context of its production, sales and export performance. Secondary data were collected for the study. The required data were collected for the period from 2016-17 to 2024-25. Totally the data were collected for nine years and they were collected from various annual reports of Society of Indian Automobile Manufacturers (SIAM). To analyse the collected data, the statistical tools like simple percentage and to measure long-term growth stability, compound annual growth rate (CAGR) was also used.

Importance of Automobile Sector in Indian Economy:

Indian automobile sector is one of the most significant pillars of Indian economy, contributing substantially to economic growth, employment, industrial output, and exports. The automobile sector contributes around 7–8% to India's GDP and nearly 49% to the manufacturing GDP. This highlights its importance as a key driver of industrial development and value addition in the economy. This sector is a major source of employment; it provides direct and indirect employment to over 35 million people. Employment spans manufacturing, auto components, sales, servicing, logistics, and dealerships. This makes the automobile industry one of the largest job creators in India. Automobiles and auto components contribute significantly to India's export earnings. India has emerged as a major exporter of Passenger vehicles, Two-wheelers, Commercial vehicles. Exports help improve the balance of trade and earn valuable foreign exchange.

The sector drives innovation and technology adoption through electric vehicles (EVs), Hybrid technology, Automation and digital manufacturing. This enhances India's technological capabilities and global competitiveness. The automobile sector is a major source of government revenue through GST, Road tax, Registration fees, Excise and customs duties. Indian automobile sector plays a crucial role in economic development by contributing to GDP, employment, exports, and industrial growth. With rising

domestic demand and growing export potential, the sector continues to be a strong engine of India's economic progress.

Trend in Automobile Production:

India's automobile production has shown a strong upward trajectory over the past few decades, reflecting rapid industrialization, policy support, and rising demand. From producing only around 2 million vehicles annually in the early 1990s, India's output surged to approximately 28 million vehicles by 2023-24 across all segments (two-wheelers, passenger vehicles, commercial vehicles, three-wheelers, and quadricycles). This growth underscores India's transformation into a major global auto manufacturing hub. In recent years, total vehicle production has remained robust: FY25 (April 2024–March 2025) saw total automobile output of about 31.03 million units across all vehicle categories, marking strong production momentum. Monthly production figures also exhibited growth, with approximately 2.4 million vehicles produced in June 2025, a 17 % increase over June 2023 production.

Automobile Production Trends [Number of Vehicles]

Year	Total Passenger Vehicles	Total Commercial Vehicles	Three Wheelers	Total Two Wheelers	Quadricycle	Grand Total
2016-17	3801670	810253	783721	19933739	1584	25330967
2017-18	4020267 (5.75)	895448 (10.51)	1022181 (30.43)	23154838 (16.16)	1713 (8.14)	29094447 (14.86)
2018-19	4028470 (0.20)	1112405 (24.23)	1268833 (24.13)	24499777 (5.81)	5388 (214.54)	30914873 (6.26)
2019-20	3424564 (-14.99)	756725 (-31.97)	1132982 (-10.71)	21032927 (-14.15)	6095 (13.12)	26353293 (-14.76)
2020-21	3062221 (-10.58)	624939 (-17.42)	614613 (-45.75)	18349941 (-12.76)	3836 (-37.06)	22655550 (-14.03)
2021-22	3650698 (19.22)	805527 (28.90)	758669 (23.44)	17821111 (-2.88)	4061 (5.87)	23040066 (1.70)
2022-23	4587116 (25.65)	1035626 (28.57)	855696 (12.79)	19459009 (9.19)	2897 (-28.66)	25940344 (12.59)
2023-24	4901840 (6.86)	1067504 (3.08)	996159 (16.42)	21468527 (10.33)	5006 (72.80)	28439036 (9.63)
2024-25	5061164 (3.25)	1032645 (-3.27)	1050020 (5.41)	23883857 (11.25)	6488 (29.60)	31034174 (9.13)
CAGR	**3.6%**	**3.1%**	**3.7%**	**2.3%**	**19.3%**	**2.6%**

Source: Society of Indian Automobile Manufacturers (SIAM)-Various Reports

Note[1] : Figures in parentheses indicate percentage growth over previous year

CAGR = Compound Annual Growth Rate

Note[2] : Passenger Vehicles includes Passenger Cars, Utility Vehicles, Vans

Commercial Vehicles include M & HCVs, LCVs

Two Wheelers include Scooters, Motorcycles, Mopeds

The data given in the above table reveals that the passenger vehicles (cars, jeeps, SUVs) have shown steady growth, except for a dip in 2019-20 (-14.99%) likely due to economic slowdown and pandemic-related disruptions. Recovery starts in 2021-22. Overall, growth is moderate but consistent. Commercial vehicles (trucks, buses, vans) are more volatile. Big drops in 2019-20 (-31.97%) and 2020-21 (-17.42%) reflect pandemic and logistic slowdowns. Growth is positive post-pandemic, but the CAGR is lower than passenger vehicles, indicating slower long-term expansion. Three-wheelers (auto-

rickshaws, tuk-tuks) have had sharp fluctuations: huge growth in 2017-18 (+30.43%) and 2018-19 (+24.13%), then a decline in 2019-20 (-10.71%) and a dramatic drop in 2020-21 (-45.75%). The market rebounds afterward. CAGR indicates a moderate long-term growth trajectory. wo-wheelers are the largest segment by volume. Growth is relatively stable but modest compared to smaller segments. There's a pandemic dip in 2020-21 (-12.76%) and slight recovery thereafter. Two-wheelers dominate overall vehicle population but grow more slowly in percentage terms. Quadricycles are a very small segment but have an extremely high growth rate. The 214% jump in 2018-19 is notable but could be due to low base effect or regulatory incentives. Despite fluctuations, CAGR shows explosive growth potential. Overall vehicle population is growing steadily. The pandemic years (2019-21) show a noticeable drop (-14% approx.), followed by a strong rebound. Passenger vehicles and commercial vehicles are driving overall growth, while two-wheelers remain dominant in volume but grow slowly. Overall CAGR 2.6% shows moderate long-term growth for India's vehicle market.

Domestic Sales Trend of Automobile

The Indian automobile market has generally witnessed steady growth in domestic sales, with rising consumer demand across several segments. In the financial year 2023-24**,** total vehicle sales across all categories increased by about 12.5 % to roughly 23.85 million units, supported by strong demand in passenger vehicles and two-wheelers. Passenger vehicle sales reached a record high of over 4.2 million units, while two-wheeler sales grew by more than 13 % compared to the previous year. The domestic sales trend for the Indian automobile sector shows strong underlying growth, driven by expanding consumer demand in both passenger and two-wheeler segments. While there are periodic fluctuations between months or fiscal years, the overall pattern reflects a broadly positive trajectory supported by improved affordability, festive demand boosts, and rising preference for SUVs and advanced mobility options.

Domestic Sales Trends of Automobile [Number of Vehicles]

Year	Total Passenger Vehicles	Total Commercial Vehicles	Three Wheelers	Total Two Wheelers	Quadricycle	Grand Total
2016-17	3047582	714082	511879	17589738	--	21863281
2017-18	3288581 (7.91)	856916 (20.00)	635698 (24.19)	20200117 (14.84)	--	24981312 (14.26)
2018-19	3377389 (2.70)	1007311 (17.55)	701005 (10.27)	21179847 (4.85)	627 --	26266179 (5.14)
2019-20	2773519 (-17.88)	717593 (-28.76)	637065 (-9.12)	17416432 (-17.77)	942 (50.24)	21545551 (-17.97)
2020-21	2711457 (-2.24)	568559 (-20.77)	219446 (-65.55_	15120783 (-13.18)	12 (-98.73)	18620257 (-13.58)
2021-22	3069523 (13.21)	716566 (26.03)	261385 (19.11)	13570008 (-10.26)	124 (933.33)	17617606 (-5.38)
2022-23	3890114 (26.73)	962468 (34.32)	488768 (86.99)	15862771 (16.90)	725 (484.68)	21204846 (20.36)
2023-24	4218750 (8.45)	968770 (0.65)	694801 (42.15)	17974635 (13.31)	725 (0.00)	23857681 (12.51)
2024-25	4301848 (1.97)	956671 (-1.25)	741420 (6.71)	19607332 (9.08)	120 (-83.45)	25607391 (7.33)
CAGR	**4.4%**	**3.7%**	**4.7%**	**1.4%**	**-24.1%**	**2.0%**

Source: Society of Indian Automobile Manufacturers (SIAM)-Various Reports

Note: Figures in parentheses indicate percentage growth over previous year
CAGR = Compound Annual Growth Rate

From the above table it is observed that the passenger vehicles are growing steadily, with a dip in 2019-20 (-17.88%) likely due to economic slowdown and early COVID disruptions. Post-pandemic, growth resumed, reaching 4.3 million in 2024-25**.** This is a strong recovery with the highest CAGR among major segments**,** showing resilient demand. Commercial vehicles are volatile showing a sharp decline during 2019-20 (-28.76%) and 2020-21 (-20.77%). Strong rebound was observed in 2021-22 (+26.03%) and 2022-23 (+34.32%). CAGR of 3.7% shows a moderate long-term growth despite fluctuations, reflecting sensitivity to economic cycles and logistics demand. Three-wheelers grew fast initially, big jumps in 2017-18 (+24.19%) and 2018-19 (+10.27%). But it collapsed in 2020-21 (-65.55%) due to pandemic. CAGR of 4.7% indicates robust long-term growth, but the segment is highly volatile year-to-year. Overall vehicle population shows a moderate growth. It is noticed that pandemic years (2019-21) caused steep declines and post-pandemic recovery is strong but not enough to accelerate CAGR dramatically. Passenger and three-wheelers drive growth, two-wheelers dominate volume but grow slowly, and quadricycles are unstable.

Automobile Export Trend

India's automobile exports have shown a robust upward trend**,** driven by increasing global demand for vehicles manufactured in the country, especially in emerging markets like Africa, Latin America, and West Asia. According to the Society of Indian Automobile Manufacturers (SIAM), total automobile exports in calendar year 2025 reached about 6.32 million units**,** up around 24 % compared to 2024, demonstrating strong export momentum across multiple segments. Overall, the Indian automobile sector's export trend shows consistent double-digit growth, with rising shipments in passenger vehicles, two-wheelers, and commercial vehicles. The sector's competitiveness and diversification of export destinations have strengthened India's position as a key global automotive exporter.

Automobile Exports Trends [Number of Vehicles]

Year	Total Passenger Vehicles	Total Commercial Vehicles	Three Wheelers	Total Two Wheelers	Quadricycle	Grand Total
2016-17	758727	108271	271894	2340277	1556	3480725
2017-18	748366 (-9.64)	96865 (-10.53)	381002 (40.13)	2815003 (20.29)	1605 (3.15)	4042841 (16.15)
2018-19	676192 (-1.37)	99933 (3.17)	567683 (49.00)	3280841 (16.55)	4400 (174.14)	4629049 (14.50)
2019-20	662118 (-2.08)	60379 (-39.58)	501651 (-11.63)	3519405 (7.27)	5185 (17.84)	4748738 (2.59)
2020-21	404397 (-38.92)	50334 (-16.64)	393001 (-21.66)	3282786 (-6.72)	3529 (-31.94)	4134047 (-12.94)
2021-22	577875 (42.90)	92297 (83.37)	499730 (27.16)	4443131 (35.35)	4326 (22.58)	5617359 (35.88)
2022-23	662703 (14.68)	78645 (-14.79)	365549 (-26.85)	3652122 (-17.80)	2280 (-47.30)	4761299 (-15.24)
2023-24	672105 (1.42)	65818 (-16.31)	299977 (-17.94)	3458416 (-5.30)	4178 (83.25)	4500494 (-5.48)
2024-25	770364 (14.62)	80986 (23.05)	306914 (2.31)	4198403 (21.40)	6422 (53.71)	5086869 (19.17)
CAGR	**0.19%**	**-3.6%**	**1.5%**	**7.6%**	**19.4%**	**4.9%**

Source: Society of Indian Automobile Manufacturers (SIAM)-Various Reports

Based on the data provided in the table and the latest industry reports for 2025-2026, the Indian automobile export sector is currently experiencing a "V-shaped" recovery and record-breaking momentum. The sector has rebounded sharply after the 2022-24 slump. For the calendar year 2025, total exports surged by 24.1%, reaching 63.25 lakh (6.32 million) units. Utility Vehicles (UVs) now drive the Passenger Vehicle segment. In 2025, UV exports rose by 32%, while traditional small car exports remained relatively flat (3% growth). Two-wheelers continue to be the backbone of Indian exports, accounting for nearly 78% of total volume. Growth is fuelled by a recovery in African and Latin American markets.

The late 2025 reduction in GST (notably on small cars and EVs) helped manufacturers optimize domestic production, allowing more capacity for export markets. After years of foreign exchange crises, neighbouring markets like Sri Lanka and Nepal have reopened, providing a significant boost to three-wheeler and commercial vehicle segments. The Economic Survey 2025-26 (released January 2026) highlights that India's share of global merchandise exports has nearly doubled. The table shows a long-term CAGR of 4.9% for total exports. However, the recent 19%–24% year-on-year growth suggests the industry is currently outperforming its historical average as global supply chains stabilize.

Challenges of Indian Automotive Sector:

The Indian automotive sector has witnessed excellent growth in the recent past and is all set to carry on this momentum. The Indian automobile industry has come a long way since its launch in erstwhile Bombay in 1898. Currently, the automotive sector is contributing majorly to the Indian economy both in terms of revenue and in terms of employment. Directly or indirectly this sector employs more than ten million people in the country. Some important challenges before Indian automobile sector are:

The ever-expanding Chinese market: one of the biggest challenges of automakers outside China, is the risk of competing with China. In the last fifteen years, China has been the leading automotive market. The volume of growth has helped the country to overcome other structural and competitive challenges. The biggest challenge for the planners of the automotive market is to plan a strategy keeping in mind China's outlook.

The evolution of connected cars: connected are the biggest transformational changes in the automotive industry, but it is also one of the biggest unknowns. The concept of connected cars serve as a communication hub that receives and transmits data from its surroundings. However, this technology is still in such a nascent stage that it is creating uncertainties and questions such as who will buy the car, who will deliver these services, whether the current automakers will be able to navigate through all these uncertainties keep plaguing the automotive world.

Increased competition: of all the myriad issues facing the automotive world, one of the pressing problems is the sales demand flattening in mature markets like Europe and Japan and competition rising from other manufacturers. The slowdown is sales is directly proportional to the increasing competition.

Balancing the demands of technology and government: the major global automotive markets have been facing stringent legislation focusing on controlling carbon dioxide emission and other exhaust gas emissions. This is done to improve fuel economy. One of the key challenges in the industry is to make the right powertrains and technology choices to cater to changing social preferences in a changing regulatory environment.

Consolidation of platforms: intensifying competition, state regulators and global consumers are making global automakers rethink their platform strategy. The trend towards consolidation of modular architectures or mega-platforms

Suggestions:

The following strategic pivots are recommended:

- The analysis reveals that the automobile industry has been performing well in terms of its production, sales and its exports. Over the period of time the vehicle exports are surging, but still India remains dependent on imports for high-end electronics and lithium-ion cells. Strengthening the domestic supply chain may reduce costs and improve the trade balance.

- As the government targets 2030 for shared mobility leadership, urban infrastructure must integrate EV charging hubs with public transport. This will stabilize the volatile Three-Wheeler and Quadricycle segments.

- Currently, two-wheeler exports are concentrated in emerging markets (Africa/Latin America). To improve margins, manufacturers should leverage "Make in India" to target European and North American markets with mid-to-high-capacity electric two-wheelers.

- With Industry 4.0 and EV adoption projected to create 5 crore jobs by 2030, there is an urgent need for vocational training in battery chemistry, software integration, and autonomous sensor maintenance.

Conclusion:

Indian automobile industry has evolved from a protected, slow-moving sector in 1991 to a resilient global powerhouse in 2026. The data reveals a sector that has successfully navigated the "perfect storm" of a global pandemic, supply chain disruptions, and shifting regulatory landscapes. Despite challenges like competition from China and the complexities of "connected car" technology, the proactive stance of the Ministry of Heavy Industries and the Society of Indian Automobile Manufacturers (SIAM) has positioned India as a credible alternative to traditional manufacturing hubs. As the industry aligns with the Automotive Mission Plan 2026, it is well-placed to achieve its goal of becoming a top-three global automotive market by the end of the decade.

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