

# Empirical analysis of market growth and consumer behaviour of Indian passenger car sector, post covid-19 response

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**ABSTRACT-**This present work report represents an empirical analysis of the market revolution of the passenger car sector of India. Passenger cars produced in India uniquely cater to the demands of low-medium-high income groups of citizens which makes this sector stand out across the other passenger car-producing countries. The Indian passenger car sector has faced significant changes in market share due to covid-19 with a remarkable contribution to the country's economy. This report contains a demand forecasting of the Indian passenger car sector and consumer behavior after the covid-19 pandemic. The study has been conducted through trend line projection analysis based on the last five years' market share. It includes a complete study of consumer behavior and their preference value of car post-covid-19.

**Keywords-**Passenger car market growth, Indian cars, Automobile market, Foreign Direct Investment, Consumer preferences post covid-19.

## I. OBJECTIVE TO THIS STUDY-

This empirical analysis is focused on the growth of market share and consumer behavior analysis of the Indian passenger car sector. The paper will help the car manufacturing companies who are already in India and those just entering the Indian market to understand Indian consumer behavior and preferences in the post-covid-19 situation. This article is also useful for car marketers to effectively strategize their policies. It includes the impacts of foreign direct investment in Indian car sectors for complete scrutiny of the Indian passenger car market.

## II. INTRODUCTION-

Indian Passenger car sector as the biggest recipient of Foreign Direct Investment (FDI) as it received 22.4 billion USD between of 2000 to 2020. The Indian Automobile Industry sectors accounts for over 7% of overall country's GDP and 22% of its manufacturing GDP.

Indian auto sector is eagerly looking forward to next business year with hopes of putting up a better show in the post Covid-19 situation, although a lot will change on how the Indian economy grows through Passenger car sectors. As it emerges from this crisis, the industry will need to restore itself to some of new realities in the post Covid-19 world. The Industry rationalizing dip in sales after additionally to curb pollution. Supreme Court of India has mandated that vehicle makers must manufacture, sell and register only BS-VI vehicles from April 1, 2020, to get better fuel performance and to protect the environment pollution. According to SIAM (Society of Indian Passenger car Manufacturers), industry lost around 23 billion INR due to worldwide lockdown. After national wide lockdown opened gradually, India's automakers hit the sales and factory production again. From June-December, profits and revenue grew by double digits. Some of example (ISIN database)- Maruti Suzuki India Ltd.'s (INE585B01010) Posted a 24% year over year rise in net profit by December. Mahindra & Mahindra Ltd.'s (INE101A01026) also surged 252% year over year while revenue grew 11.29% quarter on quarter. Tata motors Ltd.'s (INE155A01022) posted a 35% year over year increase revenue in India. After gradually opened up the national wide lockdown Indian Passenger car sectors has been started its recovery on the basis of some new market trends, such as-

Preference for personal mobility- As this pandemic has made a significant change of consumer habits and behavior. People they don't want to travel in public transport more, majority of them are very careful about health and hygiene and looking for own personal vehicle, as per there financial stability. This remarkable changes of consumer behavior has provide the inspiration to the auto-makers, specially entry level vehicle category, as covid-19 has also impacted on peoples

personal finance due to losses of jobs, medical treatment, and rising of FMCG and daily essentials. Digitalization- This covid-19 pandemic has significant accelerated towards digitalization, including augmented and reality of virtual technologies. Traditional marketing event such as auto shows, promotional exhibition are very costly but this digitalization is pretty much less than traditional things. Moreover, moving towards digital from traditional has started from Marketing 3.0 to Marketing 4.0 shifting, as human centric marketing is very essential for upcoming business. To provide superior customer experience company has work more on digitalization which is beneficial in two ways one is cost friendly and another one is trending marketing demand.

Innovative technologies- In adapting post covid-19 scenario consumer will always prefer health and hygiene features in their vehicle. In addition, there is a considerable point that budget friendly model. With these BS-VI norms, there is again technological race for perfect autonomous and electric vehicle segment. Implementing new technologies is the biggest turning point for new market segment, some technologies are very essential for modern generation those are going to implemented in next 10 years in highly competition, such as-

Level  $\frac{3}{4}$  Autonomy, which is a technological implement in machine learning and data character, that will enable the validate safety of autonomous system.

Micro mobility, it is again a technological advancement for inside city vehicle for small movement included road mapping features.

Electric vehicle, as its going to be the game changer of Indian passenger car sectors, which is far better than petrol/diesel motors interims of maintenance cost and pollution rate.

Solid-state battery, when the whole economy is looking forward to E-car, a good battery service is very essential to enrich the better performance of vehicle.

Wire-less technology again a trending technological implementation, not only for cars, its everywhere.

Purpose built enabling technologies, is a completely new infrastructure design for autonomous vehicles, to maintain its self-balancing algorithms & predictive maintain service.

Segments wise available passenger car in India –

SUV Segment- SUV stands for Sports Utility Vehicle made anywhere for off-road, which having better suspension. Some examples of

famous SUV cars in India- Mahindra Thar, Hyundai Creta, Kia Seltos, Mahindra Scorpio, MG Hector, and these all are ex-showroom pricing between 10-20 lac INR, quite expensive as per Indian consumers.

Compact SUV Segment- So gradually, people are looking for alternatives (Compact SUV) of these cars in their budget such as Kia Sonet, Renault Kiger, Hyundai Venue, Nissan Magnate, Mahindra KUV100 NXT, and these all are ex-showroom pricing between 6-10 lac INR.

Sedan Segment- Sedan segment, having separated boot space for cargo and three-box bodies: the front box is home to the engine; the middlebox is larger and houses the passengers; and the third box, located in the rear, is the trunk. Some famous Sedan cars in India such as Hyundai Verna, Honda City, Skoda Rapid, Toyota Yaris, Maruti Suzuki Ciaz these are all ex-showroom pricing between 10-12lac INR. Therefore, it is again a choice for those who can afford this segment, as it is a sophisticated segment.

Hatchback Segment- Hatchbacks cars having the feature of fold-down second-row seating, where it is interior can be reconfigured to prioritize passenger or cargo volume. Moreover, infamous Hatchback cars in India such as Maruti Suzuki Swift, Swift Dzire, Maruti Suzuki Alto, Renault Kwid, Hyundai I10, Tata Altroz, Tata Tiago, Maruti Suzuki Wagon R, Maruti Suzuki Celerio, and these all are ex-showroom pricing between 3-6 lac INR. Therefore, this segment is very perfectly suited for the overall Indian consumer.

Luxury Segment- BMW X1, BMW 5 Series, BMW 3 Series, BMW X3, BMW X7, Audi A4, Audi A6, Audi Q8, Audi Q2, Range Rover, VOLVO, Jaguar, Mercedes Benz S class, E class, these are very famous luxury cars in India. This segment of the car in India is used by the richest businessperson and Celebrities most. These cars are pricing starts from 40-50 lac INR and up to corer.

### III. REVIEW OF LITERATURE-

The Relationship between Economic Value Added and Market Value Added: An Empirical Analysis in Indian Automobile Industry.

Pacific Business Review –International car market. International Journal of Mechanical Engineering and Technology (IJMET) - Factor influencing consumer car purchasing in India.

The Restructuring of the Indian Automobile Industry: Indian State and Japanese Capital.

Marketing 4.0- Philip Kotler.

#### IV. RESEARCH METHODOLOGY-



#### V. DATA ANALYSIS AND INTERPRETATION-

Company Name	2016	2017	2018	2019	2020
Maruti Suzuki	47.38%	49.70%	51.00%	52.04%	52.50%
Tata Motors	5.66%	5.90%	7.00%	8.37%	7.23%
Mahindra & Mahindra	7.75%	7.50%	7.30%	8.00%	6.30%
Ford Motor India	3.00%	2.70%	2.90%	2.70%	2.20%
Renault India	4.43%	3.50%	2.40%	3.10%	3.60%
Honda cars	6.88%	5.50%	5.20%	4.60%	3.20%
Toyota Kirloskar Motor	4.70%	4.30%	4.50%	5.00%	3.30%
Nissan Motor India	1.88%	1.70%	1.20%	0.91%	2.70%
Hyundai	16.72%	16.40%	16.20%	19.20%	19.60%

Source- Google data

These are the major Passenger car Company in the Indian Passenger car sector, having a maximum market share. Out of them, Maruti Suzuki is the game-changer ever in the Indian market. The company holds a maximum market share in each single business year as it sells the maximum number of cars in India and having maximum manufacturing units. Maruti Suzuki has made its image in the Indian market as the most liable and best service provider as per Indian consumer behavior. Where the maximum number of Indian consumers are middle class, those are always looking for liable and mileage after purchase a budget-friendly car. In India, there is also a demand for luxury segment cars but it is minor as compared to other segments like SUV, Hatchback, and sedan. In India, luxury segment cars are an attraction only for high profile business executives, and for celebrities, who can afford them, so this segment car does not have any

significant market share as compared with all these mentioned brands. If we have a look at this table we can see, that each year up to 2019 market share has raised for the maximum company, but the market share has been fall in 2020 due to the Covid-19 scenario has changed the face of the world. The overall economy has been very badly affected, people have lost their jobs, faced a lot of health issues overall an economical breakdown, and because of this whole scenario industry market has fallen. However, after the lockdown started to open the things also has been started to recover and people are becoming very health conscious and they do not want to travel in public transport anymore. Everyone has been started to purchase their vehicle as per their budget, and here the major thing was budget, income level of each person has fallen and they did not have the option to go for luxury at that time.

YEAR	MARKET SHARE (Y)	X	X <sup>2</sup>	XY
2016	47.38	1	1	47.38
2017	49.7	2	4	99.4
2018	51	3	9	153
2019	52.04	4	16	208.16
2020	52.5	5	25	262.5

Trend line projection of Maruti Suzuki analysis

In a simple linear trend, the dependent variable and the independent variable can be present in the form of a straight line. As the equation of the straight line is  $Y = (a+bx)$ , where ‘a’ is the intercept and ‘b’ is the impact of the dependent variable. Since here market share needs to be forecasted, ‘Y’ is considered as the dependent variable. Market share is assumed to vary with time, the period (Year) will be the independent variable.

Formula- Time series

$$\sum Y = na + b \sum X \dots\dots\dots(1)$$

$$\sum XY = a \sum X + b \sum X^2 \dots\dots\dots(2)$$

$$\sum Y = 252.62, \sum X = 15, \sum X^2 = 55, \sum XY = 770.44$$

Substituting the values of  $\sum X, \sum X^2, \sum XY, \sum Y$  and n (number of years) in equations 1 and 2 we get,

$$252.62 = 5a + 15b \dots\dots\dots(3)$$

$$770.44 = 15a + 55b \dots\dots\dots(4)$$

By linear equation solving method, we get the value of,

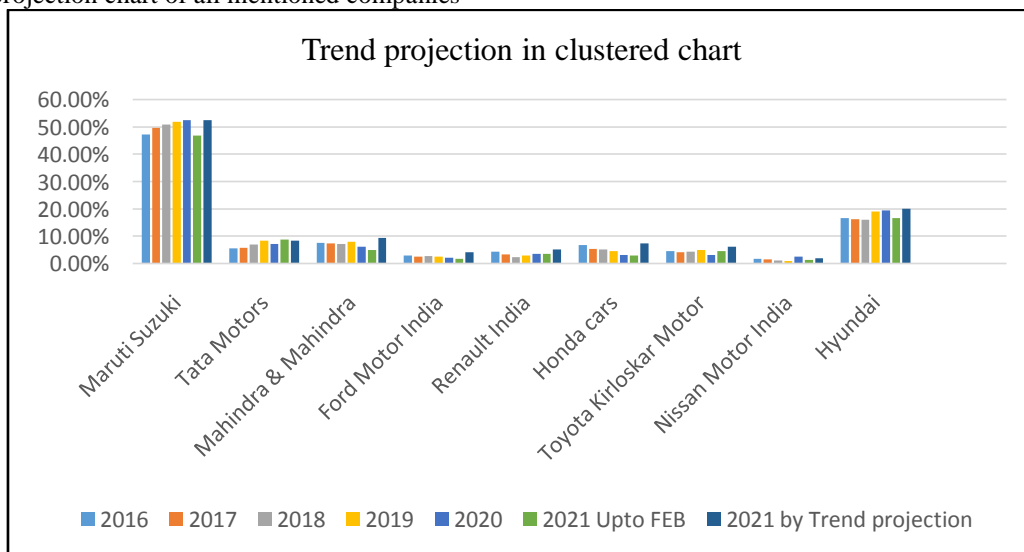
$$a = 46.75, b = 1.258$$

$$\text{As, } Y = a + bx = 52.25 (\%)$$

Company Name	2016	2017	2018	2019	2020	2021 Up to FEB	2021, by Trend Projection
Maruti Suzuki	47.38%	49.70%	51.00%	52.04%	52.50%	46.91%	52.52%
Tata	5.66%	5.90%	7.00%	8.37%	7.23%	8.82%	8.51%
Mahindra	7.75%	7.50%	7.30%	8.00%	6.30%	4.99%	9.53%
Ford	3.00%	2.70%	2.90%	2.70%	2.20%	1.87%	4.14%
Renault	4.43%	3.50%	2.40%	3.10%	3.60%	3.58%	5.26%
Honda	6.88%	5.50%	5.20%	4.60%	3.20%	3.02%	7.46%
Toyota	4.70%	4.30%	4.50%	5.00%	3.30%	4.56%	6.25%
Nissan	1.88%	1.70%	1.20%	0.91%	2.70%	1.38%	1.93%
Hyundai	16.72%	16.40%	16.20%	19.20%	19.60%	16.72%	20.19%

Hence we get the trend line analysis of Maruti Suzuki’s market share is 52.25% in 2021.

Trend projection chart of all mentioned companies



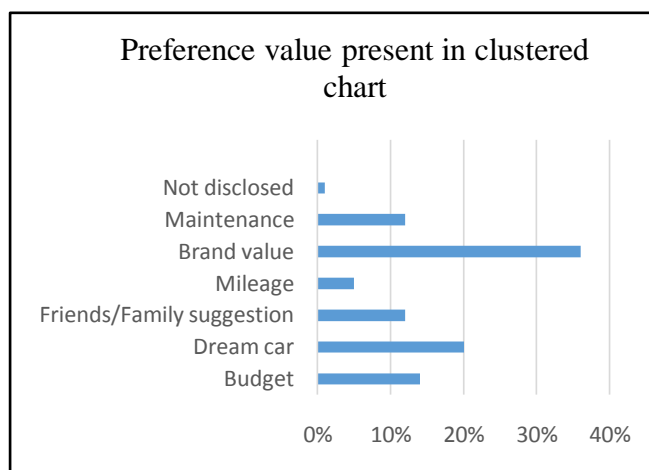
Here we have done demand forecasting through trend line projection (Time series analysis). Moreover, we can see the real market share until 2021 Feb, is about to reach to forecasted market share in just a few months as it is just near to this. While it has forecasted for the whole year and 2021

just started, so we can get the idea that if these company can generate a very minimum sales in rest of the year then hopefully it will cross the estimated values also, so here it is actually a significant change, and the industry never had before. As the Indian consumer market is very

complicated, it has included many things of each segment consumer such as income level, the standard of living, want, and demand. A passenger car company can make some significant change in

their market demand through a study of the current scenario and the buying behavior of Indian consumer can be change- Passenger car industry. Consumer's preference value of car-

Values	Percentage
Budget	14%
Dream car	20%
Friends/Family suggestion	12%
Mileage	5%
Brand value	36%
Maintenance	12%
Not disclosed	1%



## VI. DISCUSSION

To be a successful marketer in the Indian auto sector, it is essential to study the perceptions of the prospective buyers and track their buying behavior, including their Needs, Demand, and Want. It is possible only through the research process that a company will get the buying behavior of Indian consumers. With a better understanding of consumer's perceptions, passenger car companies can determine the actions that required meeting the actual need of each segment consumer. They can also identify their financial stability and lifestyle pattern, and through which marketers can do a comparison to their competitors and figure out the future progress path and further improvement. The majority of Indian consumers always look for fuel efficiency and seating capacity in the car, because of their big families and tight finance. Traditionally they want

to fulfill their necessities first and then in luxuries but nowadays everything has changed as the modern generation of Indian consumers always try to maintain equally necessities and luxury, but again there is the point that income level of Indian consumers and these things have turned some particular segment demand of the car. As a hatchback, cars are more efficient fuel performance than SUVs, MUV, but here again the equality of their necessities, safety, and luxury. Complete SUV is in high demand in the auto sector but as it is expensive, people are looking forward to compact SUV, which is budget friendly as compare to SUV and also having safety, and luxury features in the car. Moreover, Hatchback cars segment is the only option for consumer those are limited in budget only. In addition, those consumers who prefer luxury and social prestige they are always having a lot of options in the luxury car segment.



### Buying behavior of Indian consumer –Indian Passenger car Industry

The Indian consumer market is always growing up forward to development and urban lifestyles. Indian urban middle and upper-class people buying behavior largely have a western influence. As western culture is always trendy, so new technology implementation can be an influence of Indian consumers towards passenger car preferences. They always compare before making the purchase decision, liability, and extra features as compared to others in that segment. Indian consumers are much more experimental in their perspective, and they always attract foreign brands as especially European, as those countries are very advanced in technology. Therefore, by making a balance between budget and newly implemented features Indian auto industry can get a good market for their vehicles. The way of Indian consumers spending their income in various areas as they spend a lot on food. However, high-income Indian consumers always go for luxury and trendy products. The middle-income group spends more on consumer expendables than the rich do. Indian consumers always noted a high degree of value orientation; even luxury products should have a unique design. Indian consumers are always attached emotionally to their expensive purchases or assets like a car. Thus Indian consumers always pass through a large learning process such as they notice all the major and minor things too in Auto-show, new car launch and promotion of cars before they make their purchase decision. Therefore, to get a significant demand in the Indian market, auto companies have to implement all things through which they reach their consumer and can input the positive sides, different from others as compare. Implementation of new features, budget-friendly and post-purchase service quality can have the market demand in India. Here we have shown a modified model, which is a combination of marketing 5P's and marketing 5A's. Explanation of this model will help to a better understanding of Indian consumer behavior.

Some considerable points to manage a high market value in long run to Indian consumers' are-Engage holistic marketing strategy for long-term health-Successful holistic marketing required a continuous process of relationship marketing, integrated marketing, and performance marketing. Directly

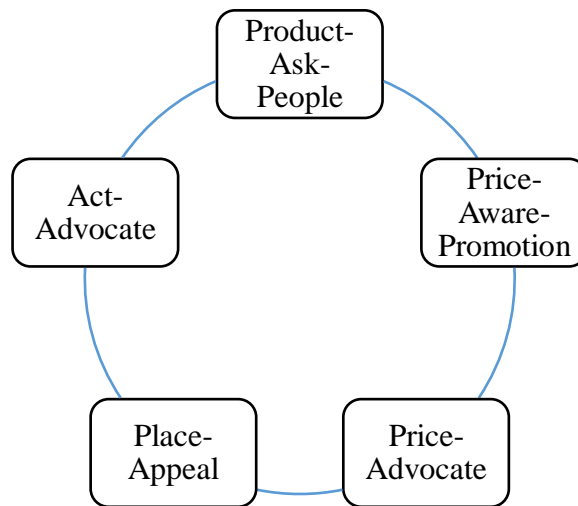
relation between the brand and consumers can provide suggestions about their expectations and level of satisfaction. Consumer empowerment, deregulations, and high market competitions are a complex reality for integrated marketing tactics and deliver a seamless consumer-centric experience.

Conducting marketing responsibility for long-term success- Truly, customer-driven marketing responsibilities include time spending with customers, listening to their problems, benchmark competitors and find out the best solutions with the help of R&D, refine the product based on market feedback. Proactively search for effective suppliers. Allocate marketing effort in a different market segment; continuously evaluate new implementation to reach customer satisfaction and quality service for a satisfying post-purchase decision.

Investing in corporate social responsibilities-The company should differentiate itself from other competitors. They need to prepare a framework for social advertising, sponsorships, health coverage, etc. Through public goodwill and stability, the company can generate loyal employees and customers too. Being a socially responsible company has always been a good impact on marketing and communications. Because sustainability-ability to meet customers' needs without harming the environment create a long-term impact on their marketing environment. E.g., Coca-Cola has appointed Chief sustainability manager.

Cause-marketing programs-To make a better brand positioning and customer brand, value importance, cause marketing is a good weapon. It enhances the brand's public image and brand loyalty to its consumers, a gateway of long-term brand positioning.

Therefore, 5P's of marketing is a very effective and oldest method of marketing strategy. Recently in a book, (Marketing 4.0) Philip Kotler has mentioned the 5A's of marketing, Aware, Appeal, Ask, Act, and Advocate. If we prepare a combined framework of these two, we can get a better explanation of implementing marketing strategy. It is just a simple combination of marketing 5P's and marketing 5A's, to justify the application better.



Mix model of marketing 5P & 5A

In this model the marketing strategies has shown a balancing act such as-

- Product-Ask-People
- Price-Aware-Promotion
- Price-Advocate
- Place-Appeal
- Act-Advocate

Product- Ask- People- Companies can follow the strategy- Consumer sides- This is what I want, won't you please make it? It means before launching a product they should have a better study about their target market that what people want, what is their demand. So first, ask the people which product they want and can work accordingly.

Price-Aware-Promotion- After the study of the market, the company should be aware people about the product, which reaches consumer satisfaction and the price of the product as per consumers' specifications demand through promotion. The company should make sure the post-purchase behavior of consumers would be excellent. Because the post-purchase decision of consumers will advocate itself.

Price-Advocate- If they feel the product is good they will suggest to others also about the all positive sides and this auto- advocacy always works better. Company and satisfied customers both can aware other customers about the price and new features and technologies in their budget segment. Nowadays digital promotion can get the audience quickly and it has very cost-friendly. Attractive content and way of communication do matter here.

Place-Appeal- as the Indian consumer market is mixed; the company should focus on the marketplace where they appeal. It is all about that

is the product demanded and suitable for this segment or not? If the answers are positive then the company can appeal to that marketplace easily and it will be successful. Place of appeal is very important for sales promotion.

Act-Advocate- Company should act as per the market demand instead of their own because the different place needs different marketing strategies to advocate people. In addition, once the post-purchase decision satisfies the consumer needs there will be auto act-advocacy. (Satisfied consumer always advocate in a better way to their friends and families who wants to purchase a car).

This model also shows that

Aware-I knows- people will aware only when they know about the product, the positive sides of it, price, different features, so to make them aware a proper marketing communication has to be done from the company side.

Appeal-I like- before making the purchase decision consumer follow the consumer decision-making process, they collect information and alternative with a comparison of prices and features. Therefore, if the company make the product as per the market demand consumer will like it and they will appeal for the product.

Ask-I is convinced- if the consumer prefers the product after all collected information about alternatives and prices they will ask the dealer about the product so here, marketing communication public relations of the brand should be implemented to communicate with its customer in a better way. Advocate-I recommended- after a satisfying post-purchase behavior of consumer auto-advocacy recommend the product itself. As an example, BMW users are satisfied with its car and

they always recommend BMW whenever it is about luxury segment car.

As companies are usually turning from many traditional strategies to digital strategies-, some advantages are such as new communication tactics, deduction of cost, easily adaptable for new generations, get target audience easily. These can help marketers to optimize their marketing efforts. Recently Philip Kotler has mentioned 5A's of marketing, which having a very effective impact on modern business because of marketing 4.0 (moving traditional to digital). Today's companies are facing more challenges like quick competitors' reactions, price transparency, etc. The above model can be utilized to get recovery from these problems. It is a combined model of marketing 5P's and marketing 5A's. If we see over here a balancing formulation between these, passenger car companies can implement their brand strategies according to Indian consumer behavior. Indian consumer behavior is very mixed as India has a mixed economy and the difference of income level is very high between people. India is a country where upper class, upper-middle-class, middle class, lower class everyone is influence by western culture, they can adapt very easily.

## VII. CONCLUSION-

Human behavior, culture, the standard of living, and income level are key points considerable for a consumer before making the purchase decision and post-purchase decision. While Covid-19 has changed the face of the world, everything has changed accordingly. The country's economy has fallen like never fall before, and people are finding the most suitable way out of their living, in this scenario, they are looking for the necessity first & last and those are capable after this they are seeking a little bit of luxury. Therefore, as per the current situation, the Indian Passenger car Industry has it's a significant change where other industries are still just trying to survive. To maintain a high market share and grow further if we apply the above-modified model to better understand and implement the Indian consumer behavior, it will help a lot. This study on passenger car market demand and consumer behavior is the key points considerable to reach customer satisfaction and long-term brand positioning. It is a continuous implementing process because consumer behavior change according to consumer empowerment and influences. Therefore further classifications of human behavior based on a huge major class of consumers behavior determinants and expectations as product-technology oriented, social-economic

oriented, geographical, demographical. Especially for the Indian consumer market, a medium-budget car will be able to penetrate the market as compared with expensive cars, luxury segments. This is because of low-income consumers' demand.

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