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# Financial performance analysis of selected automobile companies: A critical review with special reference to India

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**Abstract**
A major contributor to India's economic prosperity is the automotive industry. Regarding the economic development of India, the automotive sector is quite important. The nation boasts plenty of employment for its citizens, which also helps to boost the GDP. The current analysis is predicated on the financial standing of several Indian car companies.
The financial performance analysis of a few Indian car firms looks at their liquidity, solvency, profitability, and other important financial indicators. For the benefit of investors and other stakeholders, it seeks to reveal sector-wide trends, strengths, and improvement opportunities. In order to analyse the chosen Indian automobile company's financial structures and current financial situations. What now exists, what may become fresh facts and meaning, were the foci of this kind of study. Secondary sources were used to gather data for this investigation. Annual reports, books, the internet, magazines, newspapers, and so on are the sources from which the data is culled. The research study used the following statistical methods for hypothesis testing: Anova, trend analysis, and ratio analysis. An analysis of the selected automobile industry's financial performance provides valuable insight into the sector's economic climate and lays out a plan to boost competitiveness and long-term development in a dynamic global market.

**Keywords:** Financial performance, economic growth, automobile industry, GDP

## Introduction
The COVID-19 pandemic has severely impacted the Indian automobile industry due to manufacturing closures, supply chain disruptions, and a sharp decline in demand. Over the years, sales typically rise across nearly all industries; however, the recent global pandemic has adversely affected sales in almost every vehicle segment, resulting in FY20 sales mirroring those of FY16, according to reports from the SIAM. The lethal epidemic has brought the current automotive sector to a standstill, as its operations have become almost unfeasible owing to reliance on imports from China, which are not reaching Indian businesses because of lockdowns and other obstacles. The pandemic has caused a complete disruption of the vehicle sector owing to a combination of workforce shortages, ineffective income generating mechanisms stemming from sales obstacles, and a loss of consumers. Investors, stakeholders, and the economy as a whole place a premium on a company's financial success. Investors place a high value on a return on their money, and financially stable businesses are able to provide investors with consistent and healthy returns. Increased employee pay, higher quality goods for clients, and a more pleasant work atmosphere are all benefits of a financially successful business. Moreover, with increased earnings, there will be more capital available for investments in the future, which in turn will increase both employment and income levels.

## Automobile industry: An overview
At the present time, India ranks above all but five countries in terms of two-wheeler production, commercial vehicle manufacturing, and tractor manufacturing. Not only is it home to the world's biggest motorcycle manufacturer, but it is also the fourth largest passenger car market in Asia.

The industry has come a long way in terms of innovation, accessibility, adoption of new technology, and adaptability to the ever-shifting business landscape. There has been some success in exporting both automobiles and components, and it is also gaining popularity across the globe. Producing around 2 million vehicles per year, India's automotive sector ranks tenth in the world. With one of the country's fastest-growing industrial sectors being the automobile industry, India is poised to surpass China as the world's fastest-growing vehicle market in terms of unit sales. Global automakers have begun to show a lot of interest in India.

**Review of Literature**

In this article, C. Gounasegaran (2000) uses a variety of secondary sources to provide their opinions on the many facets of the automotive industry. It breaks down the car industry by structure and composition, as well as by subcategory and vehicle count. The years 1962-1996 have been the focus of the research. The study's goals are to illuminate the regulations governing the industry's regulation, to spot patterns in operational and overall productivity, to examine the many metrics for financial success, and to delve into the sector's strategic concerns. According to the research, there are several interesting trends in this industry, including a growing capital output ratio, variable total factor productivities, responsive operational costs, and underutilized capacity.

The article by Govind P. Shinde and Manisha Dubey (2011) [13] evaluates the expansion of the Indian car industry as well as the top companies operating in this field. The report has laid out the sector's growth in the Indian market in a straightforward and logical way. Finding the main causes that have contributed to the expansion of the car industry, as well as evaluating the performance and trends of important participants, are the goals of the research. In order to boost future performance, the report recommends that the industry diversify exports to target untapped global markets.

Rohit Bansal (2014) [14] Examining how well a business has followed the rules in its financial performance is the main goal of this article. The commercial banking sector's performance from April 2011 to March 2014 is the focus of this research. We retrieved the financial statements of Axis, ICICI, Federal, and HDFC banks for the specified time periods. This study's objective is to examine these banks' financial accounts via the use of several measures, including those measuring liquidity, activity, leverage, profitability, and market value. Based on the data, it seems that Federal Bank is the most financially secure corporation out of all of them.

Kavitha. S. and Ramya. A. (2017) [15]. Based on the variables that were chosen for the study, which may be of interest to both the Maruthi Suzuki company and other businesses in the industry, as well as the industry as a whole, the study examines the financial health of the company over a certain time period. In order to optimize the company's intrinsic worth, the research is crucial for management to use in making decisions by identifying the company's strengths and weaknesses. Both the profitability ratio and the activity ratio demonstrated improved financial performance during the research period.

P. Srinivasan (2018) [16] Using ratio analysis, this research assesses and analyses the financial performance and position of the sugar sector. From 2013 to 2017, we looked closely at the company's financial performance. Information was gathered from secondary sources as well. The study includes examining the profit and loss statement and balance sheet for a five-year period. With this information, decision-makers can see the state of the company's finances throughout the year. In this article, we lay out the ground rules for analysing the Vellore cooperative sugar mills Ltd. in the Vellore area using activity, liquidity, solvency, and profitability criteria.

Velmurugan Ramaswamy and Joji Abey (2019) the purpose of his research was to try to calculate the financial leverage of the Indian car sector. The study's findings reveal that the financial leverage of India's car sector is determined by factors such as ROI, firm size, liquidity, asset structure, sales growth, and tax provision. Automakers should plan their capital structures in a way that doesn't compromise their short- or long-term solvency in light of the industry's current and projected financial and earning capacities and growth prospects.

Shashidhar (2021) [17] an optimal policy combination would include measures to encourage the manufacture and use of electric cars while simultaneously prohibiting or discouraging the production and utilization of polluting vehicles. Targeting two-wheelers in the electric vehicle market would be more feasible owing to their comparatively lower pricing, therefore benefiting users who are more vulnerable to air pollution.

Shekhar *et al.* (2019) [18] financial incentives, regulatory measures, & infrastructure development positively correlate with the growth of EV market share.

Tarei *et al.* (2021) [19] delineated five kinds of difficulties that impede the adoption of electric vehicles: infrastructural challenges, financial obstacles, behavioral concerns, technological considerations, and external influences. An environmental strategy designed to promote the use of electric vehicles may assist in surmounting these obstacles. The sale of electric vehicles (EVs) is augmented not only by incentives but also by a diverse array of appealing automobiles that cater to the social preferences of consumers.

**Problem statement**

Businesses fundamental to a country's economic development have seen profound shifts in recent decades, and the automotive industry is largely to blame. In contrast, the growth of the automotive industry has been significantly influenced by global economic policy. When they begin operations on a large scale, the automotive industry has its own source of money. Much of the future growth in the automotive industry will depend on governmental funding. Company reputation and financial success have been the determinants of public funding. Only via the country's stock markets can the public capital be acquired. These stock exchanges are overseen by SEBI. The flow of public money might be regulated by the SEBI. Getting people to buy into a company's stock requires a lot of work.

India has had significant social and environmental repercussions due to air pollution in recent decades. It has also pledged at COP 21 in Paris to assist in mitigating global warming. Subsequent to this voluntary accord, India intends to elevate the proportion of electric cars to thirty percent of total vehicle sales by 2030 to mitigate air pollution. An urgent need exists to enhance communication and understanding about electric vehicles (EVs) and their

contribution to pollution reduction in order to mitigate the reluctance towards embracing this new technology.

**Research objective**

- To gain insight into the Indian Automobile Companies.
- To study the impact of emission norms on the financial performance of automobile companies
- To bring into light the effects of global trends of electric vehicles on the Indian Automobile Industry
- To analyse the chosen Indian automobile company's financial positions.
- To provide recommendations for various Stakeholders

**Scope of the study**

The research considers the several approaches that are used to reveal the financial performances, including capital structure analysis and ratio analysis. The research delves into the financial performance of the Indian automotive industry by using quantitative statistical methods. Financial performance, value addition, solvency, and capital structure are just a few of the important metrics that will be considered in this analysis, which will allow for valuable recommendations to the Indian automotive industry.

**Research Methodology**

The current investigation makes use of descriptive research methods. What now exists, what may become fresh facts and meaning, were the foci of this kind of study. During this phase, the researcher records data by observing, narrating, and documenting the specified topic as it occurs naturally. From 2018-2019 to 2022-2023, this research tracks the financial success of a few corporations in the automotive industry.

**Impact of emission norms on the Indian automobile industry**

**Projected Cost Impact**

A rise of 10,000 to 50,000 Indian rupees (INR) is anticipated for passenger cars, with the exact amount dependent on the model and engine capacity. The price increases experienced during the changeover to BS6 stage 1 ranged from INR 50,000 to INR 90,000, thus this one is more modest. A price hike of up to 5.0 percent is anticipated for commercial automobiles. The entry-level sectors of the two-wheeler market are anticipated to feel the effects of the transition-led expenses the most. The shift to BS6 stage 1, the introduction of several safety standards, and, most recently, a precipitous spike in input prices in 2018 all contributed to the substantial price hikes seen by the automotive industry since 2020. People may decide to put off buying cars until prices level off if they see them going up any more.

| Sector | Technology interventions | Benefits: reduction in emission |
|---|---|---|
| Power | Use of renewable sources; air pollution control measure | Sulfur dioxide, nitrogen oxides, particulate matter, carbon dioxide |
| Transport | Electrification of road transport; vehicle emission norms | Sulfur dioxide, nitrogen oxides, particulate matter |
| Households | Use of LPG and PNG for cooking | Indoor air pollution and particulate matter |
| Industry | Energy efficiency; renewable sources of power; air pollution control measure | Sulfur dioxide, nitrogen oxides, particulate matter, carbon dioxide |

***Source*:** Compiled by the researcher

**Fig 1:** 1Mitigative technology and effect on emissions.

**Eagerness of Auto OEMs**

Vehicle original equipment manufacturers have spent the last few months getting ready to switch to the BS6-II standards. The majority of the world's leading car manufacturers have already stated their intention to conform to the new standards and have adjusted their product lines accordingly.

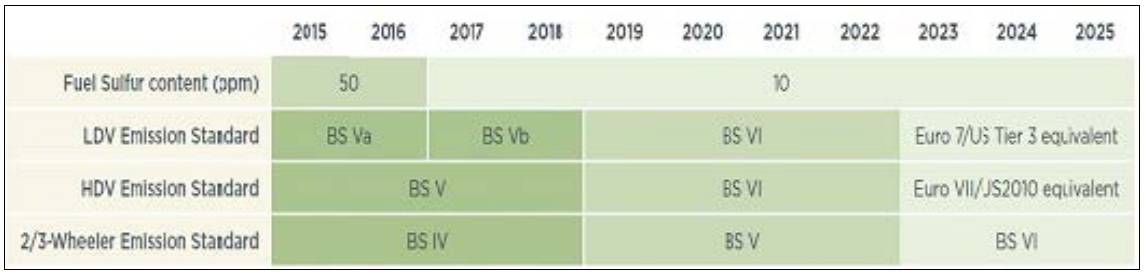


**Fig 2:** Emission Standards to Bharat-VI And Beyond

**Source: https://auto.economictimes.indiatimes.com/**

In February 2023, dealers were offering further discounts on Maruti Suzuki automobiles as they cleared out their inventory in preparation for the switch. Customers attempted to take advantage of cheaper pricing before April 2023, therefore some pre-buying was seen in February and March 2023 retail sales.

**Probable impact on the stocks of Indian Auto Companies:** The entry-level sectors, which are already experiencing weaker demand owing to macroeconomic considerations, might be even more hit by price spikes caused by regulation change. Since there will be very little change in price percentage terms for the premium/high-end models, they are not anticipated to have a significant influence on demand. There may be a lot of obstacles, but

these premium versions are still doing well. However, long wait times have resulted from manufacturing falling behind demand owing to supply chain bottlenecks, particularly in the passenger car category. Consequently, car wholesalers may see a temporary slowdown in activity leading up to the changeover, but activity may quickly pick up again once original equipment manufacturers (OEMs) go to work on their mountain of outstanding orders. As a result of early preparation by OEMs, substantially reduced cost effect compared to BS 6 stage 1, and supply catching up to demand, the changeover may have low or short-lived impact on share prices.

**Impact of global ev trend on the automobile industry in India:** In an attempt to reach the EV 30@30 agreement, India intends to raise the proportion of electric cars (EVs) delivered to thirty percent of total vehicles by 2030. In India, over half of the two- and three-wheelers will be electric by 2040, while 15% of the four-wheelers will be electric. Between 2015 and 2016, sales of electric cars in India increased sevenfold, reaching 155,400 units during 2019 and 2020. In reality, electric two-wheelers account for more than 90% of these vehicles (Society of Makers of EV). Despite this expansion, EV sales in India still only account for a fraction of the entire market share. That means policymakers' goal of EV 30@30 will need bold and creative solutions. Launched in 2013, the National Electric Mobility Mission Plan aimed to sell 6-7 million electric and hybrid cars by 2020 (Dixit 2020), marking the beginning of India's drive toward EV adoption. The government then introduced the FAME-India Scheme in 2015 to provide a more concrete roadmap for the EV adoption plan, which stands for quicker adoption and production of (Hybrid &) Electric Vehicles in India. In India, subsidies and incentives are the main components of a multi-pronged strategy to encourage the early purchase of electric vehicles. But when India committed to reducing pollution levels in Paris in 2015—in particular, by committing to have at least 30% of all cars sold be electric by 2030—it was a huge boost for this endeavour. The economy was able to formulate policies aimed at increasing the usage of electric vehicles thanks to this goal and vision. The high tariffs on polluting internal combustion engine (ICE) cars have also been subject to countervailing efforts to discourage long-term investments in these vehicles. High taxes on fossil fuels (diesel, petrol, etc.) have also prompted people to look for less expensive alternatives. The data emphasizes that subsidies and incentives are the main tools needed to address the high cost of electric vehicles. While there isn't a formal carbon pricing policy in India, there are other systems in place that either compensate for or punish carbon emissions. To be effective, however, many plans need more work. To facilitate the economy's shift to an electric fleet by 2030, three kind of policy tools could be crucial:

a) Methods that include command and control,
b) Incentives related to economics or finances, and
c) Tools for disseminating information.

Effective information transmission may help smooth out illogical behaviour in response to the proposed policy, which is an essential consideration in policymaking since human behaviour is a major component. For instance, customers' purchasing habits might be affected by unpredictability over charging infrastructure. Data on the availability of charging stations, the size of the cars being charged at each station, and the frequency with which this data is updated might help alleviate this ambiguity. In India, rules, green taxes on polluting alternatives, incentives, and subsidies are driving the electric vehicle (EV) policy forward. Not until after 2019 were many of these perks and incentives implemented in a significant way. It will be some time before we see the full effect of these policies on the uptick in EV sales. Campaigns highlighting the advantages of EVs and the pollution produced by ICE cars are necessary to bolster these initiatives and hasten their implementation.

## Interpretation of the data

**Table 1:** Net Sales & PAT of Tata Motors (2018-2019 to 2022-2023)

| Year | Net sales | PAT |
|---|---|---|
| 2018-2019 | 2,99,190.59 | -28,933.70 |
| 2019-2020 | 2,58,594.36 | -10,975.23 |
| 2020-2021 | 2,46,972.17 | -13,016.14 |
| 2021-2022 | 2,75,235.23 | -11,234.70 |
| 2022-2023 | 3,42,874.58 | 2,353.49 |

***Source*:** Compiled by the author based on secondary data

Sales are increasing, showing that the company is doing well in making more money. The company's sales have mostly gone up over the years.

**Table 2:** Net Sales & PAT of Maruti Suzuki (2018-2019 to 2022-2023)

| Year | Net sales | PAT |
|---|---|---|
| 2018-2019 | 83,038.50 | 7,494.90 |
| 2019-2020 | 71,704.80 | 5,559.20 |
| 2020-2021 | 66,571.80 | 4,220.10 |
| 2021-2022 | 83,799.80 | 3,717.60 |

*Source*: Compiled by the author based on secondary data

A number of variables, including economic downturns, world events, etc., contribute to a decline in net sales and profit in 2020. An outsized jump in both net sales and profit occurs in 2023. At ₹8,033.60, 2023 shows the best profit. 2020 saw declining net profits and sales most likely from the slowing down of the economy and international events.The year 2023 stands out with a substantial increase in net sales and profit.

**Table 3:** Of Mahindra & Mahindra- Net Sales & PAT (2018 to 2023)

| Year | Net sales | PAT |
|---|---|---|
| 2018-2019 | 1,03,015.23 | 4,650.33 |
| 2019-2020 | 74,304.07 | 1,685.54 |
| 2020-2021 | 72,678.98 | 2,425.26 |
| 2021-2022 | 89,353.96 | 5,397.22 |
| 2022-2023 | 1,19,040.38 | 9,869.04 |

***Source*:** Compiled by the author based on secondary data

The profit has also gone through changes over the years, reaching its peak in 2022-2023, when it was ₹9,869.04. There is a considerable decline in net sales and profit in 2019 and 2020. In 2022 and 2023, there is a notable uptick in net sales and profit. An encouraging indicator is the remarkable expansion in 2022 and 2023.

**Table 4:** Net Sales & PAT of Toyota Kirloskar (2018 to 2023)

| Years | Net sales | Pat |
|---|---|---|
| 2018-2019 | 2,160.96 | 131.74 |
| 2019-2020 | 1,867.90 | 150.63 |
| 2020-2021 | 1,994.78 | 311.45 |
| 2021-2022 | 3,725.84 | 316.18 |
| 2022-2023 | 6,412.85 | 459.53 |

***Source*:** Compiled by the author based on secondary data

There has been a considerable rise in the profit as well, reaching a peak of ₹459.53 in 2022-2023. The FY 2018-2019 represented a turning point when net sales grew and profits marginally climbed. Positive profits during that period indicate that the company has been regularly profitable.

**Table 5:** of Ashok Leyland- Net Sales & PAT (2018 to 2023)

| Years | Net Sales | PAT |
|---|---|---|
| 2018-2019 | 32,753.24 | 2,183.32 |
| 2019-2020 | 21,748.12 | 456.91 |
| 2020-2021 | 19,454.10 | -69.10 |
| 2021-2022 | 26,237.15 | -292.97 |
| 2022-2023 | 41,488.30 | 1,350.91 |

***Source*:** Compiled by the author based on secondary data

Reasons for the decline in net revenue and sales in 2019-2020 and 2020-21 are unclear. That year stands noteworthy because of a considerable increase in net sales along with an upward trend in profits in 2022-2023, which imply probable successful strategic actions.

**Table 6:** Selected companies- Current Ratio

| Years / Companies | Tata Motors | Maruti Suzuki | Mahindra & Mahindra | Toyota Kirloskar | Ashok Leyland |
|---|---|---|---|---|---|
| 2019 | 0.85 | 0.87 | 1.18 | 2.6 | 1.1 |
| 2020 | 0.85 | 0.75 | 1.19 | 1.46 | 1 |
| 2021 | 0.93 | 1.15 | 1.4 | 2.21 | 1 |
| 2022 | 0.98 | 0.99 | 1.34 | 1.42 | 1 |
| 2023 | 0.98 | 0.58 | 1.29 | 1.74 | 1.1 |

***Source*:** Compiled by the author based on secondary data

From the above-mentioned data we can conclude that all the selected companies had maintained a good liquidity position.

**Table 7:** Anova Analysis-Net profit margin ratio

| Source of variation | Sum of squares | Degree of freedom | Mean square | $F_C$ | $F_T$ |
|---|---|---|---|---|---|
| Between companies | 2978.933 | 4 | 744.733 | 43.695 | 2.579 |
| Within companies | 766.979 | 45 | 17.044 | $F_C > F_T$ | |
| Total | 3745.912 | 49 | | $H_{0\ Rejected}$ | |

***Source*:** Computed on SPSS

**$H_0$: Net profit margin ratio does not differ significantly during the study period:** ANOVA findings for the indicated null hypothesis tested calculated value higher than table value disproved the null hypothesis and proved that there were other reasons causing notable variance in the ratio of net profit margins over the research period.

**Table 8:** Earnings per share one way Anova

| Source of variation | Sum of squares | Degree of freedom | Mean square | $F_C$ | $F_T$ |
|---|---|---|---|---|---|
| Between companies | 1008128.073 | 4 | 252032.018 | 14.766 | 2.579 |
| Within companies | 768082.727 | 45 | 17068.505 | $F_C > F_T$ | |
| Total | 3745.912 | 49 | | $H_{0\ Rejected}$ | |

***Source*:** Computed on SPSS

**$H_0$: Earnings per Share does not differ significantly during the study period**

ANOVA findings for the previously indicated null hypothesis tested Calculated value exceeding table value disproved the null hypothesis and verified that there were other reasons causing notable variations in profits per share over the research period.

Apart from Tata Motors, the other businesses were in financial good health. From the owners' point of view, Tata Motors was in a poor relative to other firms with better dividend ratios. COVID-19 caused all of the selected units in 2020-21 to perform badly. This situation forced businesses to close, leading to a slowdown around the world.

**Findings of the study:** Looking at how the chosen car firms' revenue has changed over the last five years.

Determining and analysing profitability metrics like debt equity ratio, return on assets, and net profit margin. Indian automobile sector is going through tough times since 2018 and it is still on road of recovery. After easing of lockdown, automobile sales are picking up at fast pace and are growing on YoY basis thereby affecting revenue and EPS. The pandemic has badly affected each and every parameter studied here. Using ratios like current and quick to evaluate the liquidity status. Analyse the debt-to-equity ratio to learn about the debt structure.

Analyse how different amounts of debt affect the firms' financial health and risk profile.

Figure out what role innovation and technical progress play in the bottom lines of different businesses. Locate any liquidity issues and assess the company's ability to satisfy short-term commitments. PLI by Government of India for auto sector, will be benefit a lot and thereby improving their financial performance. Focusing on exports which will diversify their dependence on single market.

Finding out whether there is a relationship between financial success and market share.

**Suggestions**

- Evaluate the potential benefits of forming a partnership or strategic alliance to boost innovation and brand awareness in the market.
- Make suggestions for cost management measures, such streamlining manufacturing and cutting wasteful spending, to increase profits. If debt restructuring is required, you must advise on the best course of action taking into account the effects on interest rates and the financial situation as a whole.
- Stress the need of being technologically savvy and making advantage of new advancements if you want to remain competitive in your industry.
- Consider diversification strategies to lessen exposure to risk associated with fluctuating markets and uncertain economic circumstances.
- Collaborate with suppliers of raw materials and machine equipment to enhance quality and expedite execution.
- Establish programs for upskilling at vocational institutions aimed at cultivating a talent pool for emerging industrial clusters and correcting existing skill deficiencies.
- Assess the clarity of policies and the strategic roadmap for imports, exports, and alternative fuels such as methanol and CNG, enabling the sector to effectively plan its future trajectory.
- Investigate the establishment of performance cells to assess labour productivity in the automotive and related sectors.
- Explore signifies the encouragement of Make in India via collaboration with industry to localize production and enhance exports.
- Enhance audit assistance and supplier development methodologies for Tier 1 and Tier 2 automotive component manufacturers.
- Engage in investment, collaboration, and risk-sharing in collaborative research and development, frugal innovation, validation, and testing with suppliers.

**Conclusion**

Managing new issues and opportunities requires proactive methods and constant monitoring. This research not only fills a gap in the current literature on financial analysis, but it also lays the groundwork for future studies in this promising area. Overall, the financial performance analysis of the chosen automotive sector not only clarifies the economic situation of the sector but also offers a road map for promoting growth and competitiveness in an always shifting worldwide market.

**References**


1. Islam MA. An analysis of financial performance of Nationalized Bank Limited using financial ratios. Journal of Behavioural Economics and Finance. 2023.
2. Nilafor Nisha A, David Soundararajan S. A study on liquidity analysis of selected automobile companies in India. Asia Pacific Journal of Research. 2022;1(33):15-22.
3. Rehman ZM, Khan NM, Khokhar I. Select financial ratios as a determinant of profitability: Evidence from petrochemical industry in Saudi Arabia. European Journal of Business and Management. 2021;6(6):187-196.
4. Patel AD. Indian automobile industry - A review. International Multidisciplinary Research Journal. 2020;2(4):1-4.
5. Singhal PK. An analysis of public sector banks' performance using CAMEL rating model. International Journal of Financial Management. 2020.
6. Reddy K, Reddy VK. Factors that a buyer evaluates for assessing the purchase decisions with reference to automobiles. Journal of Advanced Research in Dynamical and Control Systems. 2019;11(7):525-537.
7. Majumdar V, Sharma P. A study on liquidity analysis of selected automobile companies in India. Journal of Positive School Psychology. 2022;6(3):8941-8945.
8. Kush M, Sahil. Financial performance analysis of automobile industry with special reference to ratios. Journal of Emerging Technologies and Innovative Research. 2022;9(5):541-551.
9. Chattopadhyay M, Mukherjee S. Automobile industry in India: A recent study. International Journal of Science Research and Review. 2019;8(2):1469-1483.
10. Menaka R, Ashath K. A study on role of automobile industry in India and its customer satisfaction. Shanlax International Journal of Management. 2015;2(4):48-59.
11. Joshi K, Kalaivani P. A study on financial performance of Honda and Toyota automobile companies: A comparative study. Journal of Progressive Research in Social Science. 2015;2(1):33-35.
12. Sankaran P. Indian automobile industry vision 2020. Global Journal for Research Analysis. 2016;5(4):136-138.
13. Shinde GP, Dubey M. Automobile industry and performance of key players. Asian Journal of Technology & Management Research Vol. 2011 Jul;1(02).
14. Bansal R. A Comparative Analysis of the Financial Ratios of Selected Banks in the India for the period of 2011-2014. Research Journal of Finance and Accounting. 2014;5(19):153-167.
15. Ramya A, Kavitha S. A study on financial analysis of maruthi suzuki India limited company. Journal of Business and Management. 2017;19(7):93-101.
16. Srinivasan P, Vijayakumar S, Kothandaraman S, Palani M. Anti-diabetic activity of quercetin extracted from Phyllanthus emblica L. fruit: In silico and *in vivo* approaches. Journal of pharmaceutical analysis. 2018 Apr 1;8(2):109-118.
17. Shashidhar R, Manjunath AS, Kumar RS, Roopa M, Puneeth SB. Vehicle number plate detection and recognition using yolo-v3 and ocr method. In2021 IEEE International Conference on Mobile Networks and Wireless Communications (ICMNWC) 2021 Dec 3 (pp. 1-5). IEEE.
18. Shekhar P, Prince M, Finelli C, Demonbrun M, Waters C. Integrating quantitative and qualitative research methods to examine student resistance to active learning. European Journal of Engineering Education. 2019 Mar 4;44(1-2):6-18.
19. Tarei PK, Chand P, Gupta H. Barriers to the adoption of electric vehicles: Evidence from India. Journal of Cleaner Production. 2021 Apr 1;291:125847.