Chandrawat & Partners

AUTOMOTIVE SECTOR

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Introduction

The automotive sector ["RB1"] consists of a broad range of organizations and companies with a critical objective of designing, developing, marketing, manufacturing, and selling of motor vehicles. The automotive sector makes a vital part of the world's economic sectors by revenue automobiles, however, are not entirely included in the industry. The industry also does not include companies or organizations dedicated to the maintenance of automobiles such as fuel filling stations and automobile service and repair shops.

Companies in the automotive sector fall into two categories that are car manufacturers and car parts manufacturers. Vehicles in the modern world are becoming more complex and involve more electronic parts than in the past years. It, therefore, increases the number of components manufactured by suppliers rather than the manufacturers.

The modern automotive sector is in a continual state of flux. The success of any automobile industry relies on the salesroom as well as the expertise of many different professionals. The sector offers numerous employment opportunities in several positions such as mechanical, sales, assembly, financial, creative, scientific, technical, and business position.
Since car manufacturing is expensive, there are a few numbers of manufacturers in the automotive industry. Globally the world leaders in the automotive sector include Toyota, Honda, Volkswagen, Nissan Motors, and Hyundai.

The industry is entering a period of intense change, and the Automotive Sector would change to mobility industry. The trends in the industry are as a result of the combination of business models, digital sciences, and new technologies in the material. The transformation of the industry is more about people's connectivity to automobiles.

Economic overview

Production and Sales: The automotive industry has shown resilience and recovery following the disruptions caused by the COVID-19 pandemic. Many countries have experienced a rebound in automotive production and sales. Emerging markets, such as China and India, continue to be major contributors to global automotive production, while established markets like the United States, Europe, and Japan maintain their positions as significant players in the industry.

Electric Vehicles ("EVs"): The adoption of electric vehicles is gaining momentum worldwide as governments, automakers, and consumers increasingly prioritize sustainability and reduced carbon emissions. Major automakers are investing heavily in the development and production of electric vehicles, and several countries have implemented supportive policies such as subsidies, tax incentives, and charging infrastructure development to promote EV adoption.

Autonomous Vehicles ("AVs"): Autonomous vehicles are another key area of focus within the automotive sector. While fully autonomous vehicles are not yet widely available, significant advancements have been made in autonomous driving technologies. Governments are working on regulations to accommodate autonomous vehicles, and companies are conducting extensive research and development to enhance safety and efficiency in this area.

Supply Chain Disruptions: The automotive industry has faced challenges related to supply chain disruptions, primarily due to factors like semiconductor shortages, raw material price fluctuations, and transportation disruptions. These challenges have led to production delays and increased costs for automakers. Efforts are being made to diversify supply chains and improve resilience to future disruptions.

Technological Innovations: The automotive sector is witnessing rapid technological advancements. Besides electric and autonomous vehicles, other areas of innovation include connected cars, advanced driver-assistance systems (“ADAS”), and vehicle-to-everything (“V2X”) communication. These technologies aim to improve vehicle safety, enhance user experience, and create new business opportunities for automotive companies.

Shift to Mobility Services: There is a growing trend towards shared mobility and mobility-as-a-service ("MaaS"). Ride-hailing, car-sharing, and subscription-based models are gaining popularity, especially in urban areas. This shift in consumer behavior presents both challenges and opportunities for traditional automakers, who are exploring partnerships and investments in mobility service providers.

Sustainability and Emissions Regulations: Governments worldwide are increasingly implementing stricter emissions regulations to combat climate change. Automakers are under pressure to reduce their carbon footprints and develop more fuel-efficient vehicles. The transition to electric vehicles and advancements in alternative fuels is crucial for the industry to meet these regulatory requirements and align with sustainability goals.

Automotive Sales

The first month of 2024 has started on a promising note for India Auto Inc, with a total of 21,27,653 vehicles registered across categories, marking a 15 percent growth YoY and 6.87 percent over December 2023 reveals data shared by the Federation of Automobile Dealers Association (FADA). Though experiencing a slowdown, EV sales are still projected to rise in 2024. In the U.S., EV sales in 2024 are expected to grow y-o-y by merely 16% compared to ~64% in 2023. In China, y-o-y growth in 2024 would be 11.1% compared to 36.5% in 2023. Factors like reduced incentives, limited charging infrastructure, and the saturation of early adopters are significant hurdles. To attract the mass market, industry leaders like Musk are lowering prices, which I think is a move in the right direction. However, this slowdown is prompting major players like GM, VW, and Ford to adjust their strategies, with some lowering prices and delaying new models.

Market dynamics

The Global Automotive Industry Outlook, 2024 will have global passenger and commercial vehicles combined sales projected to 95 million units in 2024, witnessing a YoY growth of 3.1% during the forecast period. The combined sales volume of passenger vehicles and commercial vehicles witnessed a YoY growth of 12.3% from 2022 to 2023, wherein the passenger vehicles segment dominated the sales of the cars in 2023 with over 60% of the share.

Further. within the regional market Asia and ME region combined accounted for more than half of the market share. While the Internal Combustion Engine (ICE) Vehicles held the major share, the Electric Vehicles (EV) segment grew at a high rate of 30-35% over 2022.

Dedicated to achieving zero emission targets, the OEMs have planned to invest over USD 500 Billion by 2030 for EV production facilities. Hyundai invested over $1.5 billion to build new Ulsan EV Factory in South Korea in November 2023. Similarly, Honda, Volkswagen. Ford and others have made investments in new manufacturing facilities. .

Further, the prices of lithium-ion battery packs went down by 14% in 2023 to reach a new record low of $139/kWh. Moreover, OEMs have attempted to regulate the EV battery supply chain to further cut down the raw material, manufacturing and maintenance of the batteries.

Globally there were over 2.7 million public charging points by the end of 2022, of which around a million charging points were installed in 2022 alone. Further, it is estimated that over one million new charging points were installed by the end of 2023. In addition, efforts were made to manufacture batteries that hold higher capacity to power the EV over longer distance and recharge it in shorter time. For instance, CATL's new battery requires 10 minutes of charging to cover 400 kms.

Emerging trends

With fast-paced technological advancements, changing customer behavior and growing market competition due to the entry of many new players, the automotive sector is entering fast into a revolutionized age. Subsequently, with an exponential increase in autonomous driving, cloud computing, electric vehicles, machine learning, block chain, and networking, consumers are blessed with a value-added experience. Moreover, fuelled by the disruption in the supply chain and operations during the pandemic, the industry players are chalking out new and robust business strategies to stay relevant in the market.

Technology has opened up a plethora of opportunities for the automotive industry players to explore emerging trends like the rising number of electric vehicles on the roads, virtual showrooms, and easy finance options. From innovations in the assembly line to advancements in the supply chain to the personalization of marketing content, automobile brands are smartly leveraging technology to entice their prospects.

Digital automobiles sales

Make it even easier for customers to purchase vehicles, automakers are exploring options to make the entire buying process online through virtual showrooms. The need for the virtual showroom rose tremendously during the pandemic while there were restrictions on physical movement. Post the pandemic too, the customers' inclination towards shopping online, even for cars, prevailed. Virtual showrooms are preferred by the automakers mostly because they make sales easy, and unburden infrastructural and overhead costs enabling retailers to offer competitive prices and lucrative deals. Virtual car tours, online documentation and payment through secured channels are other benefits of online purchasing.

Sale of pre-owned vehicles

There has been a significant rise in the sale of used vehicles, with industry experts projecting a 9 per cent growth rate between 2019 and 2025. The rise in the sale has especially been seen in four-year-old or pre-owned electric and hybrid automobiles which are backed by the latest technologies but are not as expensive as the new cars. With the rise in sales, dealerships are now creating inventories, especially dedicated to keeping pre-owned cars.

Wireless technology

Normal cars usually have over 100 million codes and 30,000 parts, and the latest technological advancements have further increased the numbers to help drivers navigate more properly. Especially, the inclusion of 5G technology will be a game changer as people will be able to exchange information through wireless technology including traffic and weather updates while on the road.

Penetration of connected cars

Empowered by the Internet of Things, connected cars are safer, comfortable, and provide a convenient multimedia experience with the use of on-demand features that allow drivers to do anything they want on the web while in the vehicle. Connected cars can not only communicate bi-directionally with various other systems but also share internet access and data devices inside and outside the vehicle. These cars can monitor and share information and services like digital data and remote diagnostics, vehicle health reports, data-only telematics, access to 4G LTE Wi-Fi Hotspots, turn-by-turn directions, and car health issues that allow the user to prevent breakdowns.

Autopilot

Though the concept of entirely self-driven cars is still a distant dream for Indian roads, technological advancements, especially in the domains like artificial intelligence (AI), machine learning (ML), and neural networks might soon make possible the commercial availability of advanced driver-assistance systems (ADAS) and semi-autonomous cars. However, for smooth entry of autonomous vehicles, there is an immediate need to address key issues like pricing, safety issues, consumer understanding, and insufficient regulatory base.

Major investments

The future trends in automotive industry predict a roller-coaster ride for players. In 2023, the automotive industry will face global headwinds such as the energy crisis, slower global demand, and ongoing supply-chain issues. Despite these challenges, global new-vehicle sales are projected to remain flat, with new-car sales increasing. Sales of electric vehicles (EVs) are expected to grow, although governments may restructure their incentive programs.

Electric Vehicles: The shift towards electric vehicles is driving substantial investment in the automotive industry. Major automakers are investing heavily in developing and manufacturing electric cars to meet the growing demand for sustainable transportation. Additionally, investments are being made in charging infrastructure, battery technology, and electric vehicle component production.

Autonomous Vehicles: Autonomous or self-driving vehicles are another area attracting significant investment. Companies are investing in research and development to advance autonomous driving technology, including sensors, artificial intelligence, and connectivity solutions. Partnerships between automakers, technology companies, and ride-hailing services are forming to accelerate the development and deployment of autonomous vehicles.

C**onnected Car Technologies**: Investments are being made in technologies that enhance connectivity and provide advanced features in vehicles. This includes infotainment systems, vehicle-to-vehicle ("V2V") and vehicle-to-infrastructure ("V2I") communication, telematics and data analytics. Automotive manufacturers and tech companies are collaborating to develop innovative solutions that improve the driving experience and enable new services.

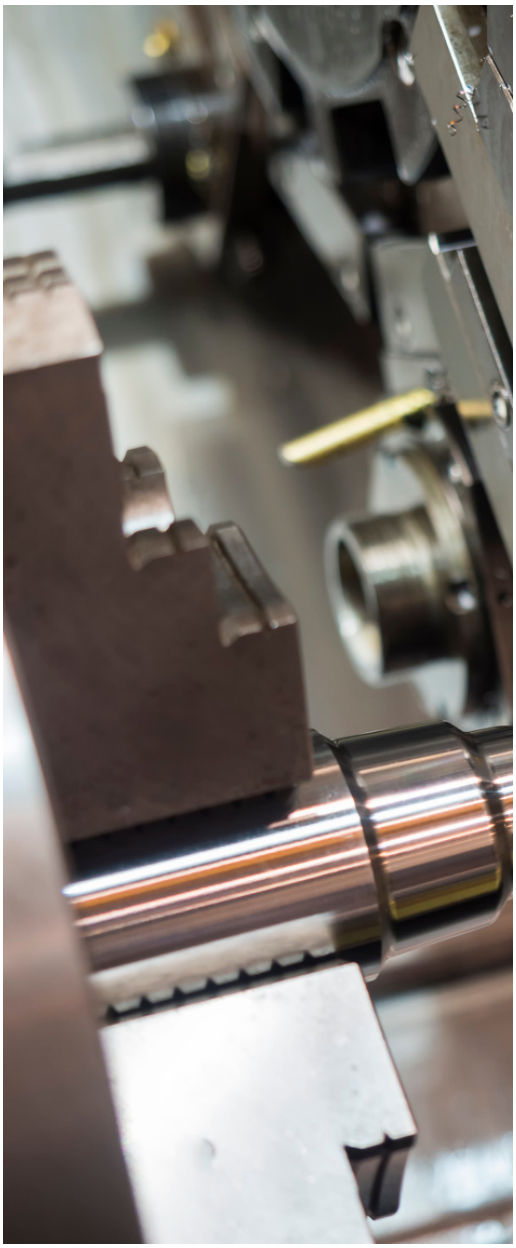
Electric Vehicle Charging Infrastructure: As the adoption of electric vehicles increases, there is a growing need for a robust charging infrastructure network. Investment is being made in the development and expansion of charging stations, fast-changing technologies, and smart grid integration to support the widespread adoption of electric vehicles

Mobility Services: Investments in mobility services, such as ride-hailing, car-sharing, and subscription-based models, are reshaping the automotive industry. Companies are exploring new business models that focus on mobility solutions rather than traditional car ownership. Investments are being made in platforms, technology, and partnerships to provide convenient and flexible transportation options.

Sustainable Materials: and Manufacturing: There is a rising focus on sustainability in the automotive sector, leading to investments in eco-friendly materials and manufacturing processes. Companies are investing in research and development of lightweight materials, recyclable components, and energy-efficient manufacturing techniques to reduce the environmental impact of vehicles.

Digitization and Data Analytics: The automotive industry is leveraging digital technologies and data analytics to enhance operations, customer experience, and safety. Investments are being made in areas such as connected supply chains, predictive maintenance, real-time analytics, and cyber security to enable a data-driven and digitally connected automotive ecosystem.

New Market Expansion: Global automotive companies are investing in emerging markets with strong growth potential, such as China, India, and Southeast Asian countries. These investments include setting up manufacturing facilities, establishing local partnerships, and adapting products to cater to the specific needs and preferences of these markets.



Automotive revolution

The automotive revenue pool will significantly increase and diversify toward on-demand mobility services and data-driven services. This could create up to $1.5 trillion—or 30 percent more—in additional revenue potential in 2030, compared with about $5.2 trillion from traditional car sales and aftermarket products/services, up by 50 percent from about $3.5 trillion.

Connectivity, and later autonomous technology, will increasingly allow the car to become a platform for drivers and passengers to use their time in transit to consume novel forms of media and services or dedicate the freed-up time to other personal activities. The increasing speed of innovation, especially in software-based systems, will require cars to be upgradable.

Overall global car sales will continue to grow, but the annual growth rate is expected to drop from 3.6 percent over the last five years to around 2 percent by 2030. This drop will be largely driven by macroeconomic factors and the rise of new mobility services such as car sharing and e-hailing.

A detailed analysis suggests that dense areas with a large, established vehicle base are fertile ground for these new mobility services, and many cities and suburbs of Europe and North America fit this profile. New mobility services may result in a decline of private-vehicle sales, but this decline is likely to be offset by increased sales in shared vehicles that need to be replaced more often due to higher utilization and related wear and tear.

Changing consumer preferences, tightening regulations, and technological breakthroughs add up to a fundamental shift in individual mobility behavior. Individuals increasingly use multiple modes of transportation to complete their journey; goods and services are delivered to rather than fetched by consumers.

The type of city will thus become the key indicator for mobility behavior, replacing the traditional regional perspective on the mobility market. By 2030, the car market in New York will likely have much more in common with the market in Shanghai than with that of Kansas.

How we can help ?

Our team of professionals can conduct comprehensive market research to help businesses understand their target audience, industry trends, and potential competitors.

Our experts can help set clear objectives, outline actionable steps and identify opportunities for growth and expansion.

Our team can conduct risk assessments to identify potential threats and vulnerabilities within a business. They can then recommend risk mitigation strategies to safeguard against adverse events.

Our team can investigate and identify any licenses, permissions or registrations required for the client's specific area or industry.

Our professionals can assist with the application process and ensures that the organization complies with all legal criterias.

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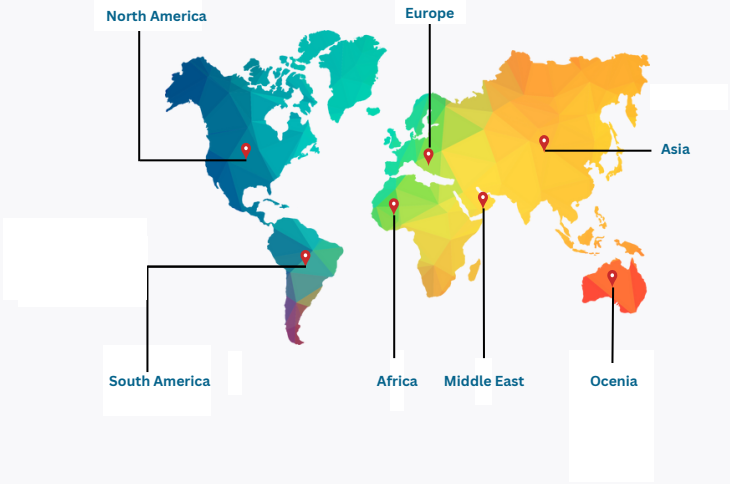

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