



# International Journal of Research Publication and Reviews

Journal homepage: [www.ijrpr.com](http://www.ijrpr.com) ISSN 2582-7421

## THE IMPACT OF COVID-19 ON THE AUTOMOTIVE INDUSTRY IN INDIA

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### INTRODUCTION

The Automobile sector /Industry is a collection of huge organizations and companies engaged in the designing, development, marketing, and sale of motor vehicles. It is one of the world's largest industries by revenue. It excludes industries focused on the maintenance of automobiles. This industry is a giant in all respect and economic force in the world. It produces 60 million vehicles in a year and accounts for nearly half the globe's oil consumption. It directly employs over 4 million workers, with many more indirectly employed.

Automobile sector maintains extremely significant influence and significance, even considering the facts that several big businesses are saddled with overcapacity and poor profitability. The sector also offer high-paying jobs with good benefits, has significant linkages with supplier industries (which provides it an oversized role in the economic growth), and is politically influential.

The automobile sector is a knowledge-intensive and capital-intensive sector, which is significant in the socio-economic growth of the country. The sector is in boom in nearly every year, including rise in no of countries in automobile production. It has a principal and significant role to play in the emergence of the modern economy and the future for its development depends on the position of motor transport in the infrastructure of the national economy. Today, it is hard to imagine the country's economy growth without the growth of automobile industry.

1. What are the problems consumer experiences in purchasing or acquiring a car in India?
2. What are the difficulties experienced in terms various factors in buying a car?
3. How do consumers respond to manufacturers actions taken in order to affect the consumer behavior and purchase decision?

### 1.1 OBJECTIVE OF THE RESEARCH

Research project objectives can be stated as-

- To learn the effect of COVID-19 pandemic on Indian automobile industry.
- To learn the Covid-19 pre and post situation of automobile firms.
- To learn the impact of COVID-19 in the financial ratio of automobile industry.

### 1.2 SCOPE OF THE RESEARCH STUDY

This research examines the effect of covid-19 pandemic on the automotive market and to its automobile market related to India. This research will be helpful for the individuals or the firms who are eager to know or research related to automobile industry.

This report provides a clear image related to the current automobile market scenario. As this report is fundamentally automobile-based, it will also demonstrate the rise/decline of the firms year by year and determinants of this sectors. It also assists in forecasting as well as presents an idea regarding the post covid-19 situation. This research provides an opportunity to learn the financial and the technical analysis and its different tools to learn the basics of financial statement and facilitates the comparison of the financial ratios of different companies. This report analyses and investigates the major ratios of the company to learn the financial health of the companies and provides us with an idea of the position of every company in the market.

### LITERATURE REVIEW

(Impact on the car industry: Navigating the people and business effects of covid -19, April 2020) Beginning in China, vendors worldwide put production lines into quarantine or closed them entirely. Additionally, legal and trade barriers, including sealed borders, added to the shortage of necessary parts and restricted distribution of supplies. A limited availability of parts and a just-in-time production policy, along with quarantine policies and fewer employees, cause Original Equipment manufacturers (OEMs) to close their manufacturing.

This is backed by the necessity to obtain liquidity and cut back on overproduction since there's a decline in sales. A reduction of cash inflow was caused by the fall in demand while short-term obligations and wages are still to be paid. Cash reserves should run out within a few months. Politically imposed virus-containment measures, such as imposing curfews, shutting down factories, offices, dealerships and thus the lay-offs of short-time workers, and the

expectation of an impending recession, are bound to result in the reduction of sales figures. The threat to supply chains has been compounded as OEMs have established global networks to take advantage of low-cost labour while attempting to achieve zero inventory to reduce working capital.

Global automotive production is heavily relying on China. Shortage in supply is impacting assembly for all OEMs in NA, Europa and Asia. In China, nearly 2/3 of automotive production was impacted directly by shutdown with a significant impact on their suppliers too. Hubei province is responsible for 9% of Chinese automotive production, impacting supply chains until production rebounds. With factories running at a fraction of capacity, and trucks not moving, ocean carriers cancelled many routes. Effects enhanced by legal and trade limitations like sealed borders.

(Das, 2020) Nissan closed its plant in Barcelona after posting the lowest profit losses in ten years. This further attracted protests from the workers in the plants. Similarly, production came to a halt elsewhere as well owing to short-term closure of factories. Owing to the high number of job losses, individuals began saving more rather than investing in large transactions such as car purchases, which lowered demand further. Nevertheless, people have adopted digitization to a greater extent while they were on homestay, working at home, availing services online and buying products online. And since the use of public transport has dropped due to the fear of infection transmission, private cars are now preferred. Nonetheless, sales have been low.

(Hauslar, 2020) These countries are less likely to relax emission regulations for some European nations that have long been advocating for incentives in taking electric cars. Bank and companies have lowered interest rates to motivate individuals to buy cars.

(Surbamanium, 2020) The Reserve Bank of India lowered interest rates on cars and extended moratorium on car loans by three months. Similarly, the Bank of Canada reduced interest rates by 1.5%. (Wayland, 2020) The push for digitization can go beyond offering superior digital accessibility and convergence of tech from cars' on-screen interfaces and such digitization can go as far as even touch-less gas station transactions and maintenance.

(Woods, 2020) The sector is experiencing a heavy wind in the face with the ongoing global slowdown in economy and trade war between China and the US. Further, there are a few other factors at the regional level that are impacting the industry growth rate in a specific region. For example, factors like increasing GST on automobile vehicles and compulsory enforcement of BS-VI India. The transmission of coronavirus worldwide has compelled factories to close, hindered supply chain and quarantined workers. Some major automobile companies like Volkswagen AG, Hyundai, Toyota, and Tesla have closed their manufacturing factories for a specified duration, and it has taken a devastating hit on the global automotive sector. The report considers the global automotive market in terms of sales channels, product type, propulsion technology, and geography.

(PWC United states) Those nations which were most affected by the outbreak, specifically China, Japan and South Korea, represent a large percentage of global automotive production. For those companies within severely affected regions, including Italy, France and Spain, that has resulted in dislocation that postponed their ability to close out financial reports. Furthermore, certain automobile companies are becoming more anxious about the potential that the economic effect of the pandemic can trigger goodwill and long-lived asset impairments, recoverability of the receivables, restructuring measures and/or liquidity problems. To add to that, finance key people may be infected by the virus themselves or need to divert their attention to avoiding its effect on the business. Diminished productivity of the finance team would make the drastic increase in the amount of work to process in the next few weeks even more challenging.

The disruption in the auto supply chain can lock cash that could be used to pay for operations, relief employees, or more effectively manage third-party financial obligations. Because the locked cash could lie dormant in the marketplace for a significant amount of time, other initiatives can be utilized to assist in lessening the negative effect.

pandemic can lead to triggering events for goodwill and long-lived asset impairments, the recoverability of receivables, restructuring activity and/or liquidity concerns. To add insult to injury, finance staff critical to the operations could be directly impacted by the virus or must divert their attention to alleviating its effects on the business. Diminished productivity of the finance team could render the notable increase in the amount of work to work through in the weeks ahead more challenging.

The dislocation of the auto supply chain can trap cash that could be utilized to finance operations, alleviate employee relief or more efficiently manage third-party financial obligations. Since this stuck cash can remain inactive in the marketplace for a lengthy period, other initiatives can be employed to assist in minimizing the drag effect.

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## CONSUMER BUYING BEHAVIOR

Consumer behaviours is one of the most problematic problems nowadays, so it should be taken with high significance. Consumer behaviours is a very complicated phenomenon now days; literally it works like a signal in market regarding the various demands of the consumers. Consumer perception makes the producers aware about the demands of the desired by the consumer. Consumer behaviours play significant role while purchasing or buying a product. Customers' buying behaviours in the car industry has changed dramatically over the years due to several factors, including shifting consumer needs, technological developments, environmental issues, and economic trends. Because of the growing emphasis on going green, there is increased demand for electric and hybrid cars, as well as cars that use alternative fuel like natural gas or hydrogen. Safety is being faced as phenomena which primarily affect the consumer buying decision it comprises collision avoidance system, air bag systems, anti-lock braking system, etc. Digital channels are most used as time saving and best means to compare brands at the time of purchase vehicles.

### 3.1: Consumer perception

Consumer perception in the automotive sector is a critical component that affects their purchase behaviours. Perception is defined as how customers perceive and understand information regarding a given brand or product. Consumer perception in the automotive sector is determined by several factors, such as:

**Brand image:** An individual's perception of a brand's reputation and image is a crucial factor in his decision-making. The image of a brand may be shaped by product quality, safety, reliability, and design.

**Marketing and advertising:** Car companies spend a lot on marketing and advertising to establish a perception of their product in consumers' minds.

The consumers' perception of a brand can be affected by messages and images that appear in marketing campaigns.

Word-of-mouth: The consumers' perception of a brand can also be affected by the views of their friends, relatives, and other consumers. When consumers praise a product or service, positive word-of-mouth can lead to a positive perception of a brand in the minds of potential consumers.

Innovation and technology: Consumers' notion of a brand as technologically and innovatively advanced can be a major point of consideration in their decision-making process. Auto firms that spend heavily on the latest technology and innovation can in still a perception of being advanced, forward-looking, and trustworthy.

Environmental influence: Perceptions on the environmental influence of a brand by consumers may also be a factor in their decision-making. Brands that are known for their sustainability and green practices tend to develop a positive image in environmentally concerned consumers.

### **3.2: Consumer decision making**

Consumer decision making towards the automobile sector entails a sophisticated procedure affected by several variables. The process of decision making generally entails the following steps:

Need recognition: The initial step of the decision-making process is need recognition. This can be prompted by a change in the consumer's situation, like a new employment or an expanding family, or due to a desire for a new vehicle.

Information search: Once a need has been identified, consumers will usually start searching for information regarding the various alternatives available to them. This may include surfing the internet, reading reviews, consulting with friends and family, or going to dealerships.

Evaluation of alternatives: Upon collecting information, consumers will usually analyze the various alternatives available to them. This might include the comparison of prices, features, safety ratings, and so on.

Purchase decision: After alternatives have been assessed, consumers will make a purchase decision. This can be influenced by the price, brand reputation, or perceived value for money.

Post-purchase evaluation: Once a purchase has been made, consumers will usually assess their decision and may experience satisfaction or dissatisfaction with their choice.

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## **IMPACT IN TRADE**

Reverse labour migration is an issue like that. Its potential effect on labour-intensive companies could be a reduction in industrial output due to a shortage of skills, as most migrant workers with specialised skills acquired over time remained idle during the crisis and are now returning to their hometowns, perhaps not coming back soon. India's business is dominated by two-fifths of exports and one-third of imports to severely coronavirus-hit countries (the US, the EU, and China). The US and China alone accounted for one-fifth of India's imports and exports. It should be noted that India's trade with the EU, the US, and China comprises two-fifths and one-third of India's total exposure. As a result, there are fewer opportunities for increased exports as the rupee depreciates since these countries can go into recession and experience a significant decline in aggregate demand. In addition, India has a larger import exposure compared to exports in the rest of Asia, specifically ASEAN, therefore the expected gain is smaller due to currency depreciation.

Nations from all over the globe have been facing economic slow-down for the last few years. Nations of the globalized world are so integrated and interdependent that a slow-down in one economy has some effect on the performance of another. Nations were discussing ways to revitalize their economies and institute basic reforms. Covid-19, which is an unforeseen pandemic that was initially discovered in China, has intensified the crisis in more than 200 countries. Most nations were left with no option but to close their economy and issue a state of emergency to maintain their citizens' lives. The pandemic wave that hit India in February made the job of government officials, administrators, and regulatory agencies difficult. In comparison to other countries throughout the world, the Indian economy is varied. It has a population of 130 billion people, with a significant concentration of people living in distant and village regions. At the outset of the pandemic, it lacked proper infrastructure, medical facilities, masks, personal protective equipment, respiratory and life support systems. Lockdown has been announced by the government to save people's health at the cost of the economy. Such measures froze the economy for over 45 days, from March 25, 2020, to May 13, 2020, with the unlocking process only initiating on June 1, 2020.

### **4.1: RESEARCH METHODOLOGY**

The effect of covid-19 pandemic has a substantial effect on the financial condition or on the profitability of the automobile firms, so the hypotheses are: H0: No significant effect on the profitability of automobile sector. H1: Significant effect on the profitability of automobile sector.

### **4.2 SUMMARY OF ANALYSIS**

For this research, financial records of five firms (i.e. Maruti Suzuki and Bajaj auto motors) for previous 2 years has been utilized. Ratio analysis and Horizontal analysis method is being employed to study the financial records.

### **4.3 LIMITATIONS OF THE STUDY:**

This study is utilizing the secondary data collection approach; thus, the data may not be completely responsible.

In this research only 2 firms out of a very big Indian auto industry are considered.

The study framework is found to be very narrow. As the pandemic has not ended yet, it is hard to know and research the future trends of the whole sector of 2 years only.

#### **4.4: RESEARCH DESIGN**

I recommend carrying out extensive secondary research to learn the industry's entire effect and implications, and reading and criticizing industry standards and reports, out of which some of the issues will be selected that I feel are significant and left untouched or subject to modification this could be further pursued to exploratory research. This phase will help me limit and to select only the essential questions and problems which are of concern to growth and development in industry.

The following are the work that I have done during research design,

1. Establishing the information needed.
2. Develop an exploratory and descriptive research.

#### **RESEARCH PROCESS**

The research process has four distinct and correlative steps in research analysis. It has a rational and hierarchical sequence:

1. Determination of research problem of information.
2. Formulation of suitable research design.
3. Implementation of research design.
4. Transmission of result.

These steps are the individual process which involves the mixture of task, step and particular procedure. The steps taken are rational, objective, systematic and consistent and reliable.

##### **4.1.2: EXPLORATORY RESEARCH**

Two ways which is applied in the exploratory research are-

1. Primary data
2. Secondary data

#### **PRIMIARY DATA**

Primary data which is gathered through the different ways which are mentioned below –

- **Surveys:** Surveys are the most frequently used technique for collecting primary research data on consumer behavior. A survey may be carried out online, telephonically, or face-to-face to collect data on consumer liking, decision-making, and other such factors.
- **Focus groups:** Focus groups are another way of obtaining primary research data. Focus groups usually consist of a small number of individuals who are gathered to discuss a given issue or topic regarding consumer behavior in the car industry. Focus groups can express their attitudes, opinions, and behaviors on issues that may not be revealed through a survey.
- **Interviews:** Consumer interviews may be a helpful way to collect primary research data. They may be carried out face to face, by phone, or online and may be structured or unstructured. Interviews may be very helpful for exploring issues in depth or understanding the rationale behind consumer behavior.

#### **SECONDARY DATA**

In this study secondary data is a form of data that is gathered by the different platforms and the data already posted in advance, some of the means are –

- **Market research reports:** There are numerous market research companies that offer reports on consumer behavior within the automobile sector. Such reports can incorporate data on market trends, consumer preferences, and purchasing behavior.
- **Industry associations:** Industry associations like the National Automobile Dealers Association (NADA) and the Alliance of Automobile Manufacturers (AAM) can offer information on consumer buying behavior in the auto industry.
- **Government agencies:** Government agencies like the National Highway Traffic Safety Administration (NHTSA) and the Department of Transportation (DOT) can offer information on consumer buying behavior concerning safety features and vehicle recalls.
- **Academic research:** Researchers in academia tend to carry out research on consumer behavior in the automotive sector, and their findings can appear in academic journals or conference proceedings.
- **Online reviews:** Online review sites like Edmunds, Kelley Blue Book, and Consumer Reports can offer information on consumer choice and purchasing habits.

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### **DATA INTERPRETATION AND ANALYSIS INTERPRETATION**

#### **DATA INTERPRETATION**

The automobile industry is one of the most revenue generating industry which gives approximately 8 to 10% to the overall GDP of the Economy, which is the most revenue generating industry, particularly Maruti Suzuki and Bajaj Auto are the largest player in the 4 and 2-wheeler segment performs a excellent performance in the year 2019 as usual. It has been nicely apparent how great these auto firms can generate profits and its sales whether domestic or international with excellent market share as presented in Table 1: Comparison of the companies based on their Overall performance in the year 2019 Profitability ratios particularly define how profitable the company is and against sales, operating expenses, assets and shareholder's equity. That is, such ratios indicate to what extent a company utilizes its assets to achieve profitability and shareholders' value.

#### **Gross Profit Ratio:**

The primary aim of calculating gross profit ratio is to find out the efficiency of the business. Regardless of the high revenue a company has, low GP ratio implies that there is little margin for mistakes within its operations. Overall financial performance is likely to be negatively impacted due to continued covid-19 pandemic with gross profit margin facing pressure. The ratio of GP percentage of the 2 companies indicates sharp decline, which states lower efficiency of the companies because of this pandemic.

#### **Operating Profit Ratio:**

Operating profit margin indicates how much profit a company generates from operations, before deducting taxes and interest expense. As there is less availability of equipment and high rates which translates into high operating expense which means low operating profit which shows how fails to utilize its company's expenses effectively due to this entire pandemic situation.

#### **Net Profit Ratio:**

Net profit ratio represents the residual profit after all the cost of production, administration and financing are subtracted from sales and income taxes accounted. Because of this pandemic, the automotive firms lost an estimated revenue of over 13 to 15 crores, the firms exhibit a low net profit ratio margin which represents inefficient cost structure and poor price strategies, and which leads to inefficient management, high cost and weak price strategies.

#### **Inventory Turnover Ratio:**

It indicates the number of times a firm has sold and replaced inventory within a specific time. As per the above calculation and graphs, it is easily visible that both the companies reflect low inventory turnover ratio in 2020 as well as in 2021 which indicates poor sales and may be surplus inventory or over stocking due to the sudden lockdown of covid-19.

#### **Debtors/ Receivable Turnover Ratio:**

It represents how well a company can grant credit as well as collect debts. But this ratio does not represent much about the company's position but represents the efficiency of the management and since the figures of both the companies deteriorate over a period i.e. in the year 2020 and 2021 which clearly states that the company's collection of accounts receivable is not efficient due to this pandemic.

#### **Working Capital Turnover Ratio:**

It indicates the ability of a company to use its working capital to maintain a specific level of sales. Both the companies reflect low working capital turnover ratio which clearly reflects that a business is placing investments in excess accounts, receivable and inventory assets to maintain its sales, as the sales were nil in the period of strong urge of this pandemic which may ultimately results in too much bad debts and old inventory write-offs.

#### **Current Ratio:**

It calculates how able a company is in paying short-term obligations or those payables within a year. It informs investors and analysts about how a company can optimize the current assets of its balance sheet to pay its current debts and other payables. First both the companies have more than 1 current ratio, but it degrades as this pandemic arises and with the passage of time it becomes less than 1 in the year 2020 and 2021 when this pandemic on its peak which clearly shows that both the companies can face problem in fulfilling its current obligations.

#### **Quick Ratio:**

It means that the company is fully funded with just sufficient assets to be immediately sold to satisfy its present liabilities. Since due to this pandemic, the companies were unable to generate its profit and sales, all the production units got closed which ultimately leads to low quick ratio which means that both the companies are facing difficulty in paying of its debts.

Thus, from the above analysis, it is analysed that the companies' ratio gets severely and significantly impacted by this pandemic and the study also reflects that how this covid-19 has heavily impacted the companies' sale and profit in 2020 Figure 3 and also up to what level of impact when compared by the last year i.e. 2019 Figure 4, Thus, it can be said that the Null Hypothesis H0 is rejected since there is a significant impact on the profitability of automobile sector as demonstrated in this report.

### **ANALYSIS INTERPRETATION**

In the above graph Figure 8, it is presented how the automobile companies performed in a week after the lockdown period. The companies lost crores during the lockdown period and to recover that loss and to regain their position in the market is a big and challenging task for all automobile companies. But this works as a challenge too opportunities for numerous companies and the companies move ahead immediately after lockdown in selling more and more cars. As exhibited by the above figures gradually but the companies can make profit and demonstrated a gradual growth. Hope things improve with time and the best car manufacturing companies will once more be able to regain their position in the market.

### **MAJOR IMPACT OF COVID-19 ON THE AUTOMOBILE SECTOR DURING THE LOCKDOWN PERIOD:**

#### **SALES DECLINE:**

The outbreak of covid-19 has had a major setback on the sales of automobile industry.

The Indian automobile industry lost Rs 2,300 crore per day. The production by the OEM's have reduced by 18-20% because of less demand and fall sales of motor vehicles. Auto production's revenue and cash flow has had a significant impact on the extended truncation of demand by the lockdown.

#### **INFLATION:**

The auto industry is likely to see commodity cost inflation which will be countered by the same through increase in price (of 1-6% in 2 W's, tractors and PV's), reduced discounts (100-400bp across segment), and cost reduction (80-100bp), and operating leverage (150-170bp). All reports indicated that spot prices of base commodities recorded a steep rise (15-40%) during FY21-22.

#### **GDP PROFIT:**

Increased restraint in spending on everything from shampoo to automobiles and holidays risks undermining what's been the pillar of the economy, providing around three-fifth of gross domestic product? The slowdown has been a drag on growth, which is forecast to have dipped for a fourth quarter in a row to 6.5% over the three- months to march, the weakest rate since mid- 2017 and nearly on par with China.

#### **DIFFICULTY WITH UNSOLD INVENTORY:**

Auto dealers could not deliver the cars during the Lockdown and carried 30-45 days finished goods inventory, most probably to be discounted heavily after the lockdown. It is a huge burden for the dealers to clear the unsold BS 4 inventory worth Rs 6,300 crore.

#### **DIFFICULTY WITH MANPOWER**

Auto component makers rely heavily on migrant workers, whose absence is likely to further postpone recovery after lockdown, leading to the domino effect on the overall value chain. Suppliers with liquidity concerns might fall prey to the worsening market situation, generating widespread disruption in the entire manufacturing value chain.

**2021:**

#### **POST-COVID-19 EFFECT ON AUTOMOBILE SECTOR: PRICE RATCHETING:**

For car buyers, the New Year might not be so generous as top automakers of the nation has announced a price increase following increasing commodity prices. For instance, India's largest automaker Maruti Suzuki was one of the first to declare the hike and has raised its price 3 times until now.

#### **MORE PURCHASE OF PERSONAL VEHICLE:**

Coronavirus issues may cause a surge in car sales in India as more and more Indians want to own a personal car, as per survey, at least 40% individuals stated that they are likely to purchase a new car or used car post-coronavirus crisis and 13% stated that the coronavirus pandemic will have no impact on their buying habits.

#### **LESS OPENING OF MANUFACTURING UNITS AND SHOWROOMS:**

All the car makers are fighting for getting the suppliers online again and for making their retail display rooms ready to open again. Also, there are bookings which are already postponed due to pandemic, and as manufacturing units were closed suddenly no companies will be able to procure many equipment which further got delayed in delivering the vehicles to owners.

#### **IMPACT OF AUTO ANCILLARY ON AUTO MOBILE INDUSTRY:**

Auto parts manufacturers are being hit with a twin whammy of muted demand covid- 19 caused production curb. Automotive Component Manufacturers Association of India (ACMA) estimated the industry revenue decline at 11.7% during the previous financial year. The Society of Indian Automobile Manufacturers (SIAM) said vehicle production declined 14.7% in FY20. With auto industry sales projected to decline by around one-fifth during the current fiscal year, revenue of the auto component industry is likely to decline as well.

#### **FEAR OF COVID:**

As this covid-19 pandemic is not yet ended, the fear continues in people's minds. And the scenario is again deteriorating, weekends are under lockdown, people begin to avoid going to any showrooms or any social event. Also because of so much fear of this pandemic, individuals once again begin relocating to their hometowns which results in once again drop in sales of cars and that previous scenario of having a huge fear of covid-19 resurfaced again.

#### **PREFERENCE TOWARDS ONLINE PLATFORMS:**

In the background of the covid-19 crisis, digital platforms have become a go-to marketplace to purchase vehicle online. It is to be seen, as per a survey by auto research platform, that 60% of its respondents indicated a willingness to purchase their vehicle online, with the good bargain and ease being the major drivers.

#### **FUEL PRICE HIKING:**

Because of continue price increase in crude oil, most countries suspend production of crude oil for a period which cause price increase of crude oil in international market which lead to continue fuel price increase.

#### **EMERGENCE OF ELECTRIC VEHICLES (EV's):**

Post-pandemic policies will set the course of different economic sector for the future. The EV (Electronic Vehicle's) industry has just begun to shift towards its potential in India. It's a wonderful move by the government which is good to give short-term incentives or more subsidies to boost the usage of EV two-wheeler and four-wheeler.

#### **Government Incentives:**

In a bid to promote electric mobility, the government will provide subsidy support for around 62,000 electric passenger vehicles and buses, along with 15 lakhs electric two- and three-wheeler, parliament was made aware on Thursday. Highway Minister Nitin Gad Kari informed in the Lok Sabha that phase- 2 of quick adoption and production of (hybrid) electric vehicle scheme is being pursued with total budgetary support of Rs 10,000 crore.

#### **Tax exemption:**

State Government declares 100% tax redemption for battery vehicles for over 2 years. Exemption is also being given to even transport vehicles. The tax redemption is given to all battery vehicles, transport and non-transport, up to December 31, 2022.

And as per the recent update, JLR (Jaguar-Range Rover), a Tata Group subsidiary has now made up its mind that it will now only manufacture EV's for this segment soon.

#### **TRUMP EXIT, BIDEN ENTRY:**

A key plank of democratic presidential hopeful Joe Biden's white house bid is a radical makeover of U.S environmental policy. Biden's green plan entails the pledge to reintroduce and strengthen stronger fuel economy standards. He had set increasing Electric Vehicle (EV) as his priority and committed billions to install 550,000 EV charging stations. He also advocated new tax credits for the purchase of EVs and retrofitting factories to produce EVs.

## RESULT AND DISCUSSION

The objective is to analyse the effect of COVID-19 pandemic on the Indian automobile industry:

In this report, it is studied that how this covid-19 has impacted the automobile sector in every aspect. The overall performance of both the companies have severely been impacted whether its sales, profit generated by the companies or its market capture. It is seen that how the companies faced crores of losses during this pandemic, and the position of the companies has so drastically been affected that it has never anticipated in years. And the various factors influencing is also researched, so it's not incorrect to say that this pandemic has proved a scenario that nobody has ever anticipated but also provides the energy to struggle in such type of circumstances. So, in this manner, the objective and purpose to research the effect of covid-19 pandemic on the automobile sector of India has been accomplished.

To understand the Covid-19 pre and post situation of automobile companies:

In this report, it has also been researched the pre and post situation of the automobile companies. In Table 1: Comparison of the companies based on their Overall performance in the year 2019 Table 2: Comparison of company performance in pre and post covid-19 Table 3: Comparison of the companies based on their performance in 2020, the extent of impact can obviously be seen in the pre and post scenario in the graph that to what extent this pandemic has impacted and hindered the overall growth and performance of both the companies. By observing the pre and post scenario, easily the pre covid-19 statistics (Figure 2) varies significantly compared to the post statistics (Figure 3) and Figure 4 indicates the clear indication of the entire report. Thus, in this manner, the 2nd goal to understand the Covid-19 pre and post situation of automobile companies is also achieved.

To know the influence of COVID-19 in the financial ratio of automobile industry: In Table 4: Ratio Analysis of the Companies: all the key financial ratios of both the companies for the year 2019, 2020 and 2021 is being studied and it is seen that this pandemic has a high influence on the financial ratios of both the companies with a high margin. In Figure 5, Figure 6 and Figure 7, the graph clearly indicates the financial position of both the companies in pre and post covid-19. Not only for the year 2020, but the impact of this pandemic has the worst effect in the year 2021 as well. Because this pandemic is still ongoing, it can't assume that what effect it will have on this sector in the future. And with this, the 3rd objective to understand the impact of COVID-19 in the financial ratio of automobile industry is also achieved.

## CONCLUSION:

The Indian Auto industry has certainly suffered at the hands of the virus outbreak, from the dealership end all the way to the supporting ancillaries. The large-scale shutdown of the factories has placed a burden on the manpower, who need financial support to sustain their families in this trying situation. Demand slowdown. New emission norms, and coronavirus pandemic have dealt a lethal blow to the Indian automobile sector. Production has come down in every segment, pushed it back to 2016 levels. But with the production having resumed in a few plants and some dealers having resumed functioning in less-affected areas, we can witness some activity coming back to the sector. The Indian auto industry has already witnessed tough last few quarters and this lockdown due to the pandemic couldn't have been timed worse. But a coordinated and organized response, immediate as well as medium to long term will see a V shape revival shortly. Overall, the market is going to be lukewarm for automakers. It is likely to fall still more by 15-20% based on the present forecasts and can experience some recoveries only in the third quarter of 2021. So as per the current situation, it doesn't seem that India's automobile industry will return to its pre-covid-19 phase anytime soon. There will be major alteration in the consumer preference and purchasing behavior of the consumers. Post covid-19 time will usher in numerous challenges along with numerous opportunities. The companies will now heavily depend on the digital showrooms for expanding their customer base and the Electric Vehicle will find a position in the Indian market.

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