

**COMMERCIAL ASPECTS AND IMPACT ON MARKET OF CARS ON THE
INTRODUCTION OF BS6 NORM**

PROJECT REPORT

Submitted To

MAHATMA GANDHI UNIVERSITY, KOTTAYAM

In partial fulfilment of the requirements for the award of the degree of

BACHELOR OF COMMERCE

Submitted by

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DEPARTMENT OF COMMERCE

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CERTIFICATE

This is to certify that the project work entitled “**COMMERCIAL ASPECTS AND IMPACT ON MARKET OF CARS ON THE INTRODUCTION OF BS6 NORM** ” is a bonafide piece of work done by **MR. BINIL K NANDAN (Reg. No. 170021056475)**, **MISS. BRENDA PINHEIRO (Reg. No.170021056476)**, and **MR. DAVID KEN (Reg. No. 170021056477)**, in partial fulfilment of the requirements for the award of degree of Bachelor of Commerce in Mahatma Gandhi University, Kottayam, under my supervision and guidance and that no part thereof has been presented earlier for the award of any other fellowship, associateship etc.

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DECLARATION

We, **BINIL K NANDAN (Reg. No. 170021056475)**, **BRENDA PINHEIRO (Reg. No. 170021056476)** and **DAVID KEN (Reg. No. 170021056477)** hereby declare that the project report entitled “**COMMERCIAL ASPECTS AND IMPACT ON MARKET OF CARS ON THE INTRODUCTION OF BS6 NORM**” is a bonafide work done by us under the guidance and supervision of Lt Dr . Varun V Varghese, Assistant Professor, Department of Commerce, St. Paul’s College, Kalamassery.

We also declare that this work has not been submitted by us fully or partially for the award of any other degree, fellowship, associateship or other similar title of any other university or board.

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CHAPTER-1

INTRODUCTION

TITLE: COMMERCIAL ASPECTS AND IMPACT ON MARKET OF CARS ON THE INTRODUCTION OF BS6 NORM

1.1 INTRODUCTION: India has the most polluted cities in the world. 30 Indian cities feature in the top 100 most polluted global cities. Vehicle pollution control were began in India when mass emission norms were enforced for the 1st time for petrol vehicles in 1991 and for diesel vehicles in 1992. BS or Bharat Stage emission norms were first introduced in 2000.

Currently , BS-4 norms are applicable in 13 major cities of the country, while BS-3 norms are applicable elsewhere. In a bold move in January 2016 the Union Government of India decided to skip BS-5 emission norms altogether and leapfrog directly to BS-6 emission norms by April 2020. The move to BS-6 norms from BS-4 norms will bring down emissions by 25% in petrol engine vehicles and 68% in diesel engine vehicles.

Bharat stage emission standards (BSES) are emission standards instituted by the Government of India to regulate the output of air pollutants from compression ignition engines and Spark-ignition engines equipment, including motor vehicles. The standards and the timeline for implementation are set by the Central Pollution Control Board under the Ministry of Environment, Forest and Climate Change.

The standards, based on European regulations were first introduced in 2000. Progressively stringent norms have been rolled out since then. All new vehicles manufactured after the implementation of the norms have to be compliant with the regulations. Since October 2010, Bharat Stage (BS) III norms have been enforced across the country. In 13 major cities, Bharat Stage IV emission norms have been in place since April 2010 and it has been enforced for entire country since April 2017. In 2016, the Indian government announced that the country would skip the BS V norms altogether and adopt BS VI norms by 2020. In its recent judgment, the Supreme Court has banned the sale and registration of motor vehicles conforming to the emission standard Bharat Stage IV in the entire country from 1 April 2020.

On 15 November 2017, the Petroleum Ministry of India, in consultation with public oil marketing companies, decided to bring forward the date of BS VI grade auto fuels in NCT of

Delhi with effect from 1 April 2018 instead of 1 April 2020. In fact, Petroleum Ministry OMCs were asked to examine the possibility of introduction of BS VI auto fuels in the whole of NCR area from 1 April 2019. This huge step was taken due the heavy problem of air pollution faced by Delhi which became worse around 2019. The decision was met with disarray by the automobile companies as they had planned the development according to roadmap for 2020.

The phasing out of 2-stroke engine for two wheelers, the cessation of production of the Maruti 800, and the introduction of electronic controls have been due to the regulations related to vehicular emissions.

While the norms help in bringing down pollution levels, it invariably results in increased vehicle cost due to the improved technology and higher fuel prices. However, this increase in private cost is offset by savings in health costs for the public, as there is a lesser amount of disease-causing particulate matter and pollution in the air. Exposure to air pollution can lead to respiratory and cardiovascular diseases, which is estimated to be the cause for 620,000 early deaths in 2010, and the health cost of air pollution in India has been assessed at 3% of its GDP.

1.2 STATEMENT OF THE PROBLEM

India have always been a huge market for car manufacturers. From the time cars entered Indian market its always been a jackpot for almost every manufacturer. The increasing wants of people in the market have played a major role in making India one of the largest car market economies. Car companies have long tried to load vehicles with tech. But the level of tech and tech-enabled services in popular models now hitting the roads in India is such that the ecosystem is witnessing a realignment. Indian customers for cars have always been enthusiastic on latest updates and added features in cars. Along with higher concern about fuel efficiency, people are constantly trying to upgrade to latest lineup of features

The purpose of the study is to know how much people and potential customers are aware about the Bharat Stage pollution norms and upto which extent would they try to minimize pollution. The study also focuses on behaviour of customers regarding introduction of new pollution standards and impact of the norm on sales of cars in the market . The study aims on a

comprehensive appraisal of customer behaviour and market of vehicles , which complies with latest pollution norms. The study also understands the customer's interest to comply with government imposed pollution norms and their willingness to pay more for the new updates of engines.

1.3 SIGNIFICANCE OF THE STUDY

Indian economy have been witnessing a drastic change with the advent of cars . Market for cars and sales of Cars have been subject to certain legal and economic regulations. The emission norms and legal aspects relating to cars have greater significance in the present scenario where air pollution is of a major concern. The market of cars is also significant ,because in a highly populated country like India where around 60 percent of people uses cars for daily commute both in urban as well as rural areas. The tenancy of people to opt cars instead of using public transportation facilities for daily commute have been a major reason for increasing air pollution and climatic changes than that of two wheelers and mopeds. The Government is introducing new pollution norms and statutory updation of engines to reduce the carbon emissions and pollution. The study signifies people's willingness to pay more on updated and more fuel efficient engines and contribute towards minimal pollution .The study is thus relevant in the present scenario where there is an increasing trend of pollution and carbon emissions especially from cars.

1.4 OBJECTIVES OF THE STUDY

- To understand and study the customer behavior on introduction of new pollution norms from seller's perspective
- To study the economic aspects of the latest pollution norms
- To evaluate the impact of the BS-6 norms on market of cars
- To study the customer's willingness to comply with new pollution norms
- To study the challenges faced by the Automobile industry
- To analyse the strategies adopted by the car companies and dealers to overcome the Challenges created by BS6 norm.

1.5 SCOPE OF STUDY

Nowadays there is an increased range of cars being sold-out per year which are mainly passenger cars and those used by the common people . Whereas air pollution mainly from the emission of passenger cars is also in a rising stage. The study is based on the changes and market aspects of new pollution norm over the existing one . The study have been focused on the sales of those cars companies which most of the common people use as they are the one in majority. It also studies the dimensions of economic fluctuations and commercial aspects on the effect of the subject matter .The scope of study is limited because the data is collected from a group of car dealers across Ernakulam city.

1.6 RESEARCH METHODOLOGY

A descriptive and analytical study is to be performed in order to get a clear image on customer behavior and market fluctuations on the introduction of new pollution norms particularly known as the BS-6 norms.

Sample data collection: The study mainly depends on primary data which have been collected from a sample of 25 respondents within Ernakulam city.

Method of sampling: The data was collected by using pre-drafted questionnaire in Google forms and direct interviews from car showrooms.

*a) **Primary Data** :* Primary data is to be collected from a random group of car dealers across Ernakulam District using direct interview and questionnaire.

*b) **Secondary Data** :* Secondary data will be collected from certain automotive and economic websites , commerce related publications , automotive magazines and certain others sources.

Tools for data analysis: In this study many useful tools will used for the purpose. Those include :

- Pie charts
- Tables
- Bar charts
- Percentages

1.7 LIMITATIONS OF THE STUDY

- A sample portion of respondents or car dealers are selected.
- Primary data is not collected directly from the customers.
- The data collected from certain car dealers may not be always accurate or trust worthy because the dealers or respondents can give biased information.
- The data collected does not need to be an accurate figure of actual aggregate figure.
- Some dealers are not willing to disclose their confidential data regarding sales and sales report , this affected the ease of collecting data.

1.8 SCHEME OF CHAPTERISATION

- **CHAPTER 1-INTRODUCTION:** This chapter provides a basic understanding of the project . It involves significance, objectives, research methodology, sample size, limitations etc of the study.
- **CHAPTER 2-REVIEW OF LITERATURE:** This chapter deals with the details of past studies done by various persons/researchers relating to the topic of study of the project.
- **CHAPTER 3-THEOROTICAL FRAMEWORK AND COMPANY PROFILE:** The definitions of different terms related to the topic and a detailed description of the topic of study is potrayed in this chapter. It also provides a brief insight into the company's vision, mission, objectives etc.

- **CHAPTER 4-DATA ANALYSIS AND INTERPRETATION:** The analysis of the data collected for the study and the interpretation of the results obtained are included in the study. Percentage method is used for analysis and diagrams and charts are used for presentation.
- **CHAPTER 5-FINDINGS CONCLUSION AND SUGGESTIONS:** This chapter deals with the findings and conclusions derived from the study. It also includes the suggestions given by the respondents.
- **BIBLIOGRAPHY**
- **APPENDIX**

CHAPTER-2

REVIEW OF LITERATURE

2.1 Review of literature

- **Rohan Pothumsetty and Mary Rani Thomas** (Christ University, Bangalore January 2020) in their recent study “**Bharat Stage IV to VI -Challenges and Strategies**” cited the challenges and strategies that would possibly take place in the automotive industry and connected sectors as well. They concluded that BS-VI norms are stricter and more restrictive in terms of BS-IV norms allowing for cleaner air and also less pollution in the process. The new BSVI emission norms would require both the automobile sectors as well as oil companies to make advancements and changes to their respective products. This research aims at comprehending information on a new perspective of understanding the concept and how helpful it will be in understanding the shift from BHARAT STAGE IV TO VI for various stakeholders. Followed by strategies adopted by top five Indian based car manufactures. They found that leading car manufacturers such as Maruti Suzuki have already started announcing their plans to start manufacturing BSVI vehicles by the end of 2019 with their commitment towards a cleaner and greener environment the BSVI cars that are produced by Maruti Suzuki will have a upgraded hardware and software system along with an upgraded exhaust as well the cars which are compliant with BSIV norms can run on BSVI fuel too,. The leading car companies had to increase their investment to upgrade the existing available models and make them BSVI compatible the number of new product launches by the leading automobile manufacturers have fallen over the past year. Most of the automobile firms are looking at the products that do not require much change before the new BSVI norms take effect.

- **Ketan Salhotra** (Jun 06, 2016) in his recent article **Impact of Bharat Stage-VI norms on Indian Auto & Auto Component Industry** concluded that Transitioning to BS-VI norms will require significant engine technology changes including improvements in engine combustion and calibration, increased injection and cylinder pressures, NOx and PM after-treatment solutions and transitioning to electronic controls. Diesel Particulate

Filter (DPF)- For reduction of PM in diesel vehicles Due to this technology upgrade, price of petrol cars are expected to go up by Rs 20,000- 30,000 while diesel passenger vehicles' prices may go up substantially by Rs 75,000-1,00,000. This will further reduce attractiveness of buying diesel cars (more polluting than petrol cars), with diesel fuel prices moving closer to petrol in recent times. It is estimated that auto & auto parts industry in India will have to invest over USD 10 billion to be able to manufacture BS-VI compliant cars. Investments have to be made progressively over the next three years in line with the market demand. There is a need for adding capacity and installing further manufacturing units for DPF and SCR modules specifically.

- **Lijee Philip** (Dec 19, 2019) In her recent study about **The price hike of BS6 vehicles** she reposted that with just over three months for the implementation of BS6 emission norms, Indian automobile consumers seem nervous about future purchases. Initial analysis suggest that consumers could be badly hit by the price hikes of diesel vehicles, commuter two-wheelers and micro commercial vehicles. While the price impact on gasoline variants of compact cars and SUVs will be smaller in the range of 3-5%, it is the larger diesel vehicles that will see a minimum of a 8-10% price increase when these vehicles transition to BS6. Experts maintain that companies including fleet operators and e-commerce platforms will pass on the increase to customers who will have to bear the brunt. In a nutshell, BS6 vehicles will be more expensive to own and maintain. While a BS6 gasoline vehicle can run on BS4 fuel, the same story does not hold true for diesel.

- **OutlookIndia automobiles** (Aug 19, 2019) in their article **Top 8 Reasons Behind Automotive Industry Slowdown In 2019** said that ,It is no secret that the automotive industry in India is in a bad spot right now as the production and sales numbers continue to drop month after month. Part of the consequences include vehicle manufacturers having to cut jobs as they reduce their output in an attempt to maintain their own fiscal balances. Some reports suggest that upto 3.5 lakh automotive jobs in India have been cut since April 2019 and more than 200 dealerships have had to shut shop. These numbers are likely to go up as the downward trend continues. A large variety of factors have

cumulatively led to this situation and we try to understand those which seem to have played a dominant role in it.

- **Sukrit Kumar** (Oct 4, 2019) in his recent reports regarding **BS6 Sale of Maruti Suzuki**, concluded that it has sold more than 2 lakh vehicles compliant with the upcoming BS6 emission norms. While the emissions regulation will come into effect on April 1, 2020, MSIL has been selling BS6-compliant vehicles for the last six months. Its first BS6 vehicles - the Alto 800 and Baleno - were launched in April this year. Maruti Suzuki India Limited has set a new milestone with the sales of over 2 lakh BS6 compliant vehicles. The sales milestone has been achieved in just six months of launch of the first BS6 compliant vehicle. Maruti Suzuki launched its BS6 range with Alto 800 and Baleno, in April 2019, almost one year before the government stipulated timeline of April 2020. The complete range of Maruti Suzuki BS6 compliant petrol models now includes industry best sellers: Alto 800, Baleno, WagonR (1.2 L), Swift, Dzire, Ertiga and the recently launched XL6 and S-Presso. Maruti Suzuki sells 2 lakh BS6 compliant petrol vehicles.

- **Nandini Sen Gupta** (Dec 26, 2019) In reviewing about **BS4 and BS6 price gap to boost used car market**, it is found that as the auto industry readies itself for a transition to BS6 emission norms, how will the used car market react to the shift? Pre-owned car marketers say the price differential between a BS4 and BS6 vehicle will be sharp enough to make second-hand cars an attractive proposition, ensuring that the industry continues to clock double-digit sales growth throughout 2020. She also added as discounts on new cars hit an all-time high this December, the used car market will have the latest models for customers to choose from. The country's second-hand car market has clocked 12% increase in sales so far in 2019 at 4.2 million units and is set to record a 15% increase in 2020.

- **Ashutosh Pandey** (Dec, 2019) CEO, Mahindra First Choice Wheels, in his recent talk with ET Now India on **BS6 norms and its Impact on secondhand car sales and pre-owned car buyers**, said that the number of BS4 models are now attracting hefty

discounts. Given that their BS6 variants will cost Rs 10,000-Rs 50,000 more for petrol variants and Rs 50,000- Rs 1 lakh more for diesel variants, the price differential between a discounted BS4 car now and a BS6 car after April 2020 will be around 20%.He added that BS6 updation would not affect the second hand car market directly in the short run or medium run but would probably affect in its long run scenario. He said that secondhand diesel cars will still have demand in second hand sales because they are still fuel efficient as compared to the petrol cars which are again BS4 compliant.

- **Maxabout team** (Feb19, 2019)in their article **Supreme Court Refuses to extend Deadline For BS4 vehicles** ,updated that as per a recent report by NDTV, the supreme court has rejected the plea file by FADA (Federation of Automobile Dealers Association) demanding a 1 month extension to sell bs4 vehicles in the Indian market. The BS6 emission norms will come into effect from April 1 2020 and after that no bs4 vehicles would be allowed to be sold or registered in India.

- **Seshan Vijayraghvan** (Nov 30, 2019) in his reports on **BS6 Compliant Cars Currently Sold In India** ,It was reported that with just about five months left for the Bharat Stage VI (BS6) emission norms to kick in, automakers in India are currently under pressure to ready their BS6 fleet before April 1, 2020. While many are yet to introduces BS6 compliant vehicles in the maker, others have at lease one BS6 model in their fleet. Now, the government has already announced that BS4 cars will be allowed to ply on the roads till the end of their registration period (15 years), even after the new emission norms come into play.

- **Hormazd sorabjee** (Feb 7, 2020) From his **study about the BS6 vehicle norms**, he concluded that it's the most challenging deadline the auto industry has ever faced. Even by global standards, the four-year time frame given to automakers to upgrade their engines from BS4 straight to BS6 emission standards, skipping the BS5 stage altogether in the process, was impossibly short, and the equivalent of a running a marathon like a 100m sprint.

- **Nandana James** (Oct 9, 2019) in her article on **Bharat Stage Emission Standards** concluded that BS6 norms are emission regulations implemented by the government to keep a check on emissions from motor vehicles. Introduced first in 2000, the current BS-IV norms were enforced in 2017, after BS-II and BS-III norms, which were enforced in 2005 and 2010 respectively. BS-V has been skipped in order to have a more stringent standard to curb pollution levels, apart from the gap between the enforcement of different emission standards also dwindling. Many manufacturers have already launched BS-VI models/ variants, though the BS-VI fuel is currently available in Delhi/ NCR only. According to Maruti Suzuki, BS-VI compliant petrol vehicles can run on BS4 petrol also. The BS-VI petrol cars from Maruti Suzuki have been extensively tested with BS-IV fuel and there are no operational concerns, it said recently. Similarly, BS-IV cars can also run on BS-VI fuel, according to reports.

- **Aditya goal** (Sep23, 2019) In his recent reports, he said that Bharat Stage Emission Standards are emission regulations put forth by the government of India to regulate the output of pollutants from motor vehicles. The standards are set by the Central Pollution Control Board under the Ministry of Environment, Forest and Climate Change. It was first introduced in 2000 with the moniker 'India 2000'. BS2 and BS3 followed later in 2005 and 2010 while we are currently following BS4 norms which came to place in 2017. Looking at the timeline, you'll see that the gap between different standards are decreasing at an alarming rate. Not much of a shocker here given the increase in pollution and the surge in the number of vehicles on the road. BS6 is the sixth iteration of the norm which, in comparison, is a substantial leap from its predecessor (also because we are skipping BS5). BS6 norms are relatively stricter to help cut down emissions by a good margin.

- **S. Ronendra Singh** (Oct 31, 2019) according to his recent article **With OEM looks to drive down BS4 inventories, car discounts likely to continue till December**, most OEMs raise their prices in January to cover for previous discounts, and as new

registration dates come into effect. Customers also tend to wait till January to buy a new car, so that they can get a better resale value. At the same time, there are many customers who do not time their purchases in this manner; they buy vehicles at any time of the year, even during the year-end. Another factor for the discounts is that the companies are keen to clear their stocks of BS4 vehicles before the new norms kick in in April 2020. Post March 31 next year, one will not be able to register a BS4 vehicle. Surprisingly, many customers are queuing up to purchase BS4 models, as they expect that the pricing of the same model with a BS6 engine, would be much higher. Not many companies have launched BS6 vehicles so far. Maruti Suzuki was the first mover, launching petrol versions of the Alto 800, WagonR, Baleno, Dzire, Ciaz, Ertiga, XL-6, and its most recent launch, the S-Presso, which account for 75 per cent of the petrol sales.

- **The Hindu business line** (Oct 31, 2019) In their report, it is said that customers are keen to purchase the BS4 version of the models to make the most of the discounts available on them right now, and also because BS4 cars are not affected if they are run on BS6 fuel. However, customers with BS6 vehicles may face a problem if the same fuel is not readily available, which could be a problem for those travelling outside Delhi-NCR," an executive at one of the manufacturers told Business Line. It is, therefore, not surprising that many OEMs have delayed the launch of their BS6 models till January-February. Since the BS6 fuel (petrol) is currently available in a few markets -- Delhi-NCR being the biggest -- buyers for Maruti's BS6 vehicles are restricted to these areas. People know that BS4 vehicles will not be affected if they are run on BS6 fuel, but BS6 engines could be affected if they are run on BS4 fuel.

- **Somnath Chatterjee** (Sept 4, 2019) in his recent article **BS6 emission norms all questions answered** proposed that, Bharat Stage 6 norms, are emission standards that car manufacturers need to meet. Till now, India had been following BS4, but a drastic change is set to take place once BS6 comes into full effect by April 2020. Yes, India will not go to BS5, but will instead go straight to the much more stricter and advanced BS6 norms. BS6 is somewhat similar to Euro 6, but is not exactly the same. Less emissions and

cleaner cars. Cars would get cleaner and emit less pollutants: Nitric oxide or NO_x and particulate matter emissions will go down drastically. The biggest gain would be for diesel cars, as they will get cleaner and emit much lesser pollutants as BS4 vehicles. BS6 norms mean nothing until they run on BS6 fuel as a BS6 car will not be compatible with BS4 fuel, unless the car-maker does some changes. Currently, BS6 fuel availability is limited to Delhi and NCR, but by April 2020 more cities will start having it.

- **Satya Singh** (Feb 21 2020) article on **vehicle registration data of Federation of Automobile Dealers Associations FADA**, there are several factors affecting sales in auto sector. One of these is the transition to BS6, which is prompting people to delay their purchase decision. While several car makers have updated their portfolio to BS6, customers are still wary and not sure which option would be best for them. Both BS4 and BS6 variants are currently on sale, which is why many customers are unable to take a final decision. FADA also said that 2020 budget did not have anything substantial for auto sector, even though it is an inclusive budget that aims to boost growth in the mid to long term. The budget did not provide any immediate incentive to the auto sector. However, there's some relief for car dealerships, as inventory levels have come down to 15 – 20 days in January 2020. This is within the FADA prescribed inventory level of 21 days. In December 2019, inventory level of PVs was in the range of 20-25 days.

- **Aditya Nadkarni** (Dec 10, 2019) In a recent study, he reported that when the deadline for discontinuing the production of BS3 compliant models loomed close many Indian manufacturers went on what we like to term a 'fire sale' in a bid to clear their stocks of the BS3 versions and start sale of the BS4 compliant models. This resulted in a slew of discounts and offers across the table to speed up sales. Yes, a lot of people have been waiting for the so called fire-sale that is expected to happen in Q1 2020. With BS6 emission norms coming into effect beginning 1 April, a large chunk of customers are sitting on the fence, waiting for the right deal and discount to come their way. While a considerable number of manufacturers, including the likes of Renault, Nissan, Skoda and Audi have revealed their plans to discontinue diesel powertrains; a few brands such as

Hyundai, Kia Motors and Mercedes-Benz have already launched a range of BS6 emission compliant models.

- **BusinessToday.in** (Feb 10, 2020) It is reported that many companies had decided to phase out diesel variants of their cars from the line-up as the companies thought that upgrading existing models to the stricter emission standards would make the cars too expensive for consumers to buy, according to the daily. Some diesel models that showrooms would be saying goodbye to are Maruti's Brezza mini SUV and Dzire entry sedan, Renault's Duster, Skoda's Octavia, Maruti's Swift, Volkswagen's Polo and Audi's Q3 and Q5 SUVs. Companies said that favorability among consumers for diesel models has gone down as the price difference between petrol and diesel has decreased significantly in the last few years. Companies also told the daily that diesel cars generally have a life-span of 10 years while petrol cars have a life-span of 15 years in markets such as Delhi NCR. This makes the consumers choose the petrol model over the diesel one.

- **Nandana James** (Oct 19, 2019) in her article **On understanding the BS6 norms**, she said that, the automotive industry, which has been reeling under the impact of a host of adverse factors and one of the worst slowdowns ever, is set to transition to BS-VI emission standards on April 1, 2020, a fact which was reiterated by the government two days ago. This transition has been the talk of motown ever since it was announced last year, and it is pertinent to demystify its implications as the deadline looms closer. BS VI or Bharat Stage VI is the new emission standard that all vehicles in the country will have to adhere to from April 1, 2020. The sale of BS-IV vehicles will also cease from this day. The Supreme Court had ruled on October 24 last year that no BS-IV vehicle would be sold with effect from April 1, 2020.

- **Arun prakash** (Mar 1, 2020) It is reviewed in **With the deadline for the transition from BS4 to BS6 regime looming large**, it can prove to be quite a crucial period for the auto industry. The automotive industry is amongst the biggest in the country. Speaking about total volume, India is currently amongst the top five countries in terms of new

passenger car sales! Add to it the annual sales of two-wheelers, commercial vehicles and used vehicles in both the organized and unorganized sector, and the industry size will be phenomenal, to say the least. It is safe to say, the progression of the industry reflects upon the country's economy and vice versa. The Indian Automobile Industry is set to make the transition from BS4 to the stricter BS6 emission norms from April 1, 2020, in keeping with the Supreme Court's diktat. This is aligned with the directions by the government to skip the BS5 norms, thus making a big stride in the emission switchover. In order to make sure they have no BS4 inventory left, automobile manufacturers had been practicing rigorous predictive manufacturing. Many manufacturers have indulged in heavy discounting, even then many, auto vendors have been unable to clear their inventories. Unless the Supreme Court agrees to the petition filed by the FADA to let sales and registration of BS4 vehicles continue till May 31, 2020, many manufacturers and dealers are expected to face huge losses. On the customer side, prospective buyers have been holding back on their investments and decided to delay their purchase until the availability of BS6 models.

- **Arjit Garg** (Sept 10, 2019) In his recent report about the bs6 norms, he said that the biggest myth of all the myths among the buyers is whether the BS-IV vehicles will continue to run on the roads after the new emission norms come into effect. YES, the BS-IV vehicles will keep running on the road, much like when the BS-IV norms were implemented and we can still see older BS3 vehicles on road. It goes without saying that technology comes at a cost and the BS-VI technology is no different. Once the BS-VI emission norms come into force, customers will have to shell extra bucks to buy a vehicle. Depending on the engine capacity, the cost of diesel cars will be significantly higher by anywhere between Rs 1 lakh to Rs 1.5 lakh. The increase for petrol vehicles is likely to be in the range of Rs 20,000 to Rs 50,000. Interestingly, car makers who are launching the BS-VI vehicles ahead of time are offering their updated cars at a lucrative introductory prices to lure the buyers. Case in point, the Hyundai Grand i10 Nios with the BS-VI engine is launched in India at Rs 4.99 Lakh.

- **Hormazd sorabjee** (Feb 1, 2020) According to him, the arrival of BS6 norms also marks the end of the road for some illustrious diesel engines. Renault-Nissan's 1.5 litre K9K engine that powers every model sold by the two carmakers is set to go. ‘India's national engine’, Fiat's ubiquitous 1.3-litre four-cylinder Multijet diesel is gone too. Aside from Fiat's own models, the Multijet unit powered hatchbacks, sedans, MPVs and SUVs from Maruti, Tata, Chevrolet and even Premier over the course of its life.

- **Truebil automode** (Oct 7, 2019) On answering the **question from the customer side to purchase the bs4 or bs6 car**, it is stated that the companies will be looking to phase out the BS4 versions by the end of the year and won't be interested in offering much of a discount by the end of it. If you're even somewhat of an environmentalist and are looking for your vehicle to have a good resale value, waiting for the company to release the BS6 version certainly makes sense. There are already a number of companies in the market, especially Maruti Suzuki, Mercedes Benz and Hyundai, to name only a few, who have introduced certain BS6 compliant versions of their cars in the market. Between buying a BS4 version and a BS6, the latter definitely seems to be the more prudent choice.

- **Malyaban Ghosh** (Oct 19, 2019) In his **interview with Maruti Suzuki**, he concluded that Maruti Suzuki India Ltd – the country's largest passenger vehicle manufacture – has managed to dispatch 2 lakh vehicles with Bharat Stage 6 emission norms compliant engines, six months before the new emission norms are expected to come into effect, a company press release said today. As of now, Maruti boasts of eight products in its portfolio which adhere to the new standards. India will adopt the Bharat Stage 6 norms on April 1, 2020.

CHAPTER-3

THEORETICAL FRAMEWORK

AND COMPANY PROFILE

THEORETICAL FRAMEWORK

3.1 Theoretical Framework

There's a direct correlation between the size of a country's gross domestic product, or GDP, and its automotive industry. GDP accounts for the consumption, investments, net exports, and government spending during a given time period.

High-growth economies require better means of transportation and faster mobility. So, more vehicles are made and sold. This attracts more investment. The auto industry benefits from the cycle.

Bharat stage emission standards

Bharat stage emission standards (BSES) are emission standards instituted by the Government of India to regulate the output of air pollutants from compression ignition engines and Spark-ignition engines equipment, including motor vehicles. The standards and the timeline for implementation are set by the Central Pollution Control Board under the Ministry of Environment, Forest and Climate Change.

The standards, based on European regulations were first introduced in 2000. Progressively stringent norms have been rolled out since then. All new vehicles manufactured after the implementation of the norms have to be compliant with the regulations. Since October 2010, Bharat Stage (BS) III norms have been enforced across the country. In 13 major cities, Bharat Stage IV emission norms have been in place since April 2010 and it has been enforced for entire country since April 2017. In 2016, the Indian government announced that the country would skip the BS V norms altogether and adopt BS VI norms by 2020. In its recent judgment, the Supreme Court has banned the sale and registration of motor vehicles conforming to the emission standard Bharat Stage IV in the entire country from 1 April 2020.

Motor vehicles

To regulate the pollution emitted by cars and two-wheels, the government of Asian nation has placed forth regulations known as Bharat Stage Emission Standards (BSES). The Central

government has mandated that every vehicle manufacturer, each two-wheels and four-wheels, ought to manufacture, sell and register solely BS6 (BSVI) vehicles from 1 April 2020.

On 15 November 2017, the Petroleum Ministry of India, in consultation with public oil marketing companies, decided to bring forward the date of BS VI grade auto fuels in NCT of Delhi with effect from 1 April 2018 instead of 1 April 2020. In fact, Petroleum Ministry OMCs were asked to examine the possibility of introduction of BS VI auto fuels in the whole of NCR area from 1 April 2019. This huge step was taken due the heavy problem of air pollution faced by Delhi which became worse around 2019. The decision was met with disarray by the automobile companies as they had planned the development according to roadmap for 2020.

The phasing out of 2-stroke engine for two wheelers, the cessation of production of the Maruti 800, and the introduction of electronic controls have been due to the regulations related to vehicular emissions.

While the norms help in bringing down pollution levels, it invariably results in increased vehicle cost due to the improved technology and higher fuel prices. However, this increase in private cost is offset by savings in health costs for the public, as there is a lesser amount of disease-causing particulate matter and pollution in the air. Exposure to air pollution can lead to respiratory and cardiovascular diseases, which is estimated to be the cause for 620,000 early deaths in 2010, and the health cost of air pollution in India has been assessed at 3% of its GDP.

Difference Between BS4 and BS6 Both BSIV and BSVI area unit emission norms that set the most permissible levels for pollutants emitting from a automotive or a two-wheeler exhaust. Compared to the BS4, BS6 emission standards area unit stricter, whereas makers use this variation to update their vehicles with new options and safety standards, the largest or the numerous modification comes within the type of stricter permissible emission norms.

History

The first emission norms were introduced in India in 1991 for petroleum distillate, and 1992 for diesel vehicles. These were followed by making the Catalytic converter mandatory for petrol vehicles and the introduction of unleaded petrol in the market.

On 29 April 1999, the Supreme Court of India ruled that all vehicles in India have to meet Euro I or India 2000 norms by 1 June 1999 and Euro II will be imperative in the NCR by 1 April 2000. Car makers were not prepared for this transition and in a subsequent judgement the implementation date for Euro II was not enforced.

In 2002, the Indian government accepted the report submitted by the Mashelkar committee. The committee proposed a road map for the roll-out of Euro based emission norms for India. It also recommended a phased implementation of future norms with the regulations being implemented in major cities first and extended to the rest of the country after a few years.

Based on the recommendations of the committee, the National Auto Fuel policy was announced officially in 2003. The roadmap for implementation of the Bharat stage norms were laid out until 2010. The policy also created guidelines for auto fuels, reduction of pollution from older vehicles and R&D for air quality data creation and health administration.

Table 1: Indian emission standards

Standard	Reference	Year	Region
India 2000	Euro 1	2000	Nationwide
		2001	NCR*, Mumbai, Kolkata, Chennai
Bharat Stage II	Euro 2	2003	NCR*, 13 Cities†
		2005	Nationwide
Bharat Stage III	Euro 3	2005-04	NCR*, 13 Cities†
		2010	Nationwide
Bharat Stage IV	Euro 4	2010	NCR*, 13 Cities†
		2017	Nationwide
Bharat Stage V	Euro 5	(To be skipped)	
Bharat Stage VI	Euro 6	2018	Delhi
		2019	NCR*
		2020	Nationwide

* National Capital Region (Delhi)

† Mumbai, Kolkata, Chennai, Bengaluru, Hyderabad, Ahmedabad, Pune, Surat, Kanpur, Lucknow, Sholapur, Jamshedpur and Agra

The above standards apply to all new 4-wheeled vehicles sold and registered in the respective regions. In addition, the National Auto Fuel Policy introduces certain emission requirements for interstate buses with routes originating or terminating in Delhi or the other 10 cities.

Why is Bharat Stage 5 Skipped?

Government of India in 2016 decided to move to BS-6 norm directly from BS-4 eschewing BS-5 to keep up with the global standard and to check highly menacing vehicular emissions. Opting for BS5 first, then upgrading to BS6 would have consumed good 5–6 years more and this move(skip) was much needed as we were already 10 years behind Europe. Also it would been very difficult for both car manufacturers and oil companies to change the technology twice in a short span of time. Upgrading to newer norms is a very costly process as per reports it will cost Indian refineries around 60,000 crores.

The government decided to skip one emission norm (BS5) to better be late than sorry. The Indian government gave ample time to fix the issues and develop new engines for the norms BS6 which are drastically low than previous BS4 emission norms.

Impact on automakers

Compliance with BS-VI norms will require higher investment in technology to upgrade vehicles in stock and making new vehicles. This will also mean fewer launches till the deadline.

Impact on buyers

Those who buy Bharat Stage VI-compliant vehicles will have to pay more since such vehicles will cost automakers more and they will pass on the additional cost to the buyers. The Bharat Stage VI-compliant fuel too will be more expensive. Oil companies have already begun selling fuel complying with new emission standard in Delhi. The companies are working on meeting the instruction by the Supreme Court to make available BS-VI fuel to 13 metro cities besides the national capital region by April 20 2019. State companies don't plan to recover the incremental

cost incurred in producing higher grade fuel from customers immediately but may do so after April 2020 when the BS-VI petrol and diesel begin selling across the country.

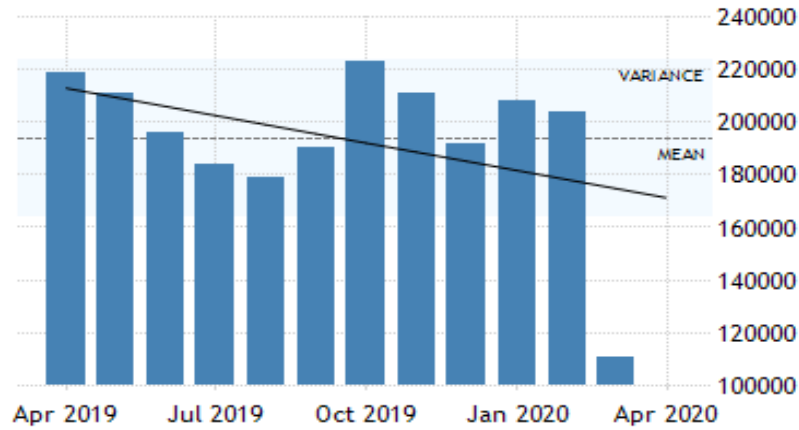
Pollution From Cars

You see it every time that smoke billows from your car's exhaust pipe, so there's no denying that vehicles are major contributors to air pollution. When cars burn gasoline, they emit pollutants. Gasoline fumes escape into the air even when we pump gasoline into our fuel tanks.

There are four major pollutants that come from cars:

1. A car emits carbon monoxide when the carbon in fuel doesn't burn completely.
2. A car's exhaust emits hydrocarbons, a toxic compound of hydrogen and carbon.
3. When fuel burns, nitrogen and oxygen react with each other and form nitrogen oxides (NO_x).
4. Particulate matter -- small particles of foreign substances -- in the air contribute to atmospheric haze and can damage people's lungs.

The percentage of air pollution caused by cars is higher in urban areas and higher still near major highways. Fortunately, better fuels and new technologies in cars help. The Indian government has imposed tougher emissions standards, and consumers want better efficiency. According to the scientists, today's cars emit 75 to 90 percent less pollution per mile driven than cars made in 1970 did. Hybrid cars, electric cars and alternative fuels will continue to help, but the sheer number of people -- and cars -- on the roads offset those improvements.



Car Registration in India

The used car section is also affected big time by the BS4 to BS6 shift. Used car dealers, Express Drives spoke with, confirmed that the superb deals offered by manufacturers to clear their existing BS4 stock is playing havoc. Customers prefer to extend their budget and now buy a bigger vehicle for perhaps a Rs 2 lakh discount than go for a used one. The customer is the winner here as they get an all-new vehicle, warranty as well as higher resale value assurance .

3.2 COMPANY PROFILES



Ford India Private Limited is a collaboration between Ford Motor Company(49%) and Mahindra & Mahindra Motor Company(51%). Ford India Private Limited's headquarters are in Maraimalai Nagar, Chennai, Tamil Nadu. It currently is the sixth largest car maker in India

History:

Ford India Private Limited began production in 1926 as a subsidiary of the Ford Motor Company of Canada, but was shut down in 1954 as the company was in loss. Ford re-entered the market in October 1995 as Mahindra Ford India Limited (MFIL), a 50-50 joint venture with Mahindra & Mahindra Limited. Ford increased its interest to 72% in March 1998 and renamed the company Ford India Private Limited. The total investments made by Ford Motor Company since it set shop in 1995 stands at \$2 billion as of April 2012. Ford launched several models in India, including the sixth generation European Ford Escort and the Ford Ikon, later followed by the Ford Mondeo (second generation). The Ford Ikon was a successful model, but Escort and Mondeo couldn't do much well in the market.. In late 2004 Ford launched the European Ford Fusion which brought a totally new segment to India. Ford launched the Ford Fiesta in its sedan guise . Ford also launched the Ford Figo, based on the sixth generation Ford Fiesta hatchback in the Indian market. Ford was one of the first companies to exploit government's sub 4 metre policy to develop an SUV for Indian market named Ford EcoSport. Ford also exports the EcoSport from India to EU and US markets. Ford then launched the second generation Ford Figo, first in its sedan guise as the Ford Figo Aspire, which now remains Ford's only sedan in the Indian market after discontinuation of the sixth generation Ford Fiesta. The Figo hatchback was launched at a later date. To fill the gap between the Ford Figo and Ford EcoSport, the company launched the

Ford Freestyle, in 2018 which is essentially a crossover version of the face-lifted Ford Figo hatchback. It is a quite successful model, it came with class leading safety features and eventually won Gaadify car of the year award 2018. To compete with SUV rivals like Toyota Fortuner Ford sells Ford Everest with the name of Ford Endeavour in

India

Corporate Governance:

The management team of Ford India comprises - President, Anurag Mehrotra. Vinay Raina - Executive Director of Marketing, Sales & Service, Rahul Gautam - Vice President, Marketing, N. Prabhu - Vice President, Service, Lakshmi Ram Kumar S - Vice President, Sales, George Elisseou - HR Director, David Schock - Chief Financial Officer

Sales performance and Exports:

In the year 2010, FIPL recorded sales of 83,887 vehicles against 29,488 vehicles sold during the year 2009 and registered a sales growth of 172%. Ford India remains India's No. 1 PV exporter, beats Hyundai by 696 units. Ford India currently exports 40 percent of its engine production and 25 percent of its car production to 35 countries.

Corporate social responsibility:

Ford India's CSR activities are focused primarily in four key areas: road safety, education, healthcare, and environment. Ford's commitment to India is not just business centric. At the heart of the company's business plans are people and communities. With unwavering commitment to the country and its people, Ford's CSR initiatives are a reflection of its 'Go Further' journey in India. In keeping with founder Henry Ford's vision, Ford India's aims to create a Better World for future generations through education and empowerment. Corporate responsibility at Ford India is not limited to business processes and products alone, but also extends to engaging responsibly with employees, customers and other stakeholders.



Nissan Motor India Pvt Ltd (NMIPL) is a wholly owned subsidiary of Nissan Motor Co. Ltd Japan. The company was incorporated in 2005 and offers innovative and exciting products across hatchback, MUV, SUV and sedan segments in India. Nissan in India has a portfolio of two brands, Nissan and Datsun. In February 2008, Nissan, together with its global alliance partner Renault signed a MoU with Government of Tamil Nadu to set up a manufacturing plant at Oragadam, near

Chennai with an investment of INR 45 billion over a period of 7 years. On 17 March 2010, the Renault-Nissan alliance plant was inaugurated in a record time of 21 months since its ground breaking ceremony in June 2008. Nissan has assumed full responsibility for the sales, marketing and distribution of all Nissan-branded vehicles in India, with immediate effect from 14 February 2014.

Corporate Social Responsibility (CSR) Policy:

With its corporate vision of “Enriching People’s Lives”, Corporate Social Responsibility (CSR) efforts of Nissan Motor India Private Limited (NMIPL/Company) are focused on it becoming one of the leading sustainable companies in the automotive industry. “Corporate Social Responsibility (CSR)” means the responsibility of the Company to undertake the projects and programmes relating to the activities covered under the subjects enumerated in Schedule VII of the Act and approved by the Board of Directors of Company in pursuance of recommendations of the CSR Committee. To this end, as one of the world’s major automakers, Nissan conducts business that contributes toward developing a sustainable and mobile society. Additionally, Nissan provides unique and innovative products and services that aim to deliver value to all of its stakeholders. NMIPL’s CSR projects will be implemented either directly by the company or by

partnering with professional non-government organizations (NGOs). NMIPL will only engage with NGOs that have a proven track record in the fields of road safety, environment and community development. NMIPL will select the NGOs in a fair and transparent manner post approval from the NMIPL CSR Committee. The CSR Governance Body will be responsible for finalising and placing for approval the CSR policy of the company to the CSR Committee. The CSR Governance Body will be responsible for convening quarterly review meetings to study the progress of CSR activities of the company which will be reported to the CSR Committee. It will also periodically monitor the policy and recommend changes to the Committee. Recommend the amount and identify areas of expenditure on CSR projects. e) Institute a transparent monitoring mechanism for ensuring implementation of the social projects undertaken by the Company.

Sales:

Nissan has assumed full responsibility for the sales, marketing and distribution of all Nissan-branded vehicles in India, with immediate effect from 14 February 2014. NMIPL registered sales of 36,975 units in FY 2012



Hyundai Motor India Ltd is a wholly owned subsidiary of the Hyundai Motor Company headquartered in South Korea. It is the second largest automobile manufacturer with 16.2% market share as of February 2019 and US\$5.5 billion turn-over in India. Hyundai Motor India Limited was formed on 6 May 1996 by the Hyundai Motor Company of South Korea. When Hyundai Motor Company entered the Indian Automobile Market in 1996 the Hyundai brand was

almost unknown throughout India. During the entry of Hyundai in 1996, there were only five major automobile manufacturers in India, i.e. Maruti, Hindustan, Premier, Tata and Mahindra. Daewoo had entered the Indian automobile market with Cielo just three years back while Ford, Opel and Honda had entered less than a year back. For more than a decade till Hyundai arrived, Maruti Suzuki had a near monopoly over the passenger cars segment because Tata Motors and Mahindra & Mahindra were solely utility and commercial vehicle manufacturers, while Hindustan and Premier both built outdated and uncompetitive products. The company is looking its future business growth in Mobility and has invested \$14 million in Delhi based car rental platform Revv. With this strategic investment in Revv, Hyundai Motor will work to co-develop the company's new growth engine by developing innovative mobility services that combine technologies such as autonomous driving and artificial intelligence with the sharing economy to transform people's lives.

History:

HMIL's first car, the Hyundai Santro was launched on 23 September 1998 and was a runaway success. Within a few months of its inception HMIL became the second largest automobile manufacturer and the largest automobile exporter in India. Hyundai Motor India Limited (HMIL) is a wholly owned subsidiary of Hyundai Motor Company (HMC), South Korea and is the largest passenger car exporter and the second largest car manufacturer in India. HMIL presently markets 10 models – Eon, Grand i10, Xcent, Elite i20, i20 Active, Verna, Creta, Elantra, Tucson, and the newly launched Santro. HMC has set up a research and development facility (Hyundai Motor India Engineering – HMIE) in the cyber city of Hyderabad. As HMC's global export hub for compact cars, HMIL is the first automotive company in India to achieve the export of 10 lakh cars in just over a decade. HMIL currently exports cars to more than 87 countries across EU, Africa, Middle East, Latin America, Asia and Australia. It has been the number one exporter of passenger cars of the country for the eighth year in a row.

Regional Headquarter and Global Quality Centre

W.E.F 2 July 2018,As part of organizational restructuring, Hyundai has announced the creation of three regional headquarters – Hyundai Motor India, Hyundai Motor North America and Hyundai Motor Europe. The regional headquarters will have various divisions for planning,

finance, products and customer experience. They will work in collaboration with Hyundai Motor Company – the corporate headquarters based in Seoul, South Korea. Hyundai Motor India lead by SS Kim will oversee the operations of the brand in the regional market. Named Indian Quality Centre (INQC), The centre is one of the five quality Centre worldwide after the U.S, China, Europe and Middle East. The India centre located at Faridabad, Haryana will conduct durability study of existing models and benchmark parts and systems for constant improvement.

Sales and service network and Exports

HMIL has 475 dealers and more than 1,300 service points across India. HMIL also operates its own dealerships known as Hyundai Motor Plazas in large metros across India. HMIL has the second largest sales and service network in India after Maruti Suzuki. HMIL currently exports vehicles to over 92 countries across Africa, Middle East, Latin America, Australia and Asia. It has been India's number one exporter for the last 10 years consecutively. In February 2010 HMIL achieved record export of 1 million units. HMIL has been consecutively awarded "Top Exporter Of The Year" for 10 years by EEPC. The Highest Exported volume was 2,70,017 in year 2009. Now, it has moved down as fourth largest car exporter following Maruti Suzuki, Volkswagen and Nissan.

CSR Policy:

H-Social Creator is a Hyundai Motor India Foundation CSR initiative to bring change in our society. H-Social Creator is a Planning Program through which youth come up with creative ideas to resolve Social Issues and then give shape to their ideas. Launched first in South Korea, in 2015, HSC is now being brought to India by Hyundai Motor India Foundation. Hyundai Motor India Ltd, the country's leading premium car manufacturer and the largest passenger car exporter launched its CSR initiative 'Safe Move-Traffic Safety Campaign' in association with Ministry of Road Transport and Highways.



Renault India Pvt Ltd is a wholly owned subsidiary of Renault S.A, France and currently offers five models in the Indian market: the SUV Duster, the compact MPV Lodgy and Triber, budget car Kwid and the latest crossover Captur. Renault India also exports the Duster to a growing number of right-hand drive markets. Renault cars are manufactured at the manufacturing facility located in Oragadam, Chennai, with a capacity of 480,000 units pa with 3 shifts per day.

History:

In February 2008, Renault-Nissan Alliance signed Memorandum of Understanding with Government of Tamil Nadu to set up a manufacturing plant in Oragadam near Chennai. Work on the plant began in June later that year and was completed in a record 21 months. Renault Design India, the first vehicle design studio set up by a foreign manufacturer in India, was established in Mumbai in September 2008. The design house is integral to Renault's success in India as one of its functions is to monitor customer trends and customise global products for India. At the end of 2015, Renault has approximately 200 dealerships across India, from only 14 in 2012. Renault Duster named 2013 Indian Car of the Year (ICOTY), got a total of 29 awards. Renault received more awards in one year than any of its market competitors. Since 2012, the Renault Duster received 29 awards in India and the Renault company 34 awards.

Operations :

In September 2008, Renault India opened its fifth global vehicle design studio in Mumbai. In March 2010, Renault India and Nissan India opened a production facility in Chennai. Established with an initial investment of Rs 45 billion (US\$990 million), the plant has a combined annual capacity to produce 400,000 vehicles. As of September 2015, Renault India has 175 dealerships

in 16 cities across 9 states and 2 Union Territories, targeting 210 outlets at the end of 2015. It quickly expanded to 190 dealerships in December 2015, thanks to the Renault Kwid success. Renault has also developed an innovative approach with some virtual showrooms and some specific phone App. Renault has a range of cars to suit all kinds of business requirements and ensure safety.

Corporate Social Responsibility :

Renault India' Corporate Social Responsibility (CSR) program commenced in 2013, focussing on education and road safety. It partnered with Linc Pen & Plastics Ltd for SPELLINC. The program started in September 2013 and ran until December across 8 cities (Delhi, Mumbai, Kolkata, Chennai, Bangalore, Ahmadabad, Jamshedpur and Ranchi) with a total of 1000 schools participating. The training module on road safety has been developed to be fun and interactive. It involved stage acts, singing and discussions with the students. The whole point of the operation is not only to reach students but to convert them into Road Safety ambassadors spreading the message to their schoolmates, friends and relatives.

Innovations and technology:

Renault develops advanced technologies to prevent accidents. Prevention begins with driver assistance in anticipating risks. Renault also offers equipment providing automatic management related to operations, allowing the driver to stay focused

Government & Institutional Sales :

All departmental purchases for Central & State Government departments and PSUs are eligible for DGS&D rates through a rate contract by a centralised agency of Government of India - Directorate General of Supplies & Disposal (DGS&D). Central Armed Police Forces/Central Police Organisation personnel from BSF, CRPF, CISF, ITBP, SSB etc. are eligible for a special ex-showroom price through CPC sales. Defence personnel are eligible for a special ex-showroom price through CSD sales. Certain state governments do offer partial/full sales tax/VAT exemption for sales through CSD. Government of India, on the principle of reciprocity, gives embassies, foreign diplomats, ambassadors, United Nations and members of international

organisations waivers on excise duty & sales tax on a car purchase. We support and facilitate sales for differently abled (physically handicapped) in accordance with government guidelines.



Way of Life!

Maruti Suzuki India Limited, formerly known as Maruti Udyog Limited, is an automobile manufacturer in India. It is a 56.21% owned subsidiary of the Japanese car and motorcycle manufacturer Suzuki Motor Corporation. As of July 2018, it had a market share of 53% of the Indian passenger car market. Maruti Suzuki manufactures and sells popular cars such as the Ciaz, Ertiga, Wagon R, Alto K10 and Alto 800, Swift, Celerio, Swift Dzire, Baleno and Baleno RS, Omni, baleno, Eeco, Ignis, S-Cross, Vitara Brezza and newly launched S-Presso small SUV. The company is headquartered at New Delhi. In May 2015, the company produced its fifteen millionth vehicle in India, a Swift Dzire.

History:

Maruti Udyog Limited was founded by the Government of India in 1981, only to merge with the Japanese automobile company Suzuki in October 1982. The first manufacturing factory of Maruti was established in Gurugram, Haryana, in the same year. In 1982, a license and joint venture agreement (JVA) was signed between Maruti Udyog Ltd, and Suzuki of Japan. At first, Maruti Suzuki was mainly an importer of cars. In India's closed market, Maruti received the right to import 40,000 fully built-up Suzuki in the first two years, and even after that the early goal was to use only 33% indigenous parts. This upset the local manufacturers considerably. There were also some concerns that the Indian market was too small to absorb the comparatively large production planned by Maruti Suzuki, with the government even considering adjusting the petrol tax and lowering the excise duty in order to boost sales.[12] Local production commenced in December 1983. In 1984, the Maruti Van with the same three-cylinder engine as the 800 was

released and the installed capacity of the plant in Gurgaon reached 40,000 units. In 1985, the Suzuki SJ410-based Gypsy, a 970cc 4WD off-road vehicle, was launched. In 1986, the original 800 was replaced by an all-new model of the 796cc hatchback Suzuki Alto (SS80) and the 100,000th vehicle was produced by the company. In 1987, the company started exporting to the West, when a lot of 500 cars were sent to Hungary. By 1988, the capacity of the Gurgaon plant was increased to 100,000 units per annum.

Sales and service network

Maruti Suzuki has 3598 sales outlets across 1,861 cities in India. The company aims to double its sales network to 4,000 outlets by 2020. It has 3,792 service stations across 1,861 cities throughout India. Maruti's dealership network is larger than that of enough known companies combined. Service is a major revenue generator of the company. Most of the service stations are managed on franchise basis, where Maruti Suzuki trains the local staff. Also, The Express Service stations exist, sending across their repair man to the vehicle if it is away from a normal service center. In 2015 Maruti Suzuki launched NEXA, a new dealership format for its premium cars. Maruti currently sells the Baleno, Baleno RS, S-Cross, XL-6, Ciaz and Ignis through NEXA outlets. S-Cross was the first car to be sold through NEXA outlets. Several new models will be added to both channels as part of the Company's medium term goal of 2 million annual sales by 2020.

CSR Approach and Programme Areas

CSR activities will primarily be in the areas of village development, road safety and skill development. To create a visible and lasting impact, the Company will focus on a few CSR programmes rather than spread resources thin over several projects. The Company will undertake relevant and effective social projects to have a positive and meaningful impact on the lives of communities around it. The Company will scale up the number of driving training schools, and take other initiatives to expand quality driving training in the country. The Company will make efforts to involve State Governments in its road safety efforts for a bigger impact. The Company's ongoing CSR projects will be aligned to the Policy. This Policy builds on the learnings and good practices of the CSR projects initiated by the Company. The Company will

enter into partnerships with the Government, business partners and communities to create multiplier effect of its social projects. The Company has set up dedicated teams for implementation of CSR projects. The Company will select its partners after appropriate due diligence. The Company will use services of expert agencies, consultancy firms etc. wherever required for carrying out base line surveys, guidance on project design and implementation, impact assessment surveys etc.



Mahindra & Mahindra Limited is an Indian multinational car manufacturing corporation headquartered in Mumbai, Maharashtra, India. It was established in 1945 as Muhammad & Mahindra and later renamed as Mahindra and Mahindra. It is one of the largest vehicle manufacturers by production in India and the largest manufacturer of tractors in the world. It is a part of the Mahindra Group, an Indian conglomerate. It was ranked 17th on a list of top companies in India by Fortune India 500 in 2018. Its major competitors in the Indian market include Maruti Suzuki and Tata Motors.

History of Mahindra:

Mahindra & Mahindra was founded as a steel trading company on October 2, 1945 in Ludhiana as Mahindra & Muhammed by brothers Harikrishnan and Jayakrishnan and Jagdish Chandra Mahindra along with Malik Ghulam Muhammad. Anand Mahindra, the present Chairman of

Mahindra Group, is the grandson of Jagdish Chandra Mahindra. After India gained independence and Pakistan was formed, Muhammad emigrated to Pakistan. Muhammad acquired Pakistani citizenship and settled in Lahore, and in 1948 became Pakistan's first finance minister.

Thereafter, the company changed its name to Mahindra & Mahindra in 1948. It eventually saw a business opportunity in expanding into manufacturing and selling larger MUVs, starting with the assembly under licence of the Willys Jeep in India. Soon established as the Jeep manufacturers of India, the company later commenced manufacturing light commercial vehicles (LCVs) and agricultural tractors. Over the past few years, the company has taken interest in new industries and in foreign

markets. They entered the two-wheeler industry by taking over Kinetic Motors in India. M&M also has a controlling stake in the REVA Electric Car Company and acquired South Korea's SsangYong Motor Company in 2011. In 2010–11 M&M entered in micro drip irrigation with the takeover of EPC Industries Ltd in Nashik. In October 2014, Mahindra and Mahindra acquired a 51% controlling stake in Peugeot Motorcycles and acquired a 100% controlling stake in October 2019.

In December 2015, Mahindra and Mahindra Ltd and affiliate Tech Mahindra Ltd, through a special purpose vehicle (SPV), have agreed to buy a 76.06% stake in Italian car designer Pininfarina SpA, for €25.3 million (around Rs.186.7 crore). In January 2017, Mahindra and Mahindra Ltd (M&M) acquired a 75.1 equity stake in Hisarlar Makina Sanayi ve Ticaret Anonym Şirketi (Hisarlar), a farm equipment company, marking its entry into Turkey. In September 2017 Mahindra and Mahindra Ltd acquired Erkunt Traktor Sanayii AS, a Turkish tractor maker and its foundry business for ₹ 800 crore.

Operations:

Mahindra & Mahindra, brands its products as "Mahindra", produces SUVs, saloon cars, pickups, lightweight commercial vehicles, heavyweight commercial vehicles, two wheeled motorcycles and

tractors. Mahindra maintains business relations with foreign companies like Renault SA, France.

M&M has a global presence and its products are exported to several countries. Its global subsidiaries include Mahindra Europe S.r.l. based in Italy, Mahindra USA Inc., Mahindra South Africa and Mahindra (China) Tractor Co. Ltd. In 2015, Mahindra reentered the Philippine market after a brief presence in 1990s. Mahindra began assembling the Jeep CJ3 in 1954, and light commercial vehicles in 1965. In 1979 the licensed assembly of Peugeot diesel four-cylinder engines and transmissions began, and in 1982 a tie-up with Kia Motors to build their four-speed KMT90 transmission and transfer case was announced. Mahindra's MM range was a mainstay of the lineup and was eventually also offered with a 1.8-liter Isuzu petrol engine in addition to International and Peugeot diesels. Mahindra started making passenger vehicles firstly with the Logan in April 2007 under the Mahindra Renault joint venture. M&M made its maiden entry into the heavy trucks segment with the Mahindra Truck and Bus Division, the joint venture with International Truck, USA. Mahindra produces a wide range of vehicles, including MUVs, LCVs and three-wheelers. It formerly had a joint venture with Ford called Ford India Private Limited to build passenger cars.



Tata Motors Limited, formerly Tata Engineering and Locomotive Company (TELCO), is an

Indian multinational automotive manufacturing company headquartered in Mumbai,

Maharashtra, India. It is a part of Tata Group, an Indian conglomerate. Its products include

passenger cars, trucks, vans, coaches, buses, sports cars, construction equipment and military

vehicles. Tata Motors has auto manufacturing and assembly plants in Jamshedpur, Pantnagar, Lucknow, Sanand, Dharwad, and Pune in India, as well as in Argentina, South Africa, Great Britain, and Thailand. It has research and development centres in Pune, Jamshedpur, Lucknow, and

Dharwad, India and South Korea, Great Britain, and Spain. Tata Motors' principal subsidiaries purchased the English premium car maker Jaguar Land Rover (the maker of Jaguar and Land Rover cars) and the South Korean commercial vehicle manufacturer Tata Daewoo. Tata Motors has a bus-manufacturing joint venture with Marcopolo S.A. (Tata Marcopolo), a construction-equipment manufacturing joint venture with Hitachi (Tata Hitachi Construction Machinery), and a joint venture with Fiat Chrysler which manufactures automotive components and Fiat

Chrysler and Tata branded vehicles. Founded in 1945 as a manufacturer of locomotives, the company manufactured its first commercial vehicle in 1954 in a collaboration with Daimler-Benz AG, which ended in 1969. Tata Motors entered the passenger vehicle market in 1988 with the launch of the Tata Mobile followed by the Tata Sierra in 1991, becoming the first Indian manufacturer to achieve the capability of developing a competitive indigenous automobile. In 1998, Tata launched the first fully indigenous Indian passenger car, the Indica, and in 2008 launched the Tata Nano, the world's cheapest car. Tata Motors acquired the South Korean truck manufacturer Daewoo Commercial Vehicles Company in 2004 and purchased Jaguar Land Rover from Ford in 2008. Tata Motors is listed on the (BSE) Bombay Stock Exchange, where it is a constituent of the BSE SENSEX index, the National Stock Exchange of India, and the New York Stock Exchange. The company is ranked 265th on the Fortune Global 500 list of the world's biggest corporations as

of 2019. On 17 January 2017, Natarajan Chandrasekaran was appointed chairman of the company Tata Group. Tata Motors increases its UV market share to over 8% in FY2019.

History:

Tata Motors was founded in 1945, as of locomotive manufacturer. Tata Group entered the commercial vehicle sector in 1954 after forming a joint venture with Daimler-Benz of Germany.

After years of dominating the commercial vehicle market in India, Tata Motors entered the passenger vehicle market in 1991 by launching the Tata Sierra, a sport utility vehicle based on the Tata Mobile platform. Tata subsequently launched the Tata Estate (1992; a station wagon design based on the earlier Tata Mobile), the Tata Sumo (1994, a 5-door SUV) and the Tata Safari (1998). Tata launched the Indica in 1998, the first fully indigenous Indian passenger car. Although initially criticized by auto analysts, its excellent fuel economy, powerful engine, and an aggressive marketing strategy made it one of the best-selling cars in the history of the Indian automobile industries. A newer version of the car, named Indica V2, was a major improvement over the previous version and quickly became a mass favourite. Tata Motors also successfully exported large numbers of the car to South Africa. The success of the Indica played a key role in the growth of Tata Motors. In 2004, Tata Motors acquired Daewoo's South Korea-based truck manufacturing unit, Daewoo Commercial Vehicles Company, later renamed Tata Daewoo. On 27 September 2004, Ratan Tata, the Chairman of Tata Motors, rang the opening bell at the New York Stock Exchange to mark the listing of Tata Motors. In 2005, Tata Motors acquired a 21% controlling stake in the Spanish bus and coach manufacturer Hispano Carrocera. Tata Motors continued its market area expansion through the introduction of new products such as buses (Starbus and Globus, jointly developed with subsidiary Hispano Carrocera) and trucks (Novus, jointly developed with subsidiary Tata Daewoo). In 2006, Tata formed a joint venture with the Brazil-based Marcopolo, Tata Marcopolo Bus, to manufacture fully built buses and coaches. In 2008, Tata Motors acquired the English car maker Jaguar Land Rover, manufacturer of the Jaguar and Land Rover from Ford Motor Company. In May 2009, Tata unveiled the Tata World Truck range jointly developed with Tata Daewoo; the range went on sale in South Korea, South Africa, the SAARC countries, and the Middle East at the end of 2009. Tata acquired full

ownership of Hispano Carrocera in 2009. In 2009, its Lucknow plant was awarded the "Best of All" Rajiv Gandhi National Quality Award. In 2010, Tata Motors acquired an 80% stake in the Italian design and engineering company Trilix for €1.85 million. The acquisition formed part of the company's plan to enhance its styling and design capabilities. In 2012, Tata Motors announced it would invest around ₹ 6 billion in the development of Futuristic Infantry Combat Vehicles in collaboration with DRDO. In 2013, Tata Motors announced it will sell in India, the first vehicle in the world to run on compressed air (engines designed by the French company MDI) and dubbed "Mini CAT". In 2014, Tata Motors introduced first Truck Racing championship in India "T1 Prima Truck Racing Championship". On 26 January 2014, the Managing Director Karl Slym was found dead. He fell from the 22nd floor to the fourth floor of the Shangri-La Hotel in Bangkok, where he was to attend a meeting of Tata Motors Thailand. On 2 November 2015, Tata Motors announced Lionel Messi as global brand ambassador at New Delhi, to promote and endorse passenger vehicles globally. On 27 December 2016, Tata Motors announced the Bollywood actor Akshay Kumar as brand ambassador for its commercial vehicles range. On 8 March 2017, Tata Motors announced that it has signed a memorandum of understanding with Volkswagen to develop vehicles for India's domestic market. On 3 May 2018, Tata Motors announced that it sold its aerospace and defense business to another Tata Group Entity, Tata Advanced Systems, to unlock their full potential. On 29 April 2019, Tata Motors announced a partnership with Nirma University in Ahmedabad to provide a B.Tech. degree programme for employees of its Sanand plant.

HONDA

The Power of Dreams

Honda Cars India Ltd., (HCIL) is a leading manufacturer of premium cars in India. The company

was established in 1995 with a commitment to provide Honda's latest passenger car models and technologies to the Indian customers. The company is a subsidiary of Honda Motor Co. Ltd.,

Japan.HCIL's first manufacturing plant at Greater Noida began operations in 1997. Set up at an initial investment of over ₹ 4.5 billion, the plant is spread over 150 acres (0.61 km²). The initial capacity of the plant was 30,000 cars per year, which was later increased to 50,000 cars on a two-shift basis. The capacity was further enhanced to 100,000 units annually in 2008. This expansion led to an increase in the covered area in the plant from 107,000 square metres (1,150,000 sq ft) to over 130,000 m² (1,400,000 sq ft). In 2015-2016 revenue of 16,870 crore, 360 crore net profit after 6 years losses in Indian operations. In July 2017, monthly sales touched over 17,000 cars thanks to the launch of WR-V. The City and WR-V sales figures were over 4,500 units a month. Honda set up its second plant in India at Tapukara in Alwar District of Rajasthan, spread over 450 acres (1.8 km²) with an investment of ₹ 3526 crores. It operates under the ISO 9001 standard for quality management and ISO 14001 for environment management.

CSR Policy:

Honda Cars India Limited's (HCIL) aim is to become the Most Trusted Company, which the Society would want to exist. Continued to be driven by this aim, HCIL has been undertaking various activities under Corporate Social Responsibility (CSR), mainly in the areas of health, education, livelihood, safety, environment protection, etc. with thrust on increased participation of Associates at all levels of the Company. This Policy has been framed in compliance with the provisions of Section 135 of the Companies Act, 2013 and the Companies (Corporate Social Responsibility Policy) Rules, 2014. The CSR Policy lays down the guidelines for undertaking socially meaningful programmes for welfare and sustainable development of the community, especially in and around the areas of operations of the Company, and to provide assistance / relief to the people affected by natural disasters in any part of the Country. The CSR Policy shall apply to all CSR activities or programmes undertaken by the Company in India. The CSR Policy will be reviewed on a yearly basis or as may be recommended by the CSR Committee of the Board and may be amended from time to time.

Sales: HCIL has 371 dealership outlets across 121 cities in 20 states and 3 Union Territories of India.



ŠKODA Auto Volkswagen India Pvt Ltd is the wholly owned Indian subsidiary of German automotive manufacturing company Volkswagen Group. On 7 October 2019, Volkswagen Group India announced the merger of their three Indian subsidiaries - Volkswagen India Pvt Ltd (VWIPL), Volkswagen Group Sales India Pvt Ltd (NSC) and ŠKODA Auto India Pvt Ltd (SAIPL) - into a single entity named ŠKODA Auto Volkswagen India Pvt Ltd with headquarters at Pune. ŠKODA Auto CEO Bernhard Maier stated, "The operational launch of ŠKODA Auto Volkswagen India Pvt Ltd marks an important milestone in the INDIA 2.0 project. This merger creates one of the key prerequisites for working together more efficiently at all levels and achieving our long-term goal: to gain significant market shares for Volkswagen and ŠKODA by 2025." Gurpratap Boparai was appointed as the first Managing Director of ŠKODA Auto Volkswagen India. They focus on manufacture and sales of Volkswagen, Audi and ŠKODA vehicles in India. Volkswagen Group brands Porsche and Lamborghini also sell their cars in India through them.

Sales and service network:

VGSIPL's vehicle brands have a combined dealership network of more than 153 dealerships in more than 56 cities all over India. ŠKODA and Audi alone having in total around 120 dealerships across the country today.

Production facilities:

Volkswagen Group Sales India Private Limited operates a manufacturing plant at Chakan, near Pune, Maharashtra with an annual capacity of 200,000 vehicles for production of Volkswagen branded vehicles. The Chakan Plant is also used by SAIPL to manufacture the ŠKODA Rapid. It also shares a manufacturing/assembly plant in Aurangabad, Maharashtra which is operated by ŠKODA Auto India Private Limited for production of Audi branded vehicles. Volkswagen India operates a manufacturing plant in Pune (Chakan) Maharashtra which is capable of producing 200,000 vehicles per annum. Along with the manufacturing of Volkswagen Polo and Volkswagen Vento and the newly launched Volkswagen Ameo, the plant is also shared by ŠKODA Auto India Private Limited for manufacturing the ŠKODA Rapid. Volkswagen has an engine assembly facility (an extension to the previously mentioned plant) built in 2015 at a cost of 240 crore (710 million Euro). The plant reportedly holds production capacity of about 98,000 engines annually.

CHAPTER-4

DATA ANALYSIS AND

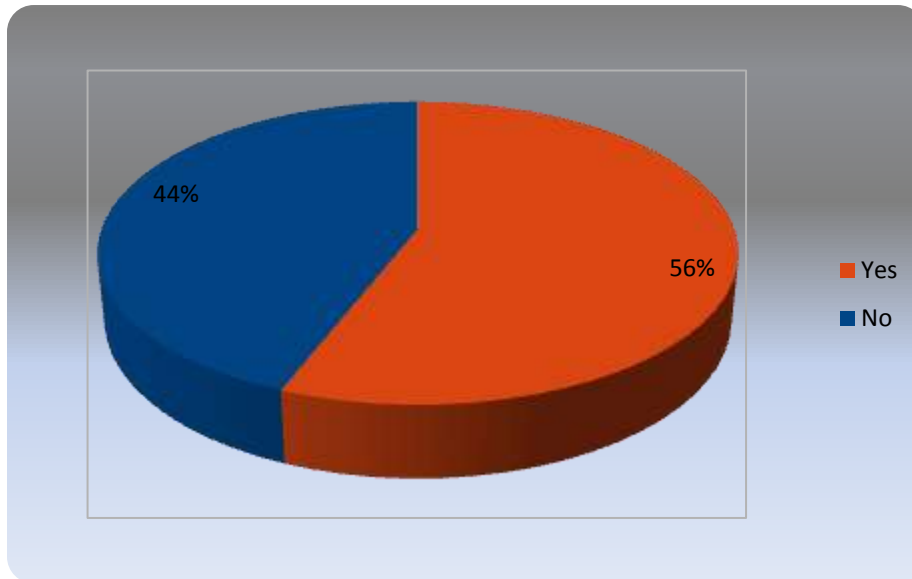
INTERPRETATION

Table 4.1 : Table showing Responses on “If BS6 norm has benefited the company sales.”

Options	Count	Percentage
Yes	14	56%
No	11	44%
Total	25	100%

Source : Primary Data

Figure 4.1 : Figure showing Responses on “If BS6 norm has benefited the company sales.”



INTERPRETATION

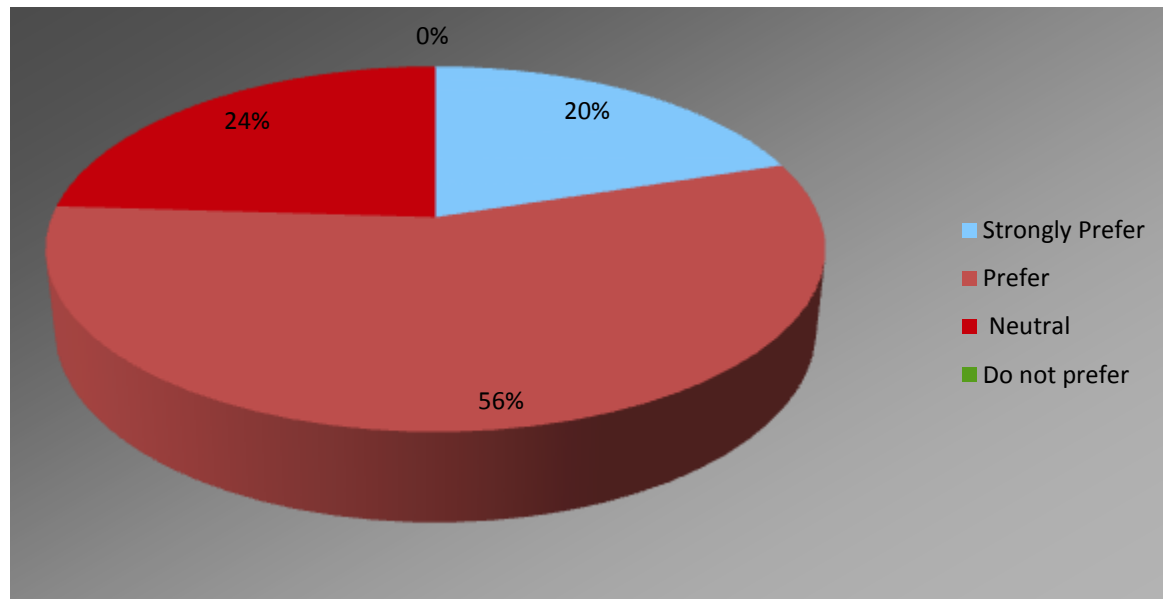
From Table 4.1 and Figure 4.1 it is clear that 14 dealerships out of the 25 respondents are benefited by the introduction of BS6 norms and the remaining 11 dealerships are not benefited by the revised norms. Figure 4.1 points out the percentage of respondents. From Figure 4.1, we can conclude that 56% of the respondents are benefited and 44% are not benefited.

Table 4.2 : Table showing Customer preferences on BS6 over BS4 cars.

Options	Count	Percentage
Strongly Prefer	5	20%
Prefer	14	54%
Neutral	6	24%
Do not Prefer	0	0%
Total	25	100%

Source : Primary Data

Figure 4.2 : Figure showing Customer preferences on BS6 over BS4 cars.



INTERPRETATION

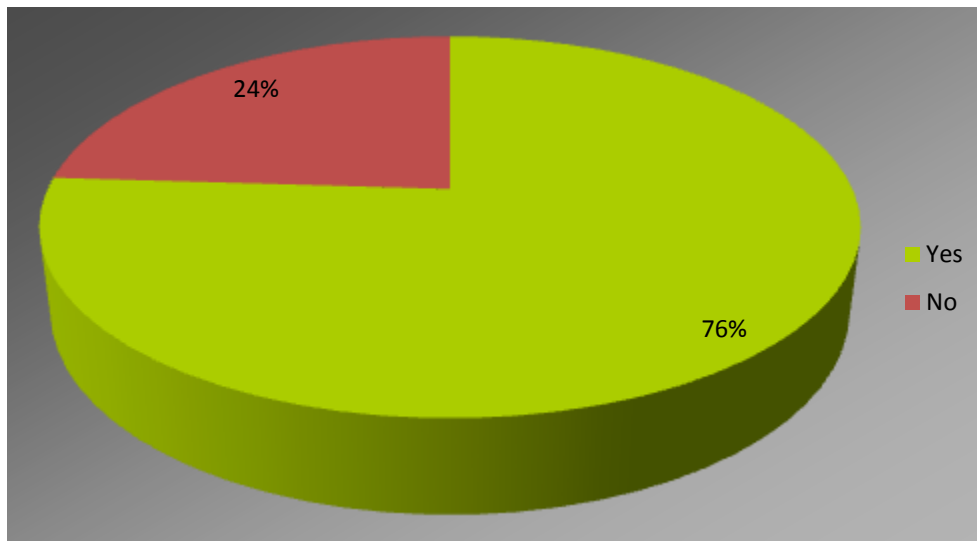
Table 4.2 and Figure 4.2 states that out of the 25 respondents from car dealerships it is clear that only 20% of the customers strongly prefer BS6 cars over the existing BS4 cars. 56% of customers prefer BS6 cars and 24% of the customers are in a neutral mindstate in selecting between BS4 and BS6 cars. The number of customers who don't prefer BS6 cars is almost 0.

Table 4.3 : Table showing the number of companies that faced difficulty in selling out BS4 stock .

Options	Count	Percentage
Yes	19	76%
No	6	24%
Total	25	100%

Source : Primary Data

Figure 4.3 : Figure showing the number of companies that faced difficulty in selling out BS4 stock .



INTERPRETATION

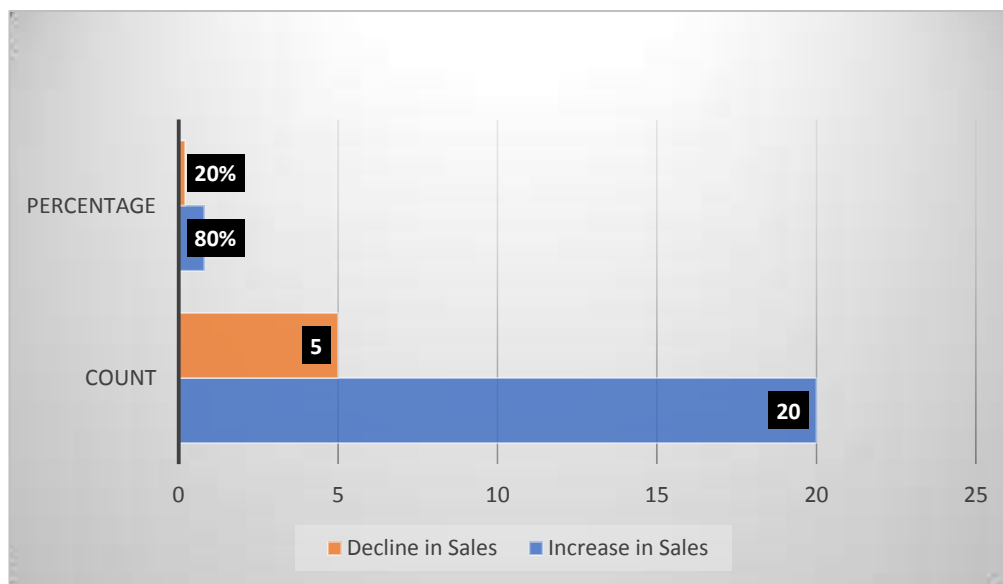
Analysing *Table 4.3* and *Figure 4.3* its clear that most of the car dealerships found it difficult to sell out the existing stock of BS4 cars.19 (76%) car dealerships out of the 25 respondents faced difficulty to sell out their existing stock of BS4 cars. The remaining 6 (24%) dealers could easily sell out their existing stock of BS4 cars as well.

Table 4.4 : Table showing Company's expectation on sale of BS6 cars.

Options	Count	Percentage
Increase in Sales	20	80%
Decline in Sales	5	20%
Total	25	100%

Source : Primary Data

Figure 4.4 : Figure showing Company's expectation on sale of BS6 cars.



INTERPRETATION

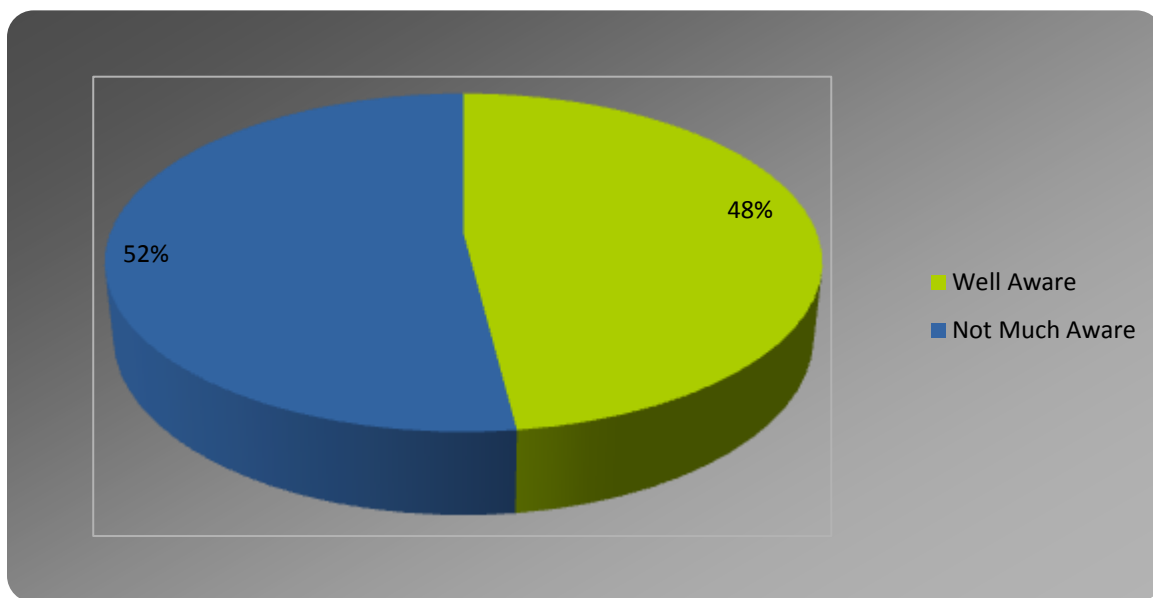
Analysing *Table 4.4* and *Figure 4.4* it is clear that the majority of the car companies and dealerships are of the expectation that the introduction of BS6 norms will boost their sales. Out of the 25 respondents, 20 car dealerships (80%) are expecting an increase in sales and 5 car dealerships (20%) car dealerships expect a decline in sales due to many reasons including the rise in prices and tax rates for BS6 cars over the existing BS4 cars and in turn this price factor may affect their sales.

Table 4.5 : Table showing Customer awareness on BS6 norm and such standards.

Options	Count	Percentage
Well Aware	12	48%
Not Much Aware	13	52%
Total	25	100%

Source : Primary Data

Figure 4.5 : Figure showing Customer awareness on BS6 norm and such standards.



INTERPRETATION

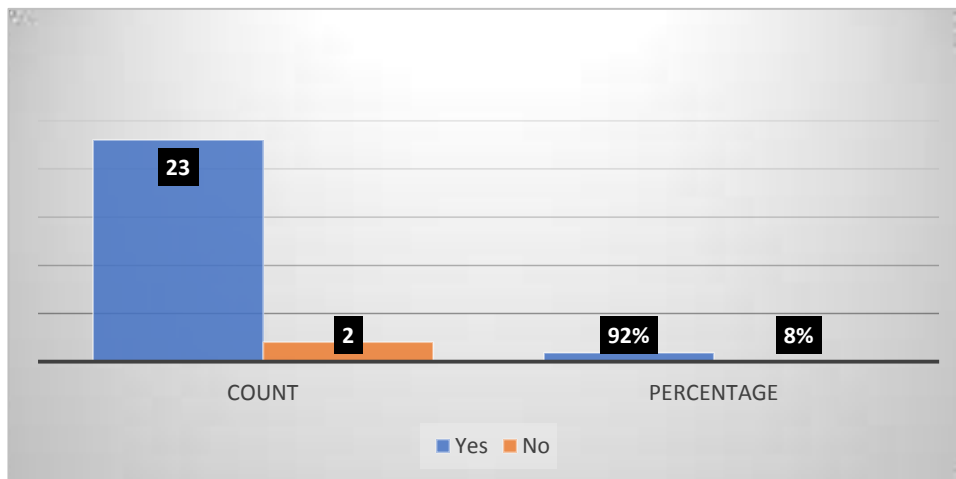
Table 4.5 and Figure 4.5 states that out of the customers who strongly prefer or even partly prefer BS6 vehicles only 48% of the customers are actually well aware of the BS6 norm, its provisions and benefits. The remaining 52% of the customers are not much aware of BS6 norms and its benefits.

Table 4.6 : Table showing Customer's willingness to pay more for BS6 update.

Options	Count	Percentage
Yes	23	92%
No	2	8%
Total	25	100%

Source : Primary Data

Figure 4.6 : Figure showing Customer's willingness to pay more for BS6 update.



INTERPRETATION

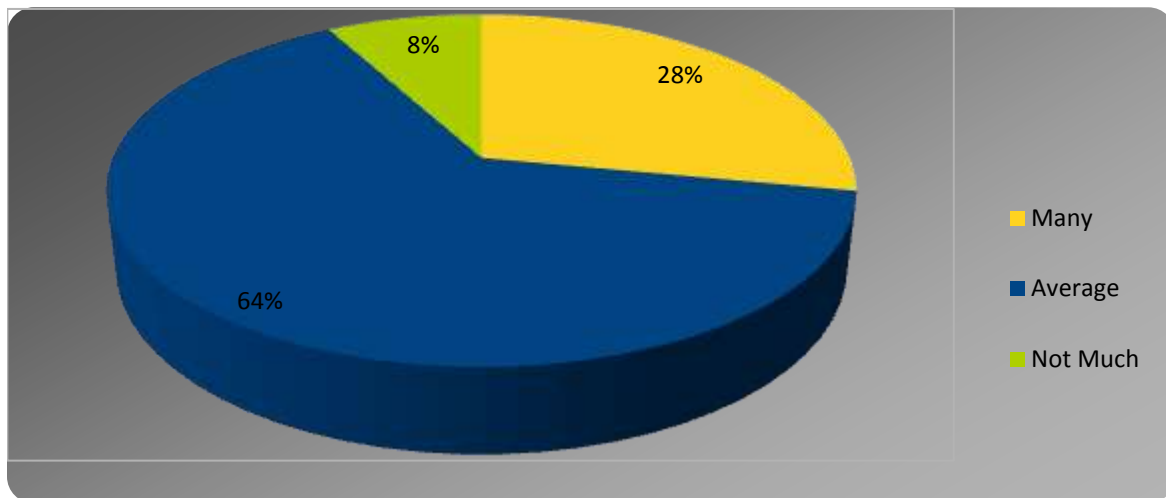
Analysing *Table 4.6* and *Figure 4.6* its found that from the response of car dealerships its clear that 92% of the customers are willing to spend more money for purchasing BS6 compliant cars over BS4 cars which remains slightly cheaper than BS6 cars. It is also found that remaining part of customers 8% are not willing to spend more money on updation of the new engine and they prefer the existing BS4 stock of cars which are less costly than BS6 cars.

Table 4.7 : Table showing number of Potential customers for BS6 cars.

Options	Count	Percentage
Many	7	28%
Average	16	64%
Not Much	2	8%
Total	25	100%

Source : Primary Data

Figure 4.7 : Figure showing number of Potential customers for BS6 cars.



INTERPRETATION

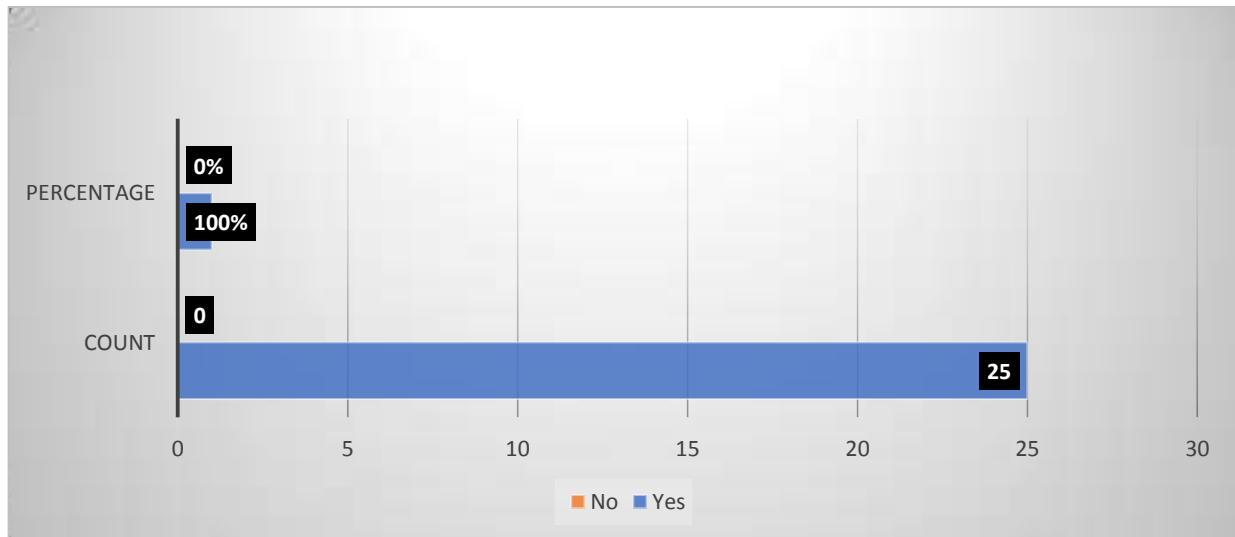
Table 4.7 and Figure 4.7 makes it clear the amount of potential customers for BS6 cars. From the analysis, it's clear that 64%of the car dealerships responded that they are having an average number of potential customers towards BS6 cars. The analysis states that 28% of car dealerships has a better number of potential customers and 8% of the dealerships are having less potential customers and bookings and enquiry for the BS6 cars.

Table 4.8 : Table showing Incentives and discounts introduced by companies to sellout BS4 stock.

Options	Count	Percentage
Yes	25	100%
No	0	0%
Total	25	100%

Source : Primary Data

Figure 4.8 : Figure showing Incentives and discounts introduced by companies to sellout BS4 stock.



INTERPRETATION

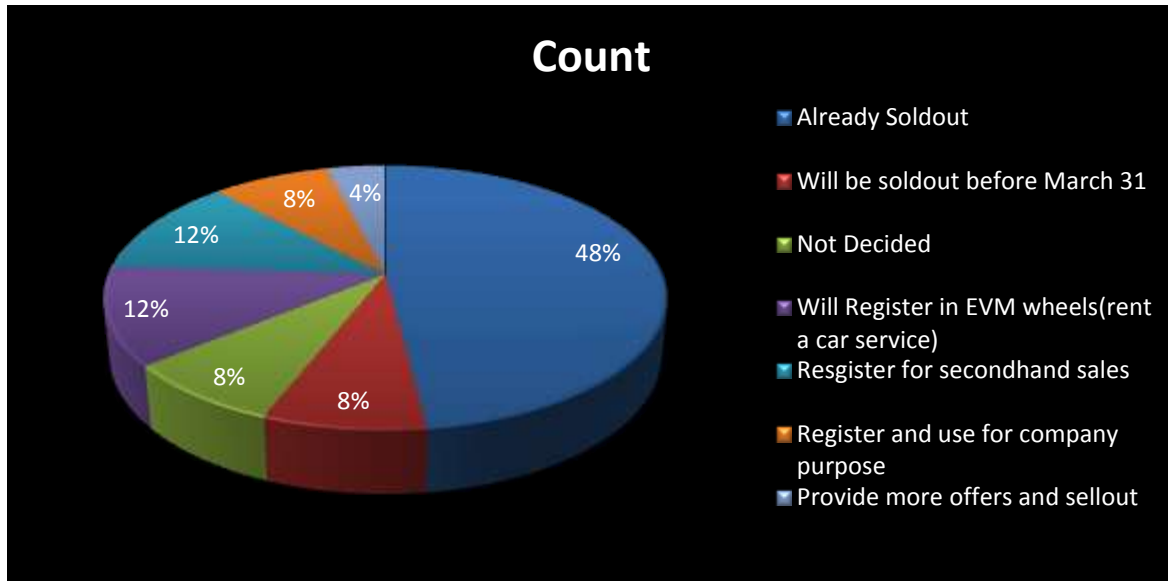
Table 4.8 and Figure 4.8 clearly states that all the car dealerships (100%) have introduced offers as well as incentives to sell out their existing stocks of BS4 cars as the Government has set a deadline for the sales of BS4 cars. Most companies have to sell their cars of BS4 engines at high discounts and price cuts as a part of clearing the existing stock.

Table 4.9 : Table showing Dealership responses on management of unsold BS4 stock before deadline.

Options	Count	Percentage
Already Sold-out	12	48%
Will be sold-out before March 31	2	8%
Not Decided	2	8%
Will Register in EVM wheels(rent a car service)	3	12%
Register for second-hand sales	3	12%
Register and use for company purpose	2	8%
Provide more offers and sell-out	1	4%
Total	25	100%

Source : Primary Data

Figure 4.9 : Figure showing Dealership responses on management of unsold BS4 stock before deadline.



INTERPRETATION

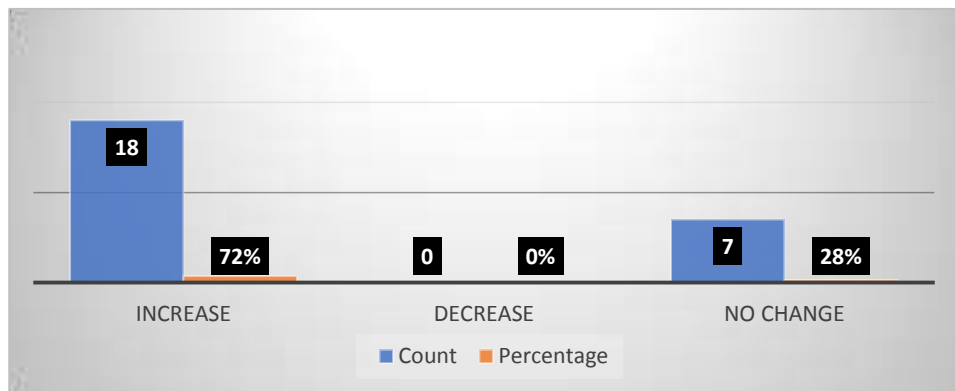
Table 4.9 and Figure 4.9 states that 48% of car dealerships have already sold out their existing stock of BS4 cars.8% car dealerships are of the expectation that their BS4 stocks will get sold out before March 31st.Another 8% of the car dealerships have not yet decided, what to do with the stocks of BS4 cars with them.12% of the cars dealerships are of the decision to move their stock towards their rent a car service.12% of the car dealerships will register their BS4 stocks to secondhand sales.8% of the car dealerships are planning to register their remaining BS4 stock and use for company purposes. The remaining 4% of dealerships are of the decision to provide more offers and incentives and sellout the BS4 stock.

Table 4.10 : Table showing change in Aftersales/Maintenance costs.

Options	Count	Percentage
Increase	18	72%
Decrease	0	0%
No Change	7	28%
Total	25	100%

Source : Primary Data

Figure 4.10 : Figure showing Change in Aftersales/Maintenance costs.



INTERPRETATION

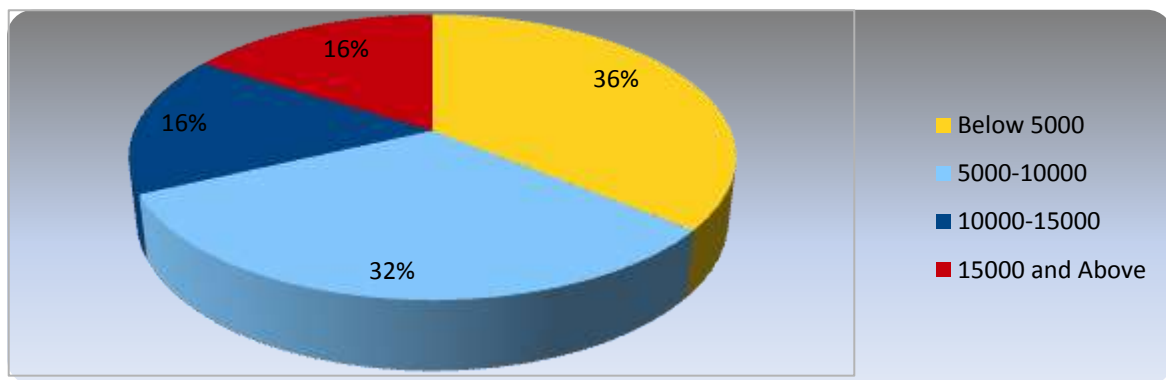
Table 4.10 and Figure 4.10 makes clear the change in the after-sales cost of BS6 cars as compared to BS4 cars. The analysis of change in after-sales cost is relevant as people are concerned about the after-sales or maintenance cost of vehicles as well. The above analysis states that 72% of the car dealerships have responded that the after-sales cost of cars will be increased and 28% companies or dealerships responded that there will be no change for the after-sales cost of BS6 cars and the service cost will remain the same. It's very clear from the study that the after-sales cost has not decreased for any of the companies when it comes to BS6 cars.

Table 4.11 : Table showing Aftersales/Maintenance cost change in Rupees.

Options	Count	Percentage
Below 5000	9	36%
5000-10000	8	32%
10000-15000	4	16%
15000 and Above	4	16%
Total	25	100%

Source : Primary Data

Figure 4.11 : Figure showing Aftersales/Maintenance cost change in Rupees.



INTERPRETATION

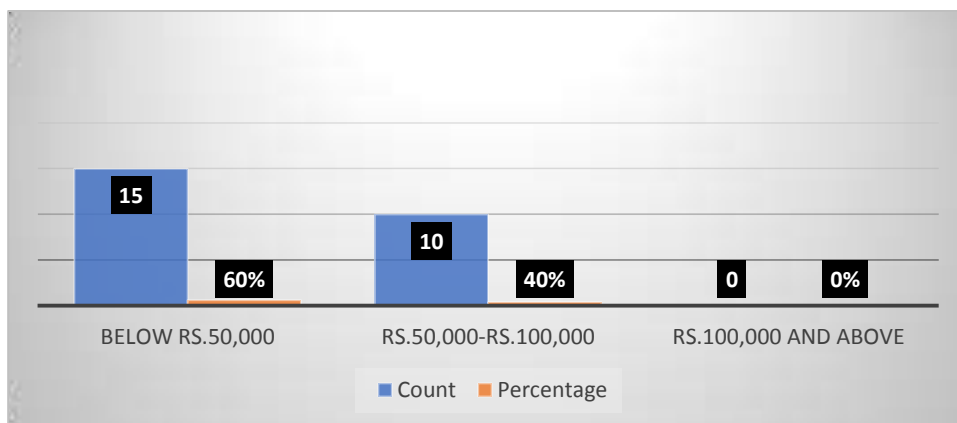
Table 4.11 and *Figure 4.11* presents the amount at which the change in amounts of after-sales cost have taken place. As there was no response to a decrease in after-sales cost, the above analysis points out the increased amounts of after-sales costs. *Table 4.11* and *Figure 4.11* shows that the increase in after-sales cost is below 5000 in for 36% of the car dealerships. 32% of the car dealerships is having a price hike of 5000-10000 in their after-sales cost. 16% of the car dealerships is having a price hike of 10000-15000 in their after-sales costs. The remaining 12% of car dealers have a price hike of 15000 and above in their after-sales costs.

Table 4.12 : Table showing Price increase on cost of BS6 cars.

Options	Count	Percentage
Below Rs.50,000	15	60%
Rs.50,000-Rs.100,000	10	40%
Rs.100,000 and Above	0	0%
Total	25	100%

Source : Primary Data

Figure 4.12 : Figure showing Price increase on cost of BS6 cars.



INTERPRETATION

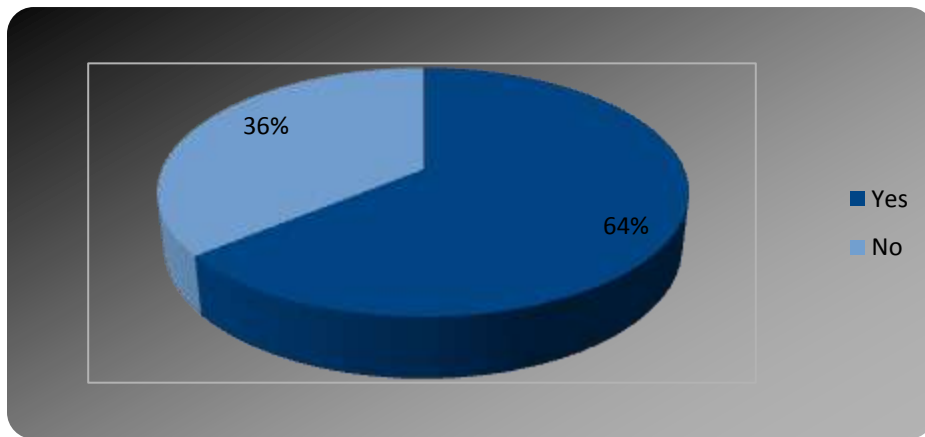
By analysing *Table 4.12* and *Figure 4.12* we can understand the hike in prices of BS6 compliant cars as compared to the existing BS4 cars. Evaluating the information collected from 25 respondents of car dealerships, it is ascertained that the price hike is below Rupees 50,000 for 60% of car dealerships and it is between Rupees 5,0000 and 100,000 for the remaining 40% car dealerships.No respondents have a price hike above Rupees 100,000 for their cars which are BS6 compliant.

Table 4.13 : Table showing effect of Increased price of cars on targeted sales.

Options	Count	Percentage
Yes	16	64%
No	9	36%
Total	25	100%

Source : Primary Data

Figure 4.13 : Figure showing effect of Increased price of cars on targeted sales.



INTERPRETATION

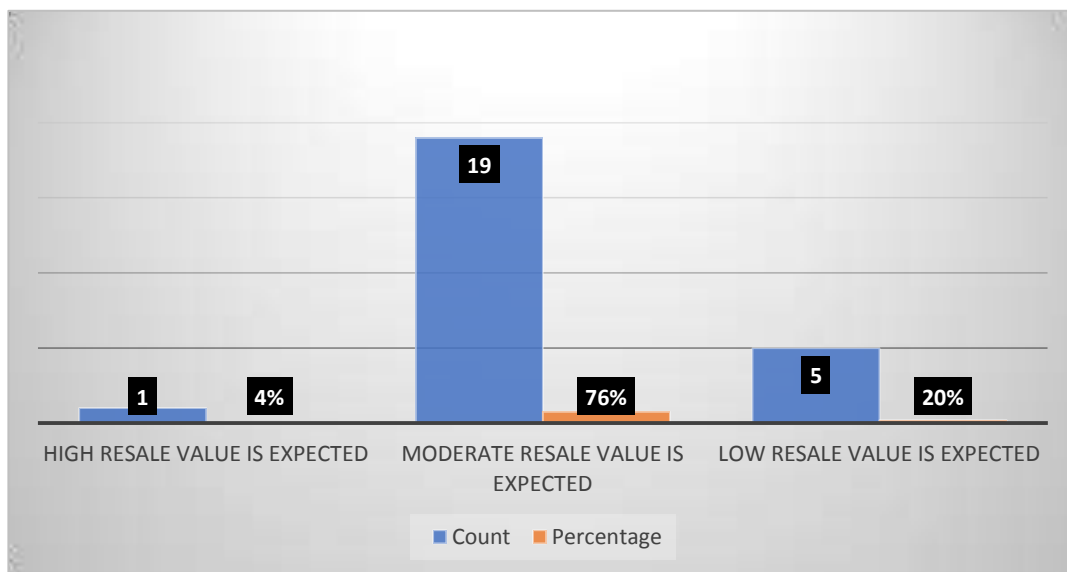
Table 4.13 and *Figure 4.13* points out the responses of car dealerships on the effect of the price hike on sales. 64% of the total respondents are of the opinion that the increased prices have affected their targeted sales for sure. The remaining 36% of respondents said that the increased prices have not affected their sales volume and targeted sales.

Table 4.14 : Table showing Resale value for BS4 cars after the introduction of BS6 cars.

Options	Count	Percentage
High Resale value is expected	1	4%
Moderate Resale value is expected	19	76%
Low Resale value is expected	5	20%
Total	25	100%

Source : Primary Data

Figure 4.14 : Figure showing Resale value for BS4 cars after the introduction of BS6 cars.



INTERPRETATION

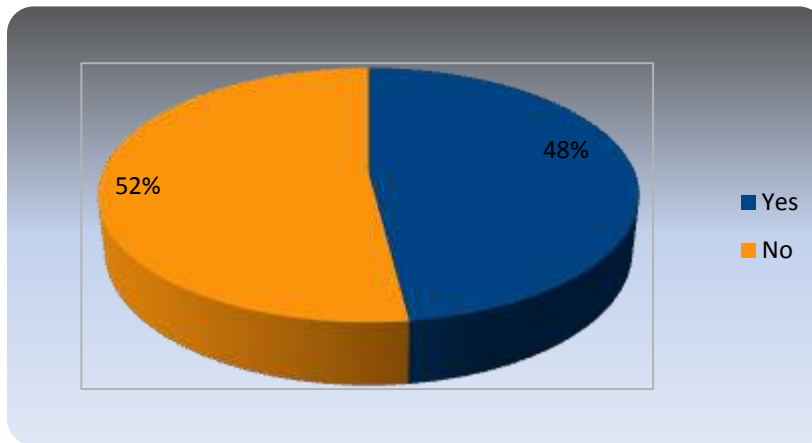
Table 4.14 and Figure 4.14 gives a clear image of second-hand sales and demand of BS4 cars when BS6 cars are introduced in the market. While BS6 cars get introduced with an increased price range the resale value of existing BS4 cars is of a major concern. 4% of the respondents are of the expectation that their BS4 cars will still have high resale value. Majority of the car dealerships (76%) are expecting a moderate resale value for their BS4 cars. 20% of the car dealerships are expecting lower resale value for their BS4 stock of cars.

Table 4.15 : Table showing whether BS6 norm is a reason for recent decline in automobile sales.

Options	Count	Percentage
Yes	12	48%
No	13	52%
Total	25	100%

Source : Primary Data

Figure 4.15 : Figure showing whether BS6 norm is a reason for recent decline in automobile sales.



INTERPRETATION

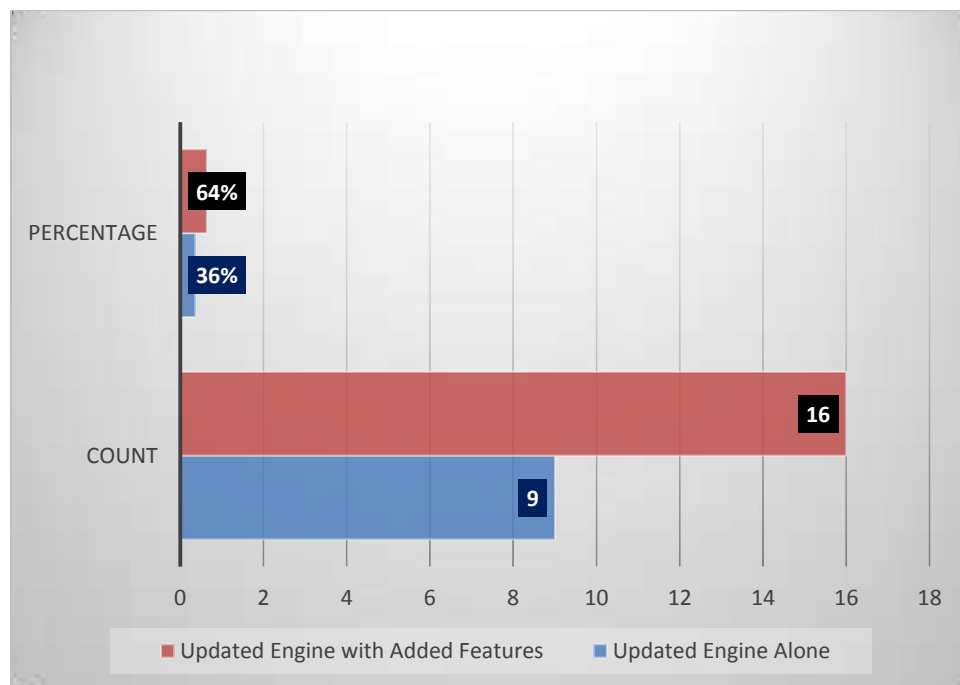
Analysis of *Table 4.15* and *Figure 4.15* describes the relation of the recent decline in sales of the car market and the introduction of BS6 pollution norms. *Figure 4.15* shows that 48% of the respondents are of the opinion that introduction of BS6 norms is one of the major reasons for the decline in automobile sales and 52% of the respondents have responded that BS6 norms don't stand as a reason for the recent decline in sales of the automobile industry.

Table 4.16 : Table showing BS6 update and benefits included for customers .

Options	Count	Percentage
Updated Engine Alone	9	36%
Updated Engine with Added Features	16	64%
Total	25	100%

Source : Primary Data

Figure 4.16 : Figure showing BS6 update and benefits included for customers .



INTERPRETATION

Table 4.16 and Figure 4.16 makes clear the different aspects of updates that the automobile industry has come up with while they have introduced BS6 ready cars. While the authorities have made it mandatory the implementation of BS6 compliant engines most of the companies have made updations in the features of vehicles besides the engine side. Figure 4.16 points out the fact that 64% of the car companies have come up with added features for their BS6 cars as compared

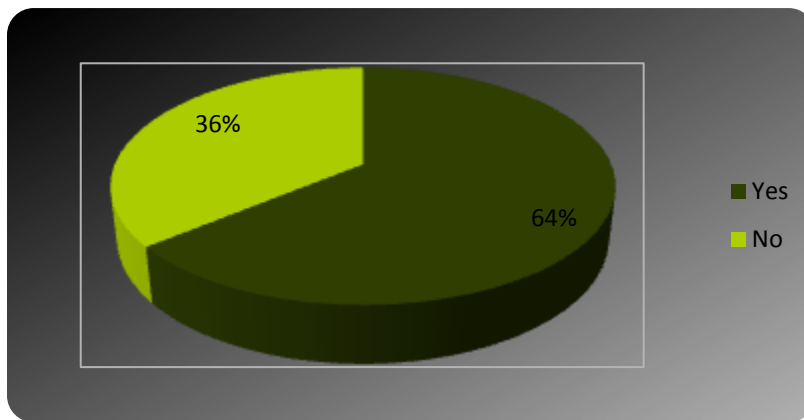
to the BS4 ones. The remaining 36% of companies have no changes at all in features of BS6 cars while they have bought updation in the engines only.

Table 4.17 : Table showing Introduction of electric cars and its possible effect on sale of internal combustion BS6 cars

Options	Count	Percentage
Yes	16	64%
No	9	36%
Total	25	100%

Source : Primary Data

Figure 4.17 : Figure showing Introduction of electric cars and its possible effect on sale of internal combustion BS6 cars



INTERPRETATION

Interpretation of *Table 4.17* and *Figure 4.17* shows the expectation on the sales of BS6 cars when electric cars will be available in the market. Introduction of electric cars stands as a relevant subject as BS6 compliant cars are claimed as less carbon-emitting and efficient and with the introduction of electric cars even more efficient and zero-carbon generating cars will be available. Analysing the responses of car dealerships it is found that 64% of the respondents are

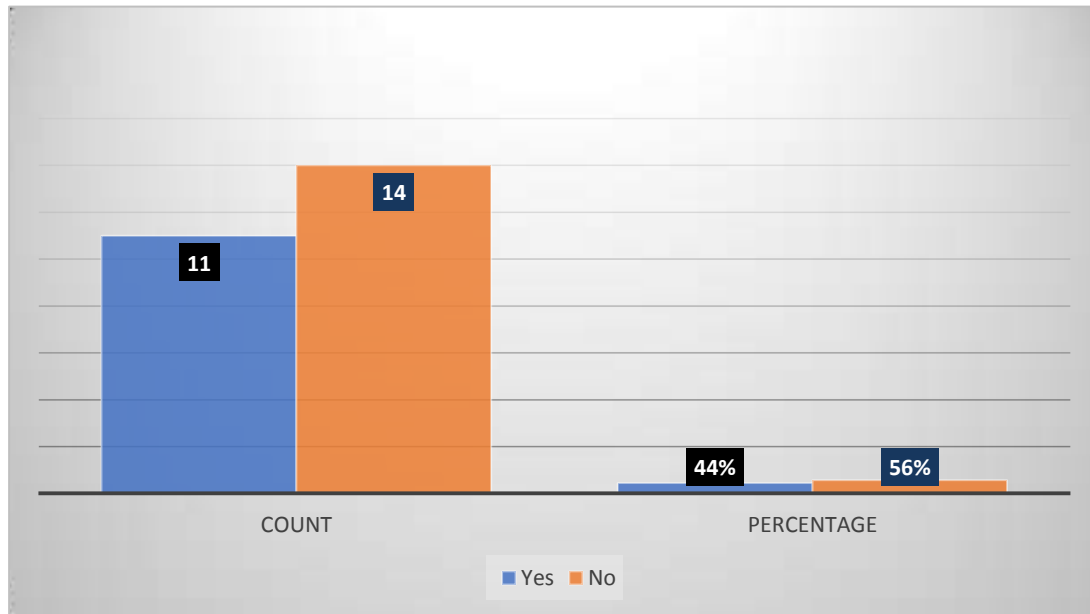
expecting that electric cars would affect the sales of BS6 cars. The remaining 36% of respondents are of the opinion that the introduction of electric cars will not affect the sales of their BS6 cars.

Table 4.18 : Table showing Increased price for cars and existing potential customers.

Options	Count	Percentage
Yes	11	44%
No	14	56%
Total	25	100%

Source : Primary Data

Figure 4.18 : Figure showing Increased price for cars and existing potential customers.



INTERPRETATION

Table 4.18 and Figure 4.18 shows the effect of BS6 norms on the existing group of potential customers of the companies. Figure 4.18 clearly shows that 44% of the car dealerships have

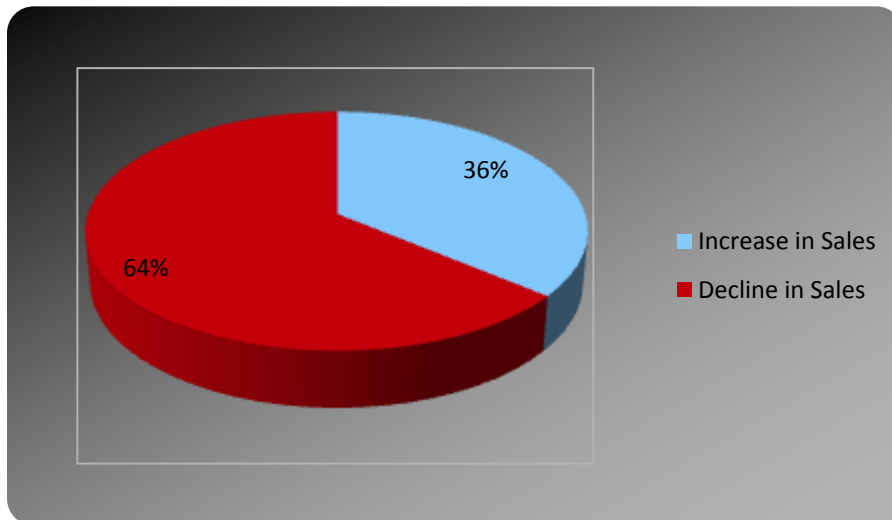
responded that the introduction of BS6 norms have reduced their potential customers as increased prices of BS6 cars have made a subsequent decline in the demand .56% of the dealerships are of the response that their potential customers have not reduced even after the price hike for BS6 cars.

Table 4.19 : Table showing Change in sales for the past 6 months.

Options	Count	Percentage
Increase in Sales	9	36%
Decline in Sales	16	64%
Total	25	100%

Source : Primary Data

Figure 4.19 : Figure showing Change in sales for the past 6 months.



INTERPRETATION

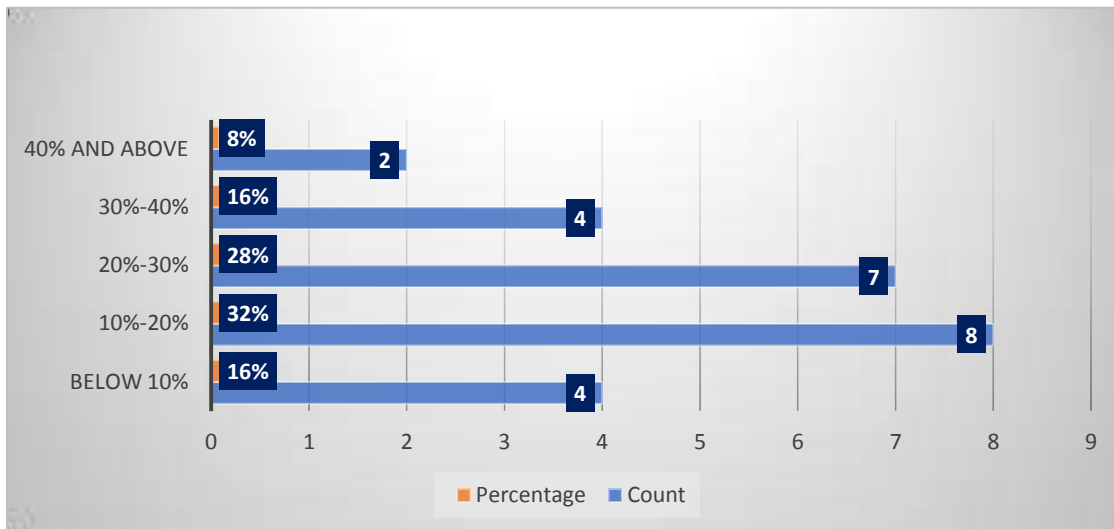
Table 4.19 and Figure 4.19 describes the type of change that has occurred in the sales of car companies for the last 6 months. Figure 4.19 gives an estimated figure of increase and decline in sales of car dealerships. Table 4.19 and Figure 4.19 shows that 64% of the car dealerships have faced a decline in sales for the past 6 months and the remaining 36% dealerships had an increase in sales for the past 6 months.

Table 4.20 : Table showing Percentage change in sales for the past 6 months.

Options	Count	Percentage
Below 10%	4	16%
10%-20%	8	32%
20%-30%	7	28%
30%-40%	4	16%
40% and Above	2	8%
Total	25	100%

Source : Primary Data

Figure 4.20 : Figure showing Percentage change in sales for the past 6 months.



INTERPRETATION

Interpreting *Table 4.20* and *Figure 4.20* gives the result of percentage change of sales for the last 6 months of car dealerships. The past 6 months is a period where the direct effect of the news of BS6 norms is visible in the automotive industry so the sales for this period acts as important data. *Figure 4.20* shows that 16% of the dealerships had a change in sales below 10%. 32% of dealerships had a percentage change between 10% to 20% in sales .28% of dealerships had a percentage change between 20% to 30%. 16% of the dealerships are having a change in sales between 30% to 40%. However, only 8% of the total respondents had a percentage change in sales of 40% and above.

CHAPTER-5

FINDINGS, SUGGESTIONS AND

CONCLUSION

5.1 FINDINGS OF THE STUDY

- The survey found that 56% of the car dealers are benefited by the introduction of BS6 norms even though there are certain strategies and challenges for them. This states that more than half of the respondents have been benefited with the updated pollution norm.
- Analysing the customer preferences from the dealer's point of view we found that around 20% of the customers strongly prefer BS6 cars over the BS4 cars. The survey also revealed that even though some of the customers strongly prefer BS6 cars, only 48% of the total customers are aware of the BS6 norm and its benefits.
- It is found that 80% of the car dealers around Ernakulam city are expecting boosted sales due to the introduction of the BS6 norm. The remaining 20% of car dealers are expecting a decline in sales as well. It is because of the rise in prices for BS6 compliant engines and their increased after-sales costs.
- The survey found that, 92% of the customers are ready to spend more money on buying the BS6 compliant cars. This shows that majority of the customers are willing to spend to comply with the updated pollution norms of the Government as well as to minimise carbon emission.
- It is found that there is only an average number of potential customers for the BS6 compliant cars. The study states that 64% of the dealers are of the opinion that they are having an average number of potential customers. This is mainly because of the lack of information regarding BS6 cars and their benefits.
- The survey found that 76% of the car dealers faced difficulty in selling out their existing stocks of BS4 cars. Therefore every car dealers around the city had introduced certain offers, discounts and incentives to sell out their stock of BS4 cars. This has created losses to certain dealerships as well.

- Car dealers around the city have taken different steps to manage the unsold stocks of BS4 cars. Most of them are planning to move these stocks (that might doesn't get soldout) to the secondhand sales or their on rent a car service.
- The survey states that the BS6 updation has bought some changes in aftersales/maintenance costs as well. The information states that 72% of the car dealers have responded that there is an increase in the maintenance cost of BS6 cars. This increased maintenace cost is one of the reasons for the lack of potential customers.
- Introduction of BS6 norm has also increased the price of cars as well.60% of the car dealers have a price hike below 50,000 Rupees and 40% of them have a price hike up to 100,000 Rupees. As the Indian society is very price-conscious this increase in price have decreased the potential customers.
- The survey has found that even if the BS6 cars has an increased price tag, most of the companies have bought certain changes and features in their BS6 cars. This strategy is mainly because of the price consciousness of Indian customers and to overcome the possibility of decline in potential customers.
- The price hike of cars have affected the existing potential customers of the companies too. Around half (44%)of the car dealers lost their existing potential customers when the BS6 norm was introduced. It was mainly because of the movement of customers towards less costly BS6 cars of alternate companies or their change in the decision of buying a car because of its high price.
- The analysis of sales figures of the dealers for the past 6 months revealed that most of the car dealers around Ernakulam city has faced a decline in sales. It is mainly in the past 6 months that the BS6 norm started affecting the car dealers and the sale of cars in an increased rate.

- The introduction of the BS6 norm is one of the main reasons for the decline in sales of the automobile industry . The responses from the car dealers have stated that 48% of them have agreed that the introduction of BS6 norm is one of the main reasons for the decline of the automobile industry in recent times.
- The introduction of BS6 norms has brought many changes and challenges for the automotive industry as well as the dealers related to it. Even the behaviour and tastes of customers are indirectly related to it. Most of the companies have to invest funds to produce cars which comply with BS6 norms.

5.2 SUGGESTIONS

The suggestions are made on the basis of the study we have done on the dealer's perspective.

- Car manufacturers should adopt newer technologies which are cost effective as well as which cope up with the government's emission standards. Adopting recent and more advanced technology will aid the manufacturers not only for the current scenario but also will be useful in the future too.
- To meet the new pollution norms the companies are compelled to invest larger amount of money. This have led to companies discontinuing their cars and incurring huge losses. So if the government takes initiatives that provide decent subsidies for car manufacturers in order to cope up with the huge investments to be made it would be a great step to promote BS6 norms.
- The car companies should intent to give more features other than the upgraded engines. Most of the manufacturers in India is focused only in upgrading the engines for meeting the pollution standards. If the companies take a notch higher and provide better features in the increased price bracket, it would attract more customers.

- India has always been a price conscious market. The consciousness of the customers have led to many brilliant products to become a flop in India. So the pricing of the new BS6 cars should be effectively done so that the potential customers are not fled away to used car market.
- Car manufacturers should intent to bring new technologies which can revolutionize the market scenario such as introduction of electric and hybrid vehicles. Electric cars are zero emission vehicles which aids to environment protection as well as these cars give the same level of convenience as the normal cars, or more level of convenience.
- The introduction of BS6 norms is used for decreasing the amount of pollution which intends to betterment in the level of environment protection , so it is the responsibility of the customers to invest more money if they're intending to buy a new car.
- According to the study , the deadline day given by the Government to implement the BS6 norms was bit too quick. As a matter so many manufacturers have not been able to sell out the existing stock of BS4 cars. According to the sellers the Government could have been a little lenient of implementing the new emission norms as the sales charts of the car sales are dull for quite a long time in the Indian market scenario.

5.3 CONCLUISON

In the past few years, exposure to vehicular pollution has worsened in India, which constitute about 30% of the total air pollution. The main intention behind implementation of bs6 norms is to reduce the pollution in the country. BS6 diesel will release less pollutants than bs4 on combustion. The Sulphur content in bs6 fuel is five times lower than bs4 fuel. The supreme court decided to skip bs5 emission norms because of this ever-increasing pollution which needs to be tackled with strict emission norms.

Euro-6, which is same as bs-6, was applicable in European nations and all the members of the EU. The euro-6 was implemented in 2015. India started one stage below Europe and maintained this gap until 2010, because the oil industry couldn't supply the low Sulphur fuel needed to jump to the next stage (BS5). Europe, meanwhile, moved to euro-6 systematically.

The main purpose of the study was to focus on the sale of cars under the bs6 norms. All the aspects related to the sales was studied, mainly the commercial aspects. The study was conducted from the perspective of the dealers and manufacturers, the challenges faced by them. The customer's willingness and their behavior towards the emission norms is also studied.

The study reveals that almost every car dealerships have been benefited by the implementation of Bharat Stage-6 pollution norms. Dealers are getting new and fresh bookings cars after the announcement of the strict implementation of BS-6 norms. According to the dealers the one negative factor considering the implementation of BS-6 is that only few customers are well aware about it. Only these few customers are willing to pay more for the BS-6 cars. Keeping the few new customers apart so many potential customers are lost due to the increased price tag of the new vehicles. Above that selling out the existing BS-4 stock in such a short span of time was a challenging task for the dealers. The dealers perspective is that the deadline day decided by the government to implement the new pollution norms was too early. India has the most complicated market , that is , the consumers here in India are not willing to make any sacrifice for the money they pay. That says India is one of the most price and value oriented market in the world.

So we came to the conclusion that , though the implementation of BS-6 has brought forward significant benefits to the automobile industry and to Mother Nature , it also has led to certain challenges in the way the automobile industry have been performing. If the government was a bit too lenient in implementing the stricter norms , the challenges could have been handled in a better manner. Also if the whole of the automotive industry try to innovate something better and greener which could actually attract the customers with what they have wanted ,it could have helped to handle the situation better.

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APPENDIX

APPENDIX

COMMERCIAL ASPECTS AND IMPACT ON MARKET OF CARS ON THE INTRODUCTION OF BS6 NORM

This survey aims at studying and evaluating the commercial aspects and impacts regarding the car market on the recent introduction of BS6 norm. Kindly answer the following questions, which would help us in completing the survey for the group project.

Survey conducted by :

Binil K Nandan, Brenda Pinheiro and David Ken

III rd year B com Taxation students, St. Paul's College Kalamassery.

We assure you that this data will be kept strictly confidential and will be used for academic purposes only.

**Required*

Name :

Brand:

Dealership:

Place:

1)Have BS6 Norms benefited the company Sales?

Yes

No

2)Do customers prefer BS6 cars over the existing BS4 cars?

Strongly Prefer

Prefer

Neutral

Do not Prefer

3) Did the Company face any difficulty in selling out the existing stock of BS4 cars?

Yes

No

4) What is the company's expectation on sales after the upcoming updation in pollution standards?

- Increase in Sales
- Decrease in Sales

5) Do you think that the customers are aware of the BS6 Norms?

- Well Aware
- Not much Aware

6) Are the customers willing to spend more money for the new updation?

- Yes
- No

7) Are there enough potential customers for BS6 Cars?

- Many
- Average
- Not Much

8) Has the company introduced any offers or discounts for the sale of existing stock of BS4 Cars?

- Yes
- No

9) What will the dealers do with the existing stock of BS4 cars that doesn't get sold by April 2020?

10) Will there be any change in after sales cost of BS6 cars?

- Increase
- Decrease
- No Change

11) If so by how much rupees?

- Below 5000
- 5000-10000
- 10000-15000
- 15000 and above

12) By how much will the prices increase when it's upgraded to BS6 compliant engines ?

- Below Rs.50,000
- Rs.50,000 to Rs.100,000
- Rs.100,000 or Above

13)Has the increase in price affected the targeted sales volume of the company?

- Yes
- No

14)Will there be any resale value for BS4 cars after the launch of BS6 cars?

- High resale value is expected
- Moderate resale value is expected
- Low resale value is expected

15)Do you think the BS6 norms is one of the reasons for decline in the automobile sales in India recently?

- Yes
- No

16)How are the customers benefited with BS6 cars?

- Updated Engine alone
- Updated Engine with added features too

17)Do you think the introduction of electrical cars will affect the sales of internal combustion cars which is BS6 ready?

- Yes
- No

18)Have the increased prices for BS6 cars reduced the potential customers?

- Yes
- No

19)Has there been any change in sales for the last 6 months?

- Increased sales
- Decline in Sales

20) What is the percentage of change in the increase/Decrease in sales for the last 6 months?

- Below 10%
- 10% - 20%
- 20% - 30%

30% - 40%

40% and above