

COVID 19 EFFECT ON AUTOMOBILE SECTOR

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Abstract

During the pandemic, this study examines the impact of the COVID-19 situation on India's automobile industry, as well as its effect on sales and market share. In order to conduct this study, researchers gathered data from various automobile-related websites, including the Ministry of Heavy Industry and Public Enterprises, the Ministry of Health and Family Welfare, and the Ministry of Automobile Industries and IBEF (India Brand Equity Foundation). During a pandemic, the study recommends that automobile companies take some measures to boost sales, such as lowering prices or offering additional incentives.

INTRODUCTION TO THE TOPIC

The Coronavirus Pandemic has touched almost everyone we know, and it shows no signs of abating. The coronavirus illness 2019 (COVID-19), often known as the coronavirus or COVID, is caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV2) (SARS-CoV-2). The first instance was discovered in Wuhan, China, in December of this year. There is still a pandemic going on now as a consequence of the disease's global expansion. High fever, cough, headache, exhaustion, shortness of breath, and a reduced sense of smell and taste are just a few of the many symptoms that may be caused by COVID-19. Symptoms might emerge anywhere from a few days to a few weeks after treatment begins. As much as a third of individuals sick exhibit no symptoms at all. In contrast to the 81% of patients who have mild to moderate symptoms (up to mild pneumonia), only 14% have severe symptoms (dyspnea, hypoxia, or imaging findings showing more than 50% lung involvement), while 5% have critical symptoms (dyspnea, hypoxia, or imaging findings showing more than 50% lung involvement) (respiratory failure, shock, or multiorgan dysfunction).

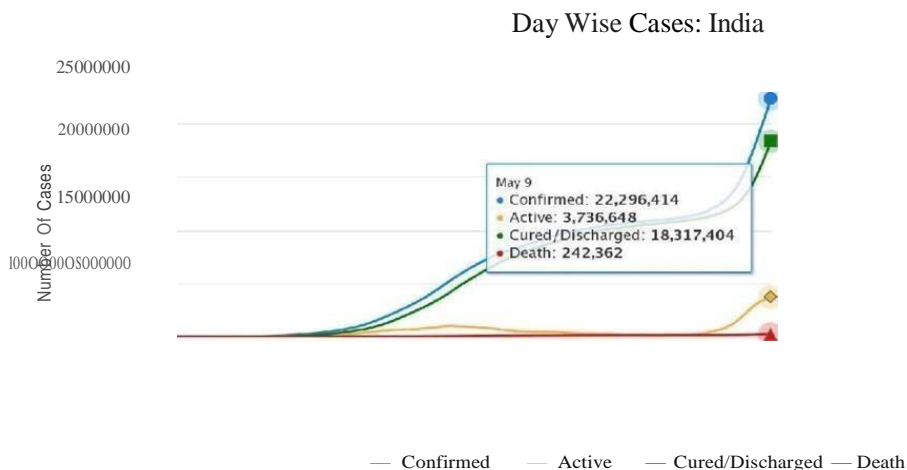
Age 65 and above are more prone to suffer from severe signs of Alzheimer's. A variety of side effects (long COVID) and organ damage persist in some patients even after they've recovered. Several years of research are being done to find out the disease's long-term implications. COVID-19 has a broad spectrum of symptoms, from moderate to severe, that may be encountered. In addition to headaches, nausea, diarrhoea, and a runny nose, the most frequent symptoms of the flu include coughing, muscular discomfort, a sore throat, and difficulty breathing. Different people may have different symptoms and those symptoms may evolve over time. Cough, sputum, shortness of breath, fever, and a musculoskeletal symptom cluster, including joint pain, headaches, and exhaustion, have all been noted in addition to the more common respiratory symptoms of shortness of breath, chest discomfort, and trouble breathing. People who have never had an ear, nose, or throat problem have been connected to COVID-19's taste and odour loss.

Only 18 percent of those who display symptoms develop severe symptoms (dyspnea, hypoxia, or imaging results revealing more than 50% lung involvement), whereas 14 percent have moderate symptoms (up to mild pneumonia), and 5 percent of patients encounter critical symptoms (respiratory failure, shock, or multiorgan dysfunction).

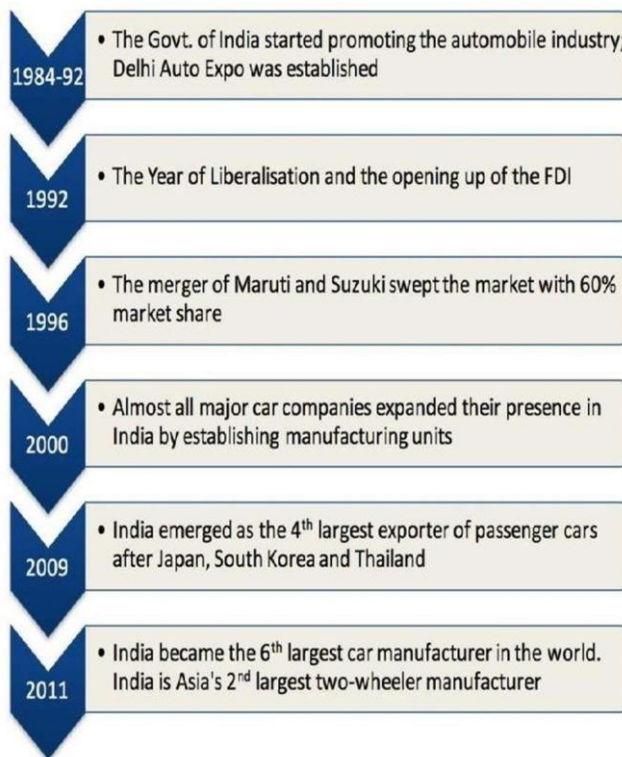
One-third of persons infected with the virus are thought to have no symptoms at all. Untreated asymptomatic carriers may transfer the illness to other people. People who are "presymptomatic," or sick but not yet displaying symptoms, may potentially transfer the virus.

Symptoms don't begin to appear until after a person has been infected for some time. Infections often manifest in this manner. On average, COVID-19 has a delay of four to five days. Two to seven days after exposure in most instances, and virtually everyone will suffer at least one symptom during the first 12 days. The acute stage of the illness is often brief. In certain cases, lengthy COVID persists even after recovery, and organs have been injured, resulting in long-term symptoms. Several years of research are being done to find out the disease's long-term implications.

Figure-1, Day wise COVID Cases in India

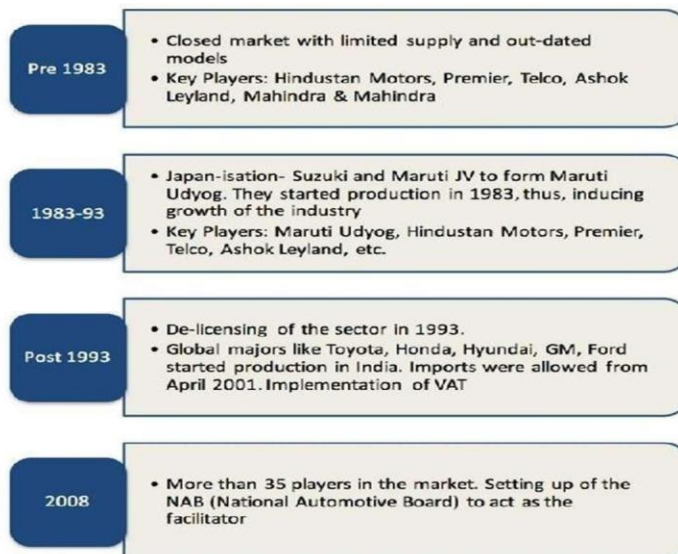


India's first automobile owner Jamshedji Tata owned a vehicle in 1901, while the country's first car debuted on Indian roads in 1897. Prior to India's independence, Hindustan Motors manufactured its first automobile. After India gained independence, the government pushed automotive manufacture. Automobiles were formerly imported from abroad. This commission was set up in 1952 as a means of domesticating the motor industry. The first private vehicles in the United States were made accessible to the general public in 1952. This includes firms like Standard Motors, Premier Automobiles, and Hindustan Motors. Several other manufacturers, including Mahindra and Mahindra, Bajaj, and Standard Motors, have also started making SUVs. These commercial cars were manufactured by seven different companies: Ashok Motors; Simpson & Co.; Premier Motors; and others. Scooters, motorcycles, and mopeds were manufactured by a variety of companies, including Bajaj Auto, Escorts Group, Royal Enfield, Automobiles Product of India, and Ideal Jawa.

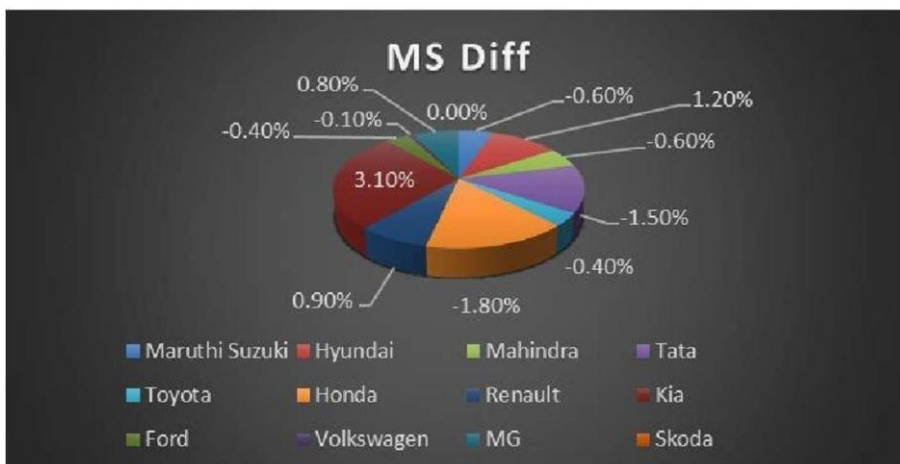


Motor Liberalization

There was a time when there were limited alternatives when it comes to buying a car. Until the dawn of liberalism, these circumstances prevailed. Several international corporations have shown an interest in joining the Indian market as a result. In order to better fulfil the demands of local customers, local manufacturers joined with each other to develop new businesses.

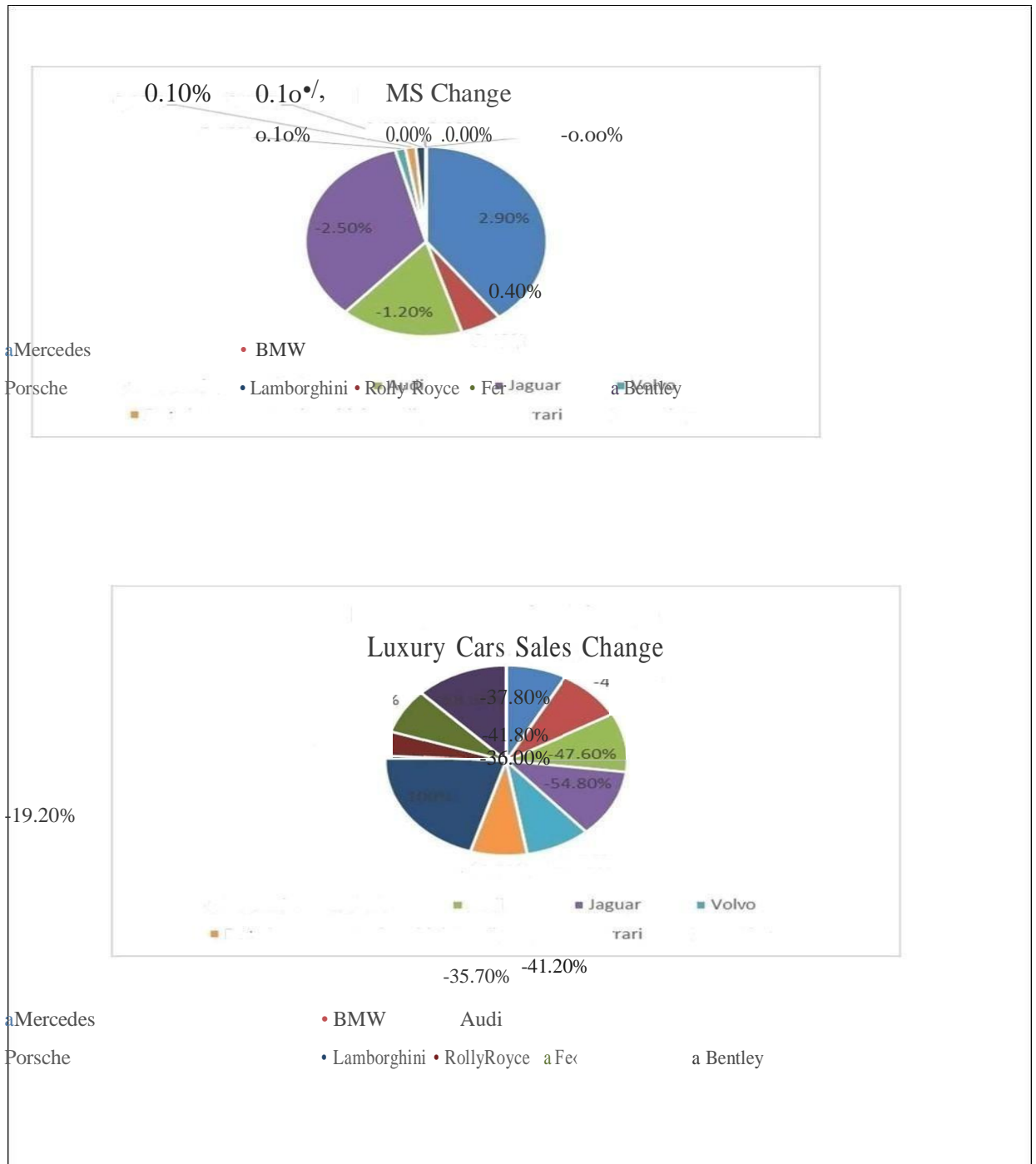


There has been a significant decline in automotive sales throughout this pandemic era, as illustrated in the above table. Despite the fact that Maruti Suzuki is the most popular automobile brand in India, this epidemic has had an influence on this market. Renault is the only carmaker to have seen sales climb in the last year, according to data. The statistics does not allow us to estimate the sales value of MG and Kia, both of which are new to the Indian market. The automotive industry's share in the market was also dwindling. By the numbers, Honda lost 1.8 percent of its market share in the United States. In the wake of Kia's recent debut into the market, its share of the market has climbed. Hyundai's share in the Indian market has increased as a consequence of this lockout.



According to the table above, sales of high-end vehicles were in decline during Covid

19. Bentley and Jaguar have had a huge difficulty in India compared to other luxury premium automobile manufacturers. This year's earnings for Lamborghini, a high-end carmaker, exceeded that of last year's by more than two times. Only during the covid 19 epidemic did Benz see an increase in market share of roughly 2.9% over the preceding year.



Cars have a huge impact on the global economy.

Many aspects of the global economy are dependent on the automotive industry, including:

Because of its various upstream and downstream businesses (such as steel and chemicals), the automobile industry is a major contributor to economic development (e.g., repair, mobility services).

More than a quarter of a million people are employed by the automobile sector, which is a clear indication of its importance.

More than 7 percent of EU GDP, 3 to 3.5 percent of US GDP, and 10 percent of China's GDP are generated by the automotive industry.

Though this year has been challenging, OEMs that are able to quickly deploy their COVID-19 reaction and take action will be in a stronger position post-event and more resilient in the future, despite the present bad conditions.

COVID-19's impact on the Indian automotive industry

A considerable slowdown in the car sector has already taken place prior to the Goods and Services Tax (GST), move to shared mobility, axle-load regulations, and Bharat Stage IV (BSIV) to Bharat Stage VI (BSVI) transition. The COVID-19 lockout has brought the industry to a virtual halt since March 24th.

It is believed that the reopening of the auto supply chain would be delayed by the lack of migrant labour, which will have a domino impact on the whole value chain.

Suppliers may succumb to market pressures in the face of worsening market circumstances, resulting in broad disruptions in the industrial ecosystem. Automobile dealerships have reported completed products inventories of 20-30 days during the lockdown⁵, and they are anticipated to be significantly reduced after the shutdown. To make room for BS-VI merchandise, retailers must get rid of unsold BS-IV stock 10 days after the lockdown ends (and only 10% of the current BS-IV inventory may be sold in those 10 days)⁶.

The bigger businesses may try to purchase these failing suppliers from smaller ones in order to profit from operational synergies.

There will be an increase in the non-performing assets of OEM captive finance companies as default rates on loans grow (NPAs). Loan disbursement for new customers is expected to decline drastically as it becomes more difficult to determine a client's creditworthiness. Whether one of these situations occurs, it's hard to tell if a company will be able to survive in the current market.

Fall of Autonomous Vehicles

Prioritizing capital projects and putting AV technology on the back burner in favour of more essential breakthroughs such as electric automobiles was necessitated by COVID (EVs). The projected dates for Level 3 and 4 vehicles have been moved back many years. Many companies made the strategic choice to stop investing in AV programmes.

Volvo had previously intended to reveal a Level 4 autonomous car in 2024, but that has now been pushed out to 2027. Level 3 autonomous vehicles will be introduced by Volvo at the same time as Level 4 vehicles, according to the company's current schedule. Also delaying the rollout of autonomous vehicles (AVs) and robotic taxis were Argosy's and Ford's \$28 billion investments in electrified cars

There were several factors at play when manufacturers had to choose between rival programmes, including the intricacy of AV technology and the challenges it poses, as well as the financial ramifications of COVID. As a consequence, we may have to wait a few more years before we see autonomous cars in action in the real world.

Decline in Ridesharing Demand

When COVID struck, ride-sharing and robo-taxis were also hammered hard. This investment in ridesharing and robot taxis—the future of the shared economy—was commonplace before the epidemic struck. Some people reconsidered their usage of a ride-hailing service due to worries about social distance, hygiene, and personal privacy.

Lyft's revenue dropped by \$1.8 billion, while Uber's fell by \$6.7 billion. In spite of this temporary decrease in demand, ridesharing is expected to experience further uncertainty and suffer from fewer trips in the coming months. Since Uber knows that its self-driving and aerial taxi divisions have a long-term effect, it has decided to concentrate on its delivery services and sell them off.

As a result of a decline in ride demand, private car ownership may rise. As a consequence of COVID, many customers who had previously depended on the shared economy have found the advantages of having their own car, which signals an unanticipated change in consumer behaviour.

COVID and the Rise of Electrification

The amount of money spent on electricity has risen as a direct consequence of COVID. When confronted with a shrinking budget, electrification emerged as the obvious victor in terms of which programmes to invest in.

In order to keep their costs down, several manufacturers have cancelled autonomous car ambitions and curtailed ride-sharing spending. Many manufacturers hastened their EV plans and established more aggressive goal dates after hearing about the outbreak.

A comprehensive European battery electric vehicle (BEV) line-up by 2030 has been pledged by Ford, GM, and Jaguar and Volvo, and all of their cars will be electric-powered by 2030, according to their respective statements.

EV gained primacy despite the fact that COVID played a part in reducing the scope, because to increased legislative pressure all around the globe. As a result of COVID's negative economic impact on the U.S. economy, legislators pushed manufacturers to continue investing in cleaner technology. It has becoming more difficult for vehicle manufacturers to fulfil their 2020 goals in several of the world's major markets.

Now more than ever, the key participants in the automobile sector must keep a careful eye on the changing currents in order to prevent future setbacks. Adapting to COVID's long-term implications is essential for businesses to stay competitive in an ever-changing marketplace.

As the epidemic worsens, it puts even more strain on the automotive sector.

The four megatrends of connected, autonomous, electrified, and shared driving are transforming the automobile industry in an unprecedented way. The emergence of COVID-19 is placing extra burden on the sector during this change.

Due to the shelter-in-place requirements, the sector is presently undergoing a demand shock with an unknown recovery period, following supply and production interruptions. A lack of space to lower fixed costs means that certain OEMs cannot withstand an extended period of revenue decline. Market consolidation is more probable if the market capitalization lowers. Without further investment, some businesses may go out of business. Despite the financial crisis, changes in consumer behaviour, such as mobility and internet purchasing, may continue.

Businesses must take action on three timelines in order to deal with the disruption:

- a) In the event of an emergency, a rapid reaction is necessary in order to save lives and property.
- b) Financial realities need a rethinking of present company practises.
- c) A reassessment of long-term goals in the wake of the crisis

Respond

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Answer



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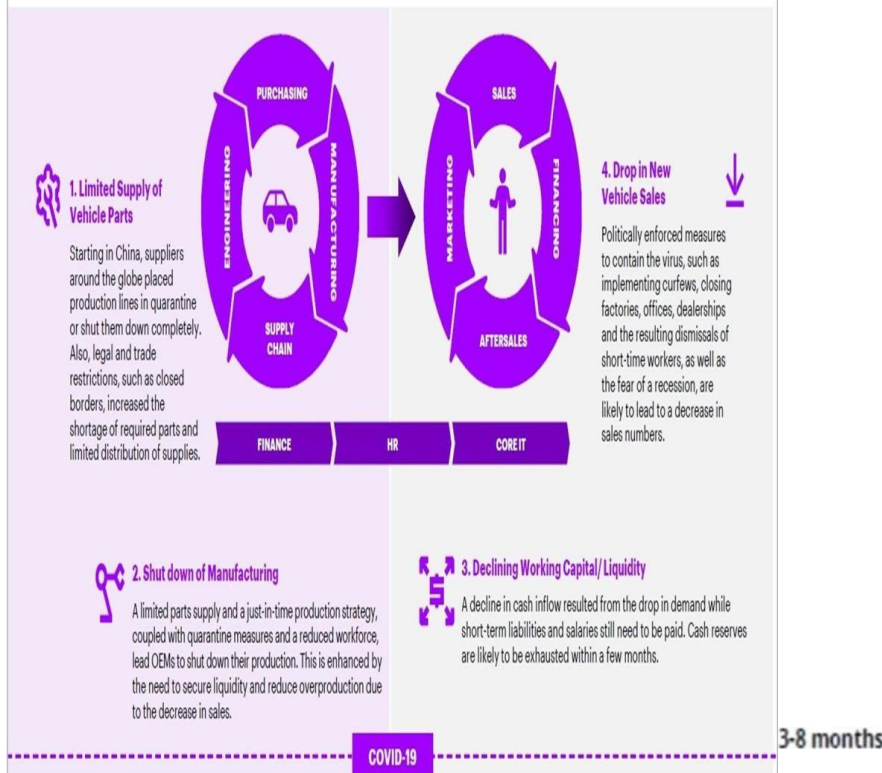
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(lxrmanent changes)

1-2 mnths*

* May vary depending on lockdown duration

9 months +

Along the whole automotive value chain: Four major challenges amid the COVID-19 crisis



"Just-in-Time" production, global networks, and a lean inventory make the supply chain vulnerable to disruptions..

One major freight forwarder has experienced delivery delays due to health and safety requirements implemented at several crossings (both land and sea).

Because of the lack of demand from original equipment manufacturers (OEMs) and worker safety issues, several auto parts and tyre suppliers have closed their doors.

Observations in General:

Increasingly, OEMs have set up global supply chains to take advantage of low-cost labour while aiming for zero inventory to reduce working capital risk.

A large portion of global automobile production is dependent on China (see graph on the left). All OEMs in North America, Europe, and Asia are affected by a lack of supplies. Almost two-thirds of China's auto production was halted, and this had a significant impact on the country's suppliers as well.

Supply chains will be disrupted while Hubei province, which produces about nine percent of China's automobiles, gets back on its feet.

In the absence of trucks and factories, ocean carriers cancelled many shipments due to a lack of demand.

Closed borders and other legal and trade restrictions, such as tariffs, can have a significant impact.

Operations in China are resuming while those in the United States and Europe have halted production. -

Current state of affairs in the United States of America NA-based OEMs halted production.

One electric vehicle manufacturer in the United States was compelled to close its factory because of a shelter-in-place order. Additionally, other OEMs, including the "Detroit 3" automakers, shut down production in the United States, Canada, and Mexico.

Situation across Europe

The vast bulk of European OEM manufacturing has been halted:

Major German manufacturers, as well as other OEMs, have shut down production in Europe for at least two weeks. Until the end of March, the bulk of the factories of other global automakers were shut down. An American multinational carmaker has shut down all of its European factories for the time being.

The majority of OEMs have declared short-time work, decreased overtime, etc. for chosen administrative departments.

China's Situation

While most of the rest of the world is shutting down, Chinese plants are resuming production after a major shut down for a few weeks.

Almost all of the production facilities of the major automakers were restarted.

OBJECTIVES OF THE STUDY

1. In order to study the sales of automobiles in India during the Covid-19 Pandemic and lock down.
2. A market share evaluation was conducted in India during the Covid-19 epidemic.

LITERATURE REVIEW

According to **Alpana Roy (2016)**, the growth of the transportation industry has contributed to global warming in major cities around the world. In order to demonstrate the link between an increase in the number of vehicles on the road and an increase in the city's mean temperature, the author looked at Delhi and Kolkata.

According to Jatinder Singh, India's reforms started about 25 years ago (2014). India's car sector accounts for around 8% of the country's GDP. Automotive sales in India rose at a quick rate as middle-class families saw a rise in their income as a consequence of the banks' liberal lending standards for vehicle and two-wheeler purchases. As a consequence of FDI inflows, 48

percent of total FDI from 2000 to 2011 was responsible for the quick expansion.

According to **Jimmy Corton Gaddam (2013)**, the rising trend in automobile production and sales can be attributed to both the expanding Indian economy and the rising standard of living among consumers. There is a lot of room for growth in the automobile industry in India, where there is still a lot of room for growth.

There is a long history of automobile manufacturing in India, according to **Lokhande, et al. (2013)**. After the liberalization of the Indian automobile industry in 1990, the automobile market became extremely competitive.

Companies must be innovative and creative in order to survive in this highly competitive market.

According to **M. Krishnaveni et al. (2015)**, India's automobile production and exports have been increasing year after year. Car production and exports have increased as a result of increased demand and increased inflows through 100% FDI.

According to **Shrivastava R. K. et al. (2013)**, increasing urbanisation and the usage of vehicles has a negative impact on the environment and human health. Most cities in South Asia, including those in India, suffer from harmful levels of pollution. CO, SO₂, NO₂, and PM are some of the main pollutants released by automobiles.

As the world's population and cities grow, so does the number of vehicles on the road, resulting in increased air pollution and health and environmental concerns, as explained by **Geetha P, et. al. (2015)**. In this case, the simulation software Hysplit4 is used to examine the pollutants. The pollutant's route has been mapped. Depending on the local wind, temperature, and direction, the pollutants will follow a specific path.

Environmentalists use the simulation data to plan roads, industrial sites, and other infrastructure.

According to **Kokila M, et.al (2016)**, a region's air pollution contamination is a result of

pollution from both the region's own zone and that of nearby regions, as a result of variables such as wind speed and direction. The hysplit4 simulation is used to map the scattering pattern of pollutants from moving vehicles and their scattering territory.

RESEARCH METHODOLOGY

Research design- This research is descriptive research that collects data from a sample of population to know the extent to which conditions can be collected in reference of the particular subject.

Research method- The research method in this study is qualitative research as it suggests what the respondents think and why they think in the particular manner about the topic of study.

Sample size- The sample size is the part of the population from whom the data is collected for the research to come to a conclusion. The sample size for this study is 62 respondents.

Sampling method- The sampling method in choosing the samples from the population in this study is convenience method of sampling in which the respondents are selected as per convenience of the researcher. I have chosen this method because it is simple and economical.

Collection method- There can be two types of data used in the research study:

1. Primary data- The primary data is the first-hand information that is collected primarily by the researchers. The method used in collecting primary data in this study is structured questionnaire filled by the respondents.
2. Secondary data- This is the information about the particular topic that is already available. The method of collecting secondary data in this study is internet.

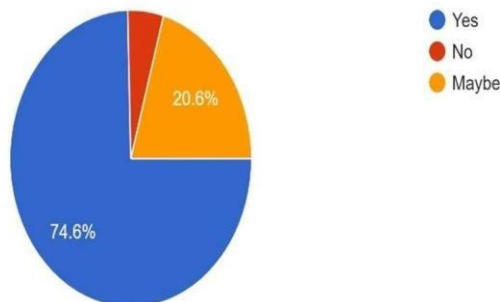
DATA ANALYSIS AND INTERPRETATION

The questionnaire was formed through google forms and the link was shared with the people on various platform so that can get access to the particular link and submit their responses. The data is collected through the structured questionnaire filled by the respondents as per their knowledge and understanding. The respondents were made sure that their data will be confidential for this study and will not be shared with anyone.

Has Covid-19 laid certain impact on the passenger vehicles?

Has Covid-19 laid certain impact on the passenger vehicles ?

63 responses

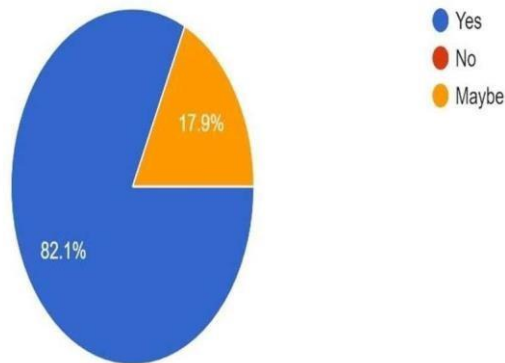


Interpretation: It can be seen from the above data collection 20.6% of the people are not sure about the impact of covid 19, as they may not be aware about the impact and downfall of the automobile sector during covid 19. whereas 74.6% people agree that it has laid its impact on automobile sector.

Has It Impact the Indian Automobile Market?

Has It Impact the Indian Automobile Market ?

67 responses

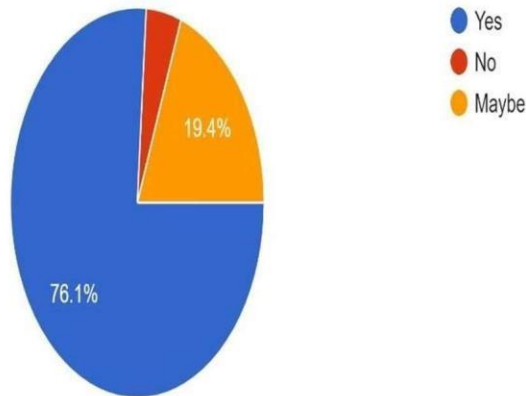


Interpretation: As from above data collection it seen 82.1% people are agreeing with the statement that it has impacted the Indian automobile market and 17.9% are notsure about the impact.

Has Covid-19 laid certain impact on the passenger vehicles?

Has Covid-19 laid certain impact on the passenger vehicles ?

67 responses

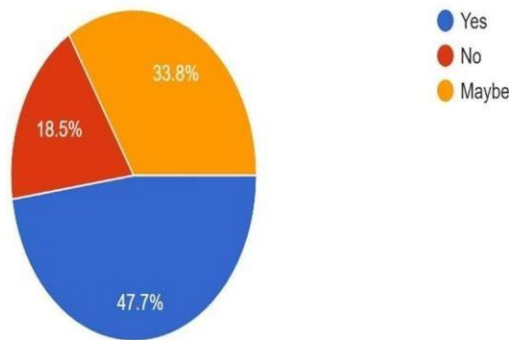


Interpretation: From the above data collected 76.1% people are satisfied with the fact that it has affected the Indian passenger vehicles sales figure and they have gone down drastically after covid 19. whereas 19.4% people are not really sure.

Has Covid-19 laid certain impact on the Luxury Segments vehicles?

Has Covid-19 laid certain impact on the Luxury Segments vehicles ?

65 responses

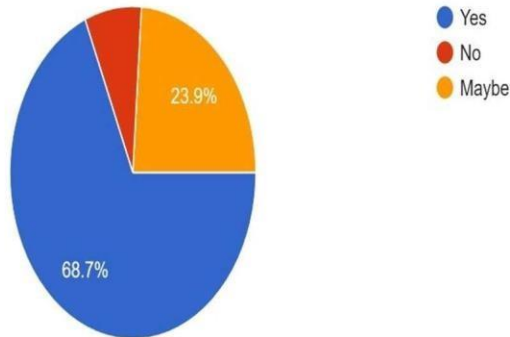


Interpretation: From the above data collected we get to know the various views of the people, where 47.7% are agreeing with the fact luxury car segment was also affected during covid 19 while 18.5% are disagreeing with it and don't think so that luxury segment was affected, while 33.8% are not so sure about it.

Have the sales figures of the passenger vehicles have gone down?

Have the sales figures of the passenger vehicles have gone down ?

67 responses

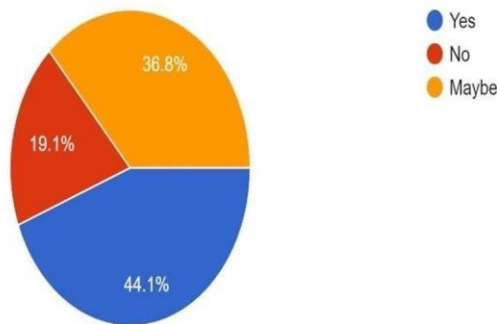


Interpretation: From the above data collected it could be clearly seen that majority of the people are agreeing with the fact the sales figure of the vehicles have gone down after covid 19. 68.7% of the people are agreeing with the fact that sale figures have gone down whereas 23.9% people are not sure.

- Have the sales figures of the Luxury vehicles have gone down?

Have the sales figures of the Luxury vehicles have gone down ?

68 responses

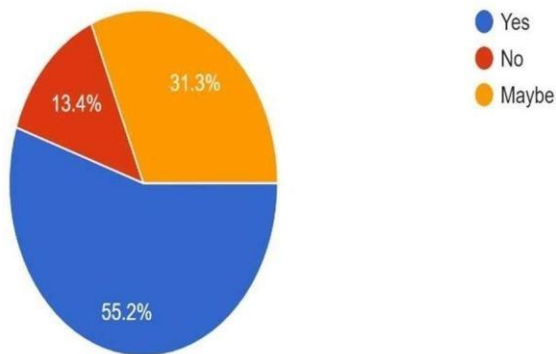


- **Interpretation:** From above data collected 44.1% people are agreeing with the fact that the sales figure of the luxury vehicles also have gone down after covid-19. whereas 19.1% disagree with the fact that sales figure of luxury vehicles have gone down and 36.8% are not sure about the fact.

Has covid-19 helped in paving way for electrification of vehicles?

Has covid-19 helped in paving way for electrification of vehicles ?

67 responses

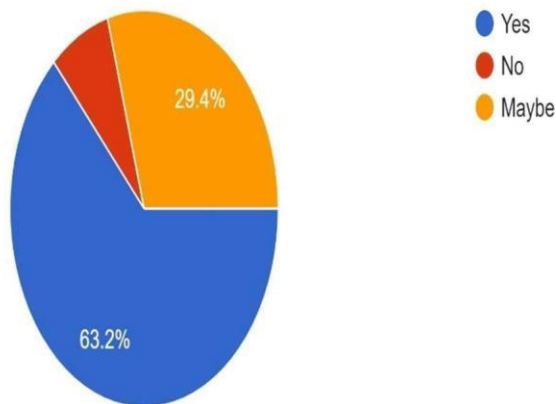


Interpretation: From the above data collection it can be clearly seen 55.2% people are in favour of covid 19 paving way for EV vehicles while 13.4% does not have their consent the in the favour of the question whereas 31.3% are not sure about it.

After the Pandemic are the company's sales figures are increasing?

After the Pandemic are the companies sales figures are increasing ?

68 responses



Interpretation: From the above collected data it can be predicted that majority of the people i.e., 63.2% are agreeing with fact that company's sales figure is increasing but 29.4% people are not sure about it.

Results and implications

After receiving the responses from the sample of 62 respondents in the form of structured questionnaire, the findings of the above study are as follows:

More than half of the people are agreeing that covid 19 has left a non-automobile sector.

Majority of the people are agreeing with the fact Indian automobile sector has been affected with covid 19.

Passenger vehicles have suffered a lot due to covid 19 and majority of the people are agreeing but a number of people are not aware about the fact automobile sector have suffered a lot since covid 19.

Majority of the people are in favour of the sales of passenger and luxury vehicle going down.

Majority of the people are agreeing that covid 19 has helped in paving way for EV vehicles.

Majority of the people are aware of the decline and rise of the automobile industry after and before covid 19.

Suggestions

Here are some suggestions that can improve the sales figures of passenger vehicles as well as luxury vehicles;

Change in demand of vehicle should be analysed carefully so as to understand the need of the customer more clearly.

New and facelifts of the existing car models should be updated and one step ahead of the competitor so as to they can have an upper hand and advantage over the other competitors.

Regular market analysis and research should be conducted.

Customer review should be taken seriously and always try to provide them top notch after sales services,

Buying experience of the customer also plays a vital role in sale of the particular vehicle, there are huge number of people who are the first time buyer of a car so if the first impression is bad then the reputation of the company goes down in customers eyes which is very difficult to build back.

Build quality of vehicles should be the top most priority of the company rather than features for e.g., TATA motors.

limitations

The above study has been done thoroughly but there are some limitations which are mentioned below:

The sample taken are only 62 in number which may not represent the whole population of the country.

The responses may not be sincere as it was done digitally and not physically the honest reactions and unfiltered answers could not be reached.

Time restraint was there which led to proper analysis of data.

Less people were available for answering the structured questionnaire.

CONCLUSION

The automobile industry contributes significantly to India's gross domestic product (GDP) as one of the country's largest stockholders. After a pandemic, car sales in India went into a tailspin because people had never been through something like this before and couldn't even survive it. The cars are out of their financial reach, however. This epidemic had a ripple effect throughout society, affecting not only the automobile industry and its market share, but also the way people lived their lives. Automobile manufacturers should take some steps to boost sales during a pandemic by reducing prices or offering additional incentives. Sales of the car could rise during this pandemic. While the pandemic is going on, these are a few simple things you can do to raise the value of your automobile.

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