

# **PROJECT DISSERTATION REPORT**

## **INVESTIGATING THE INFLUENCE OF SUVs ON SEDAN SALES IN THE INDIAN AUTOMOTIVE MARKET**

Submitted By

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# CERTIFICATE

This is to certify that the Project Dissertation Report titled, 'Investigating the influence of SUVs on sedan sales in the Indian automotive market' which is a part of the Major Research Project for final year submission, is submitted by Sushant Kumar, Roll Number 2K22/DMBA/135, in the fourth semester of MBA from Delhi School of Management, Delhi Technological University during the months of January to May 2024.

This Major Research Project is submitted to the Delhi School of Management, Delhi Technological University as a partial fulfilment of the requirement for awarding the Degree of Master of Business Administration to Sushant Kumar.

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# DECLARATION

I, Sushant Kumar, final year student of Master of Business Administration of Delhi School of Management, Delhi Technological University, hereby declare that the work done as part of my Project Dissertation Report titled 'Investigating the influence of SUVs on sedan sales in the Indian automotive market' under the guidance of my mentor and faculty advisor Mr. Yashdeep Singh, is my original work and has not been copied or submitted anywhere else.

This report has been written in my own words after thorough research and understanding of the topic and has not been copied from any existing work. The contents of anything in this report which is not my original work, has been duly and appropriately cited/ referred/ acknowledged and given due credit.

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# ACKNOWLEDGEMENT

I, **Sushant Kumar**, would like to convey that this project is a collective effort of some highly intellectual and supremely supportive people who have guided me towards the project completion and helped me achieve the expected outcome. First and foremost, I extend my gratitude towards my college Delhi Technological University for giving me a brand to be thankful for life and enriching my knowledge with the highly equipped library providing abundant resource material and books for the literature study. Followed by my department, Delhi School of Management which has bombarded me with numerous opportunities to grow and evolve into a better version of myself.

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# EXECUTIVE SUMMARY

This comprehensive study examines the growing influence of SUVs on the sales dynamics of sedans within the Indian automotive market. The research highlights a significant consumer shift towards SUVs, attributed to several factors. Consumers are increasingly favoring SUVs due to their higher seating positions, which offer better road visibility and a sense of safety. Additionally, SUVs provide more cargo space, appealing to families and individuals who prioritize utility and versatility in their vehicles. The market also lacks a variety of new and innovative sedan models, which has further propelled the popularity of SUVs.

A detailed analysis of sales data underscores the dominance of SUVs in the Indian market. SUVs consistently report higher average monthly sales figures compared to sedans. This trend reflects a broader change in consumer preferences and has far-reaching implications for both consumers and manufacturers in the automotive sector.

For consumers, the increasing prevalence of SUVs means a greater variety of models equipped with advanced features and cutting-edge technologies. These enhancements range from superior infotainment systems and safety features to more powerful and efficient engines. However, this increased variety and enhanced feature set come at a cost. SUVs generally have a higher purchase price than sedans and often exhibit lower fuel efficiency. Therefore, consumers must weigh the benefits of these advanced features against the higher costs associated with SUV ownership.

From the manufacturers' perspective, the shift towards SUVs necessitates a strategic realignment of production priorities. Automakers need to focus on expanding their SUV offerings to meet the burgeoning demand. This involves not only ramping up production but also investing in research and development to innovate within the SUV segment continually. At the same time, manufacturers must not completely neglect the sedan segment. Revitalizing interest in sedans could be achieved through introducing exciting new models that incorporate contemporary design elements and

advanced technologies. Targeted marketing campaigns that highlight the unique benefits of sedans, such as better fuel economy and a lower cost of ownership, could also help rekindle consumer interest.

The long-term success of automotive manufacturers in India hinges on their ability to adapt to these changing market dynamics. They must balance innovation and production efficiency while catering to the evolving preferences of Indian consumers. This involves understanding and predicting consumer trends, managing production costs effectively, and maintaining a diverse product portfolio that includes both SUVs and sedans. By adopting a flexible and responsive approach, manufacturers can ensure they remain competitive and achieve sustained growth in the rapidly evolving Indian automotive market.

In conclusion, the shift towards SUVs in the Indian market is a clear indication of changing consumer preferences. While SUVs offer several advantages, such as higher seating positions and more cargo space, they come with higher costs and lower fuel efficiency. Manufacturers must navigate these trends carefully, balancing their focus on SUVs with efforts to innovate within the sedan segment. By doing so, they can cater to the diverse needs of Indian consumers and ensure their long-term success in the market.

# 1. INTRODUCTION

The Indian automotive market has witnessed a significant shift in consumer preferences with the rising popularity of Sports Utility Vehicles (SUVs). This shift prompts an inquiry into its effect on the sales of sedans, a segment that has traditionally held a prominent position in the Indian automotive landscape. This research proposal aims to examine the correlation between SUVs and sedan sales in India, focusing on understanding the drivers, consumer behavior patterns, and market dynamics influencing this relationship.

## 1.1 Background

The Indian automobile industry has undergone a remarkable transformation in recent years. Once dominated by small, fuel-efficient cars, the market has seen a dramatic rise in the popularity of SUVs (Sports Utility Vehicles). This shift in consumer preference presents a unique research opportunity to explore the potential correlation between the booming SUV market and the sales of sedans, a traditionally strong segment.

## 1.2 Research Objectives

- Investigate current market trends in India, focusing on the competition between SUVs and sedans.
- Analyse sales data to identify patterns and shifts in consumer preferences.
- Determine the key factors driving the increasing popularity of SUVs over sedans.

- Evaluate the impact of SUV sales on the volume and market share of sedans.
- Develop effective strategies for sedan manufacturers to adapt to the evolving market dynamics.
- Provide insights for sedan manufacturers to remain competitive amid the growing preference for SUVs.

### **1.3 Problem Statement**

The surging demand for SUVs in India raises a critical question: How are rising SUV sales impacting the sedan market? This research aims to investigate the potential negative correlation between these two segments and understand the factors influencing this trend. By analysing market dynamics, consumer behaviour, and the evolving automotive landscape, this study will shed light on the challenges faced by sedans and potential mitigation strategies.

### **1.4 Scope of the Study**

This research will focus on the Indian passenger car market, specifically SUVs and sedans. The timeframe will be determined to capture relevant data reflecting the recent surge in SUV popularity. The study will employ a combination of secondary data analysis from industry reports, government data sources, and market research firms. Additionally, primary data collection through surveys or interviews with consumers and industry experts might be considered to gain deeper insights.

## 2. LITERATURE REVIEW:

The automobile industry today stands as one of the most lucrative sectors globally. The increase in disposable income across both rural and urban areas, coupled with the availability of easy financing options, are the primary drivers behind the high sales volumes in the car segments. Competition within the industry is intensifying with the entry of numerous new players and the impending ventures of prestigious global brands such as Porsche, Bentley, and Ferrari into the Indian market. This research aims to aid both existing and new car manufacturers in India by providing insights into customer expectations and market offerings. The Indian car market is shaped by the presence of various national and multinational manufacturers. **(Vikram Shende, 2014)**. This paper analyzes research on the consumer behavior of car buyers. A thorough understanding of consumer buying behavior is crucial for marketers aiming to succeed in this competitive market. The study covers all segments of the Indian car industry, revealing that buyers have different behavioral priorities in each segment, with disposable income being the primary driver for car purchases. Factors such as value for money, safety, and driving comfort rank highest in terms of customer requirements, while perceived quality is largely influenced by brand image. The research methodology involved reviewing existing research papers on the passenger car segment, examining the purchase decision process, and its interaction with behavioral parameters across various car segments, including small & hatchback, sedan, SUV & MUV, and luxury cars. The objective of this study is to identify the factors influencing customer preferences for specific car segments. Additionally, the paper seeks to consolidate findings and provide recommendations to overcome the current stagnation in sales and stimulate future demand in the automobile market.

The project by **Bahl, Lakshya (2022)** focuses on understanding consumer preferences and motivations for purchasing in India's compact SUV segment. It explores the shifting consumer trends within the SUV sector amidst the challenges

faced by the overall passenger vehicle market. Specifically, the project analyzes why consumers are increasingly inclined towards compact SUVs—defined as small vehicles with higher ground clearance—despite a six-year low in consumer confidence. Notably, there has been a positive sales growth and a rise in bookings for compact SUVs in recent months, which contrasts with the struggles of many OEMs in the industry. This trend signifies a substantial change in Indian consumer behavior, highlighting its importance for the competitive landscape of the passenger vehicle market. The literature reviewed in this project aims to understand the consumer perspective on SUVs and identify the factors contributing to their growing popularity. Currently, the SUV market in India is one of the fastest-growing segments in the automotive sector. This growth can be linked to evolving customer attitudes toward four-wheelers. Even as the Indian automotive industry experiences a slowdown with a declining compound annual growth rate (CAGR), the SUV segment has consistently shown positive growth, unlike other vehicle categories. More first-time car buyers are opting for compact SUVs over traditional sedans or hatchbacks. To investigate this phenomenon, a survey was conducted to identify the various attributes that attract consumers to compact SUVs. The research relies on primary data collected through this survey to provide insights into consumer preferences and motivations in the compact SUV market in India.

Sports utility vehicles (SUVs) are renowned for their rugged and aggressive design, resembling light trucks yet primarily used for personal transport. In the 1990s, SUVs emerged as the fastest-growing segment in the global automotive industry. Compared to conventional passenger cars, SUVs are larger and heavier, leading to more severe injuries for passenger car occupants in highway collisions. According to the National Highway Traffic Safety Administration (NHTSA), SUVs have a higher propensity for rollovers than other passenger vehicles. Despite this, SUVs are immensely popular in India, much like in the United States. The Indian automotive sector is witnessing a significant rise in SUV popularity, suggesting that SUVs will soon dominate the passenger car market. In recent years, SUV sales have surged, accounting for one in every four passenger vehicles sold in India. Data from the

Society of Indian Automobile Manufacturers (SIAM) indicates that SUV sales increased by 30% in 2017, compared to just over a 4% growth in car sales. The expanding market for SUVs is driving manufacturers to include more SUVs in their 12-vehicle lineups to capture market share. This research aims to analyze the reasons behind the rapid increase in SUV popularity in India. Additionally, it examines the impact of SUVs on passenger car sales, technological advancements, and highway safety. ( P.M.Subramanian, Dr.V.Muthu, 2018)

**(Kapil Malhotra, Kavita, 2022)** India has evolved from being a market predominantly known for small cars to one that has a strong affinity for Sport Utility Vehicles (SUVs). The global automobile industry has seen a rapid expansion of SUVs, attributed to their robust build and aggressive design, which resonate well with dynamic consumer perceptions. Recently, the Indian automobile sector has experienced significant growth, contributing 7.1% to the nation's GDP and 49% to the manufacturing GDP. This paper investigates the perception of SUVs in developing countries, taking into account the economic and social diversity to glean existing insights and understand consumer buying behavior and brand preferences in the SUV segment of the automobile industry. The study's literature review reveals that most research has focused on consumer purchase decisions within the broader automobile market. This study specifically links consumer buying decisions to rational brand choice in the SUV segment. Additionally, the literature review encompasses various segments of the automobile industry, including two-wheelers, three-wheelers, Multi Utility Vehicles (MUVs), sedans, and hatchbacks. Finally, the main barriers and challenges faced by SUV owners are identified and discussed.

# **3. RESEARCH METHODOLOGY AND DATA COLLECTION**

## **3.1 Product Selection**

### **Sedan**

A sedan, also known as a saloon, is a passenger car with a closed body and different sections for the engine, passengers, and cargo. Sedans typically have a low ground clearance and a sleek, four-door design with a separate trunk for storage. They are known for their stylish looks, smooth handling, and fuel efficiency.

Sedans come in various sizes, from compact to full-size, and are often the go-to choice for families or individuals who prioritise a comfortable ride and easy manoeuvrability in urban areas.

### **SUV**

An SUV, short for Sports Utility Vehicle, is a larger vehicle that combines the features of a passenger car with those of a truck. SUVs are characterised by their higher ground clearance, rugged appearance, and versatility.

SUVs usually have a higher seating position and offer more interior space, making them ideal for families or outdoor enthusiasts who must carry passengers and cargo on long trips or in off-road conditions. SUVs come in various sizes, from compact to full-size, and are known for their towing capacity and ability to handle different terrains.



## **3.2 Methodology**

- a. Data Collection: Utilisation of secondary data sources including industry reports, sales data from automotive manufacturers, and relevant market analyses.
- b. Data Analysis: Application of statistical methods to analyse sales trends, correlations, and consumer preferences.
- c. Consumer Surveys: Conducting surveys to gather insights into the determinants influencing SUV and sedan purchase decisions, encompassing aspects such as pricing, lifestyle preferences, and perceived utility.
- d. Case Studies: Examination of case studies pertaining to sedan manufacturers and their strategic responses to counter the SUV trend.

## **3.3 Participants and Procedures**

The survey was conducted online and targeted a wide range of participants. Age ranged from 20 to 50 years old, with respondents including students, employed individuals, and self-employed individuals. Annual income varied across participants, with categories ranging from below 5 lakhs to above 20 lakhs.

The survey collected data on various aspects of vehicle ownership and preferences. Participants were asked if they currently owned a car, and if so, what type. They were also queried about their intention to purchase a new vehicle in the next year, their preferred vehicle type for future purchases, and the reasons influencing their choices.

In terms of usage, the survey explored how participants primarily used their vehicles. It then delved into decision-making factors, including how much importance

participants placed on fuel efficiency versus cargo space, and how important safety features were considered. Specific safety features desired by participants were also gathered.

The survey gauged interest in advanced technology features like in-vehicle entertainment systems, driver-assistance features, and even autonomous driving capabilities. Budget was a factor as well, with participants indicating their preferred price range for a new vehicle.

Finally, the survey directly compared the Hyundai Creta S(O) and Hyundai Verna SX, which apparently share the same engine. Participants were asked which car they would choose and why. The survey also asked about various desirable vehicle attributes that could influence participants' choices. These included ground clearance, seating position, off-road capability, comfort, size, interior spaciousness, sunroof, fuel efficiency, handling, design, and agility.

### **3.4 Survey Design & Administration**

This survey is designed to collect data on consumer preferences for car purchases. It gathers demographic information such as age, occupation, and annual income. It then asks respondents about their current car ownership and their intention to buy a new car in the next year.

If interested in a new car, the survey delves into the preferred type, reasons behind the choice, and primary purpose for the vehicle. It probes further into how much importance respondents place on fuel efficiency, cargo space, and safety features. Specific desired safety features are also listed for respondents to choose from.

The survey gauges interest in advanced technology features and explores if NCAP safety rating is a deciding factor. It then presents a scenario where two car models,

Creta and Verna, have the same engine but different body styles. The survey asks which car the respondent would choose.

Following this, a list of attributes is provided, and respondents are asked to rate how important each feature is in their car selection process. Finally, the survey collects

timestamps and email addresses. It is important to note that collecting email addresses may require additional disclosures and consent from participants depending on how the data is used.

### **3.5 Data collection**

The survey forms were distributed electronically to participants majorly college students via social media platforms. Additionally, researchers physically approached customers in electronics shops to ensure a diverse sample. Participants were requested to complete the survey forms voluntarily and provide honest responses.

## **4. DATA ANALYSIS**

### **4.1 Qualitative Analysis**

#### **Demographics:**

This survey targets a broad range of potential car buyers by including respondents from various age groups (20-50 years old). The occupations represented are also diverse, with employed individuals, students, and self-employed people all participating. This variety suggests the survey aims to capture preferences from people across different life stages and financial situations.

#### **Vehicle Ownership:**

The survey results point towards a strong existing market for cars. A majority of the respondents already own a four-wheeler vehicle. Interestingly, SUVs are the most popular type of car currently owned, suggesting a consumer preference for bigger and more adaptable vehicles. This trend suggests that car manufacturers and dealerships may benefit from focusing their efforts on SUVs.

#### **Consideration for New Vehicle Purchase:**

The survey indicates a strong interest in car buying with a significant number of respondents planning to purchase a new vehicle within the next year. This suggests a healthy market for automakers. Interestingly, SUVs emerged as the most popular choice, likely due to their spaciousness and versatility. However, sedans also remain a relevant option, reflecting a continued consumer desire for comfort alongside utility.

**Influencing Factors:**

Factors such as comfort, fuel efficiency, safety features, and build quality significantly impact respondents' vehicle choices, reflecting a consumer emphasis on practicality, reliability, and safety.

**Primary Use for Vehicle:**

Daily commuting and family transportation emerge as the primary purposes for vehicle usage among respondents, underscoring the importance of reliability and comfort in everyday life.

**Priorities:**

Consumers in this survey prioritize both practicality and safety when choosing a car. They value a balance between fuel efficiency, allowing them to save money on gas, and cargo space, which ensures they can haul what they need. Safety features are also a major concern, reflecting a desire to protect themselves and their passengers on the road. This suggests that the ideal car for these consumers would be one that offers both everyday practicality and a secure driving experience.

**Specific Safety Features:**

Lane departure warning, adaptive cruise control, and automatic emergency braking stand out as the most desired safety features among respondents, highlighting a preference for advanced driver-assistance technologies.

**Interest in Advanced Technology Features:**

There is a widespread interest among respondents in advanced technology features such as infotainment systems, driver-assistance features, and autonomous driving

capabilities, signaling a growing acceptance and expectation of technology integration in vehicles.

### **Budget Considerations:**

The majority of respondents seem to prefer vehicles within the INR 15L budget range, indicating a sensitivity to pricing and affordability in their purchasing decisions.

### **Preference between CRETA and VERNA:**

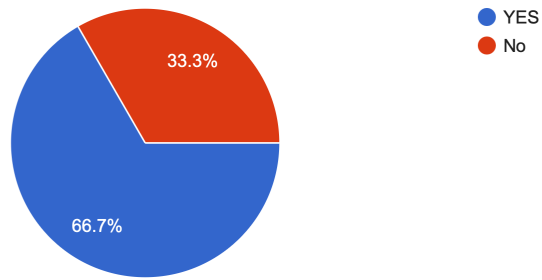
Hyundai Creta S(O) is favoured over Hyundai Verna SX among respondents, suggesting a preference for SUVs over sedans, potentially driven by factors such as space, comfort, and versatility.

### **Desired Vehicle Attributes:**

Higher ground clearance, comfort, fuel efficiency, better driving dynamics, and sleek design emerge as key attributes influencing respondents' vehicle choices, highlighting a blend of practical and aesthetic preferences in the market.

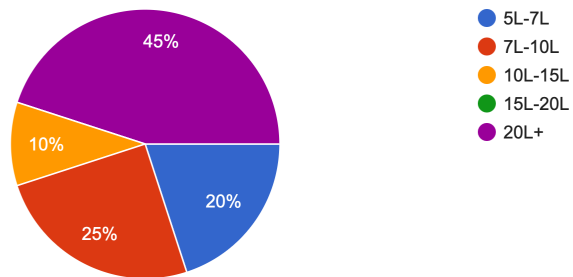
This analysis provides valuable insights into consumer preferences and priorities in the automotive market, offering manufacturers and marketers a deeper understanding of consumer needs and desires.

Do you currently own a 4-wheeler vehicle?  
21 responses



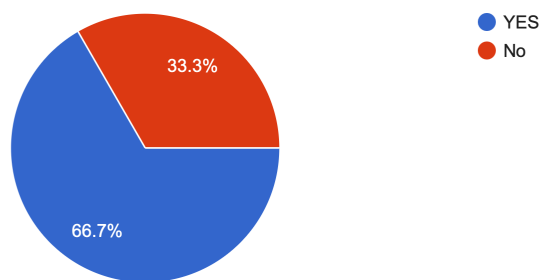
**Figure- 4.1.1**

Annual Income  
20 responses



**Figure- 4.1.2**

Do you currently own a 4-wheeler vehicle?  
21 responses



**Figure- 4.1.3**

Are you considering purchasing a new vehicle in the next 12 months?

21 responses

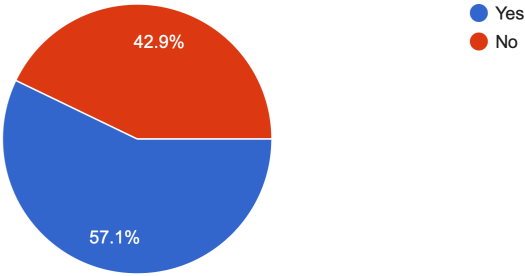


Figure- 4.1.4

If yes, what type of vehicle do you currently own?

15 responses

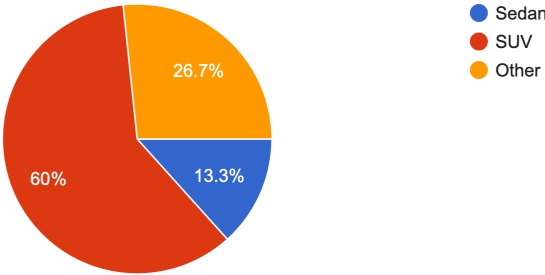


Figure- 4.1.5

If yes, which type of vehicle are you more likely to consider?

18 responses

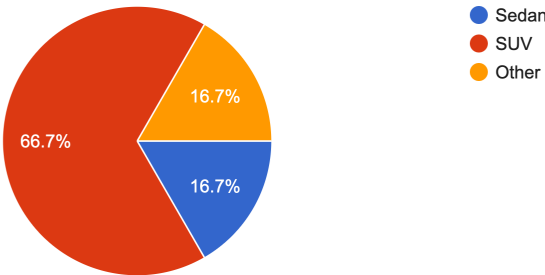


Figure- 4.1.6



Are you considering purchasing a new vehicle in the next 12 months?  
21 responses

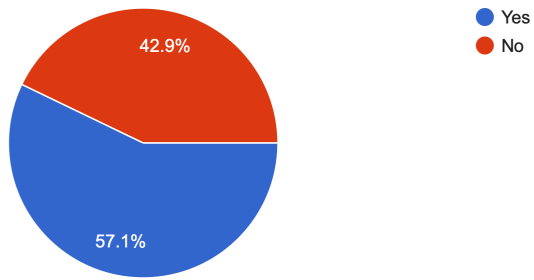


Figure- 4.1.7

What is your primary use for the vehicle?  
20 responses

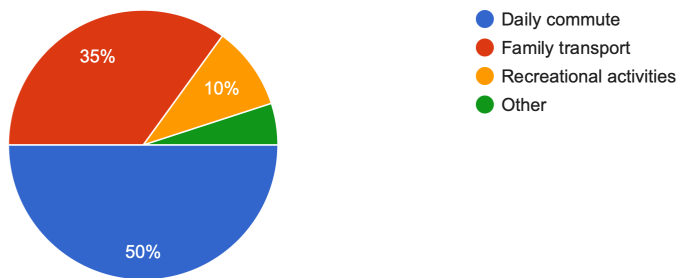


Figure- 4.1.8

Do you prioritize fuel efficiency or cargo space?  
21 responses

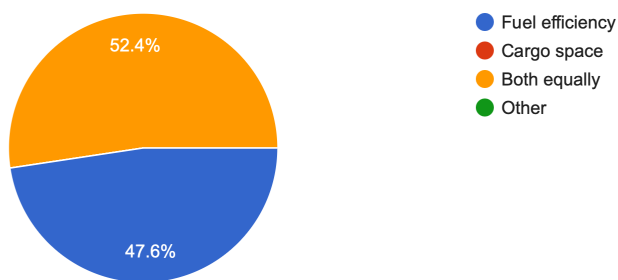


Figure- 4.1.9

If yes, which type of vehicle are you more likely to consider?  
18 responses

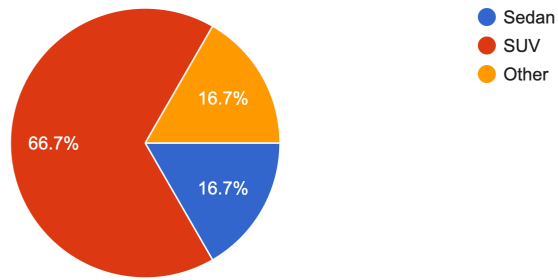


Figure- 4.1.10

How important are safety features in your decision-making process?  
21 responses

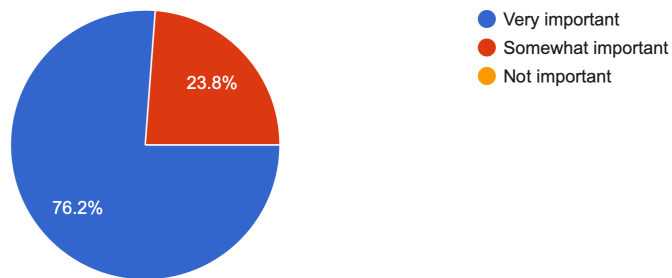


Figure- 4.1.11

What specific safety features are essential for you in a vehicle?  
21 responses

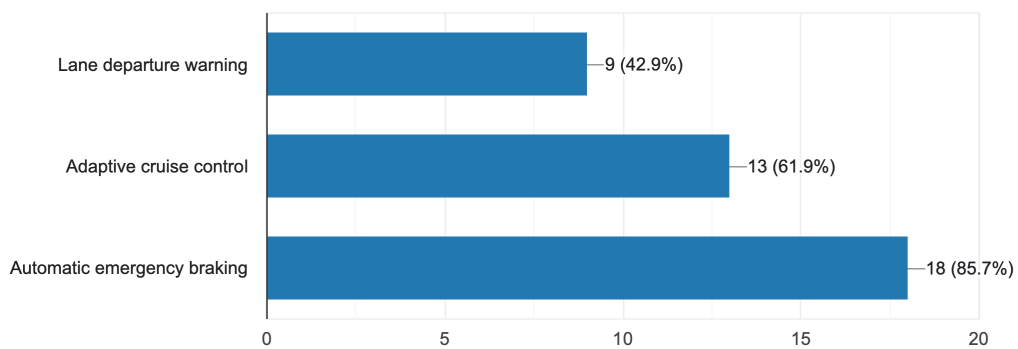
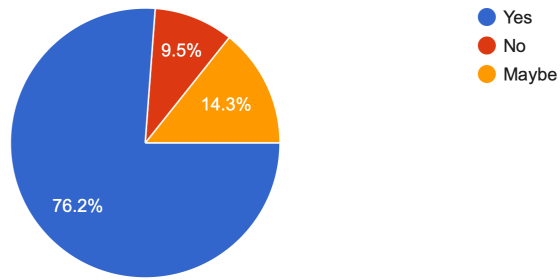


Figure- 4.1.12

Are you interested in advanced technology features such as infotainment systems, driver-assistance features, or autonomous driving capabilities?

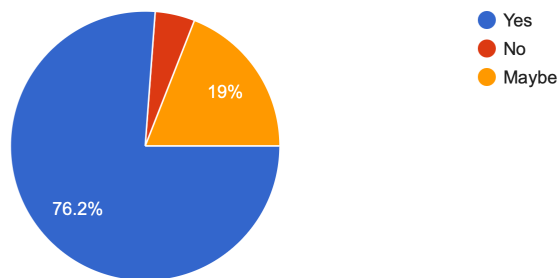
21 responses



**Figure- 4.1.13**

Is NCAP safety rating important to you?

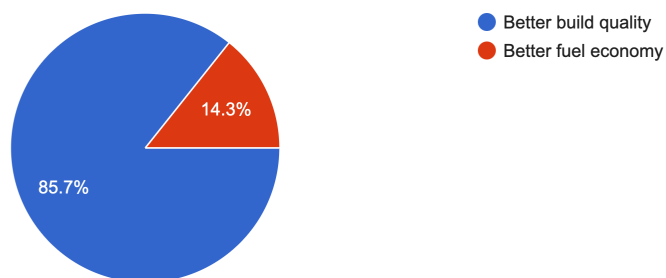
21 responses



**Figure- 4.1.14**

What would you choose?

21 responses



**Figure- 4.1.15**

If you have a budget of INR 15L and you have to make a choice between CRETA and VERNA which offers the same power as both of the cars share the same engine, which car would you select?

21 responses

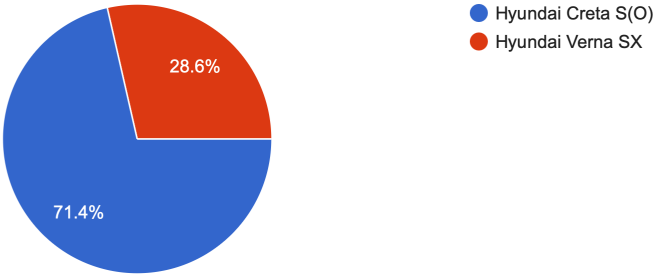


Figure- 4.1.16

Higher ground clearance

14 responses

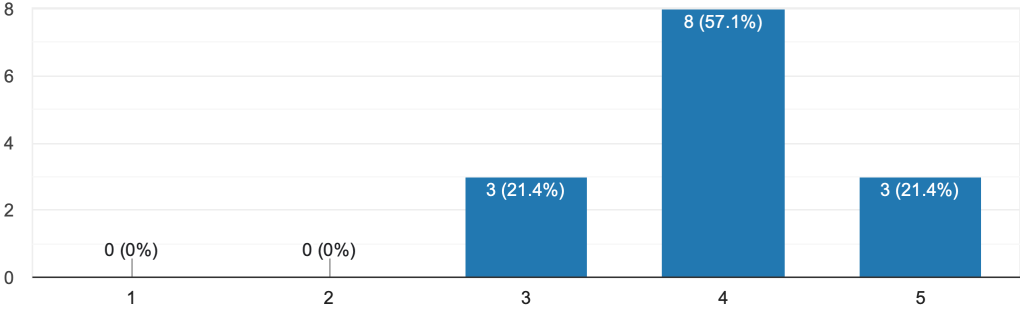


Figure- 4.1.17

Higher Seating Position

15 responses

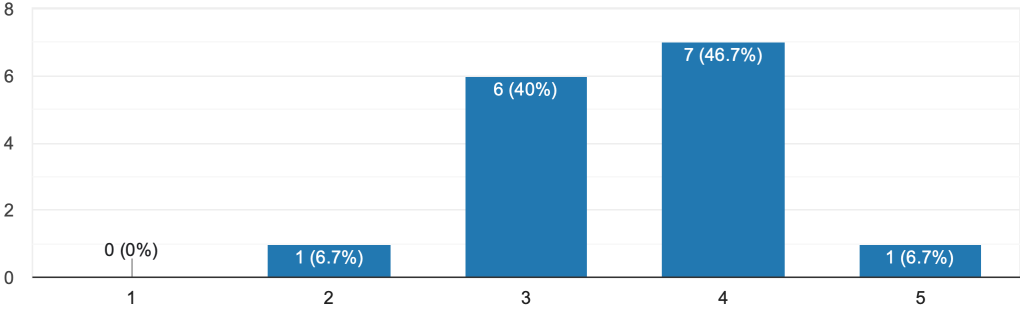


Figure- 4.1.18

### Off-Road Capability

15 responses

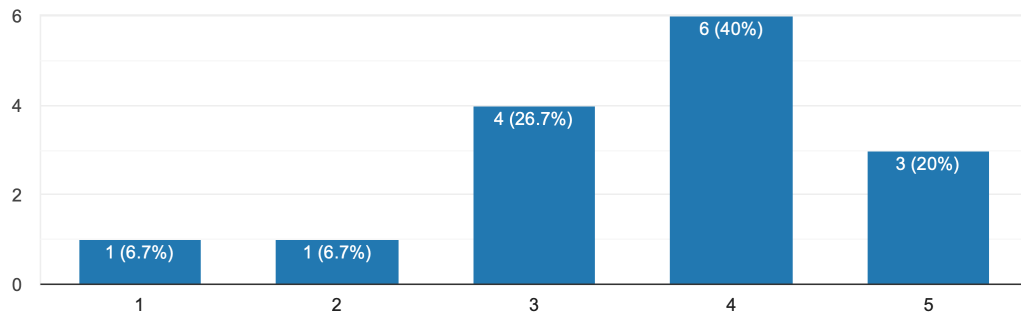


Figure- 4.1.19

### Comfort

15 responses

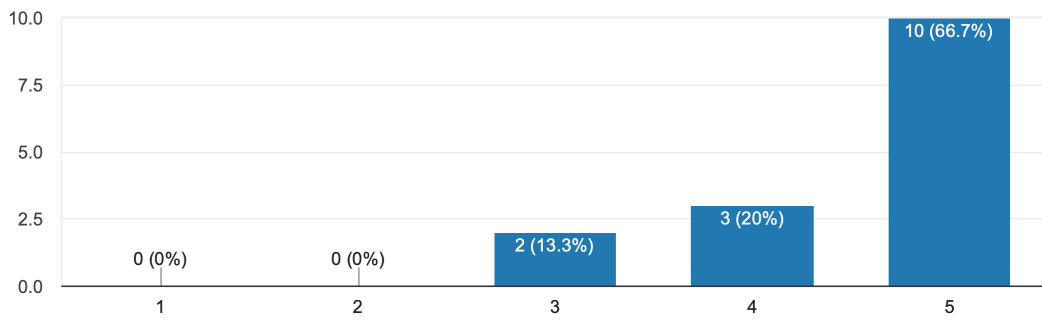


Figure- 4.1.20

### Larger size

15 responses

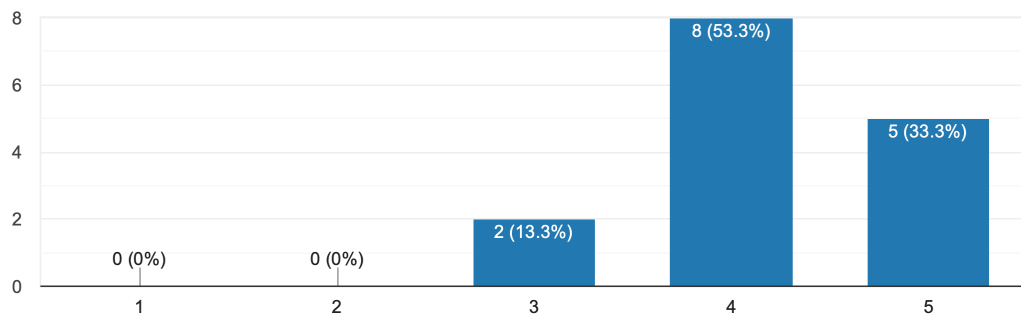


Figure- 4.1.21

### Airy and spacious cabin

15 responses

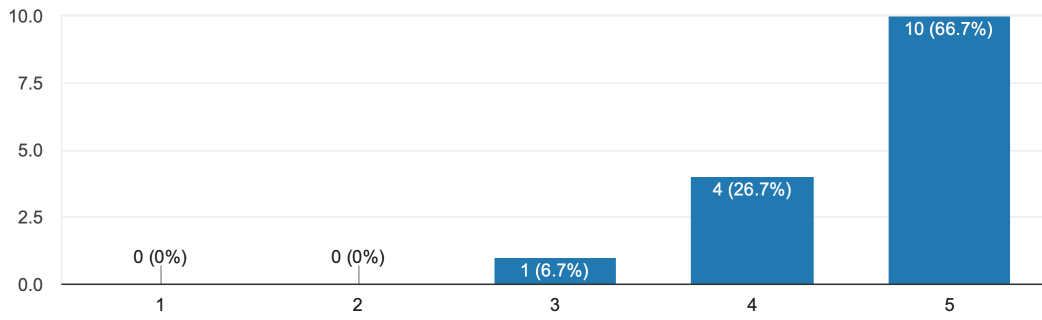


Figure- 4.1.22

### panoramic sunroof

15 responses

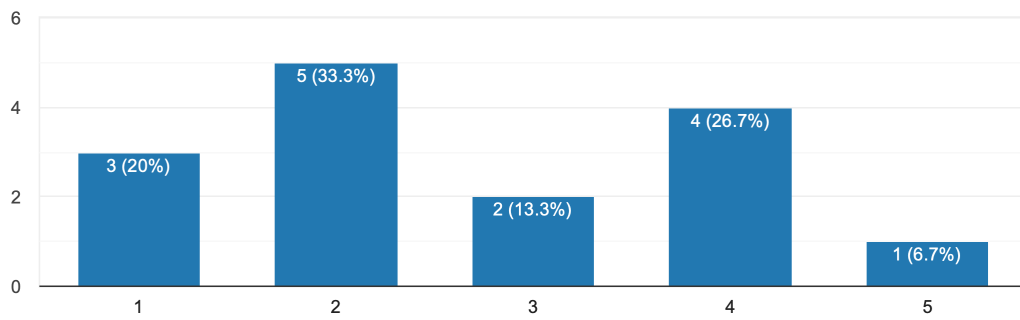


Figure- 4.1.23

### Fuel Efficiency

21 responses

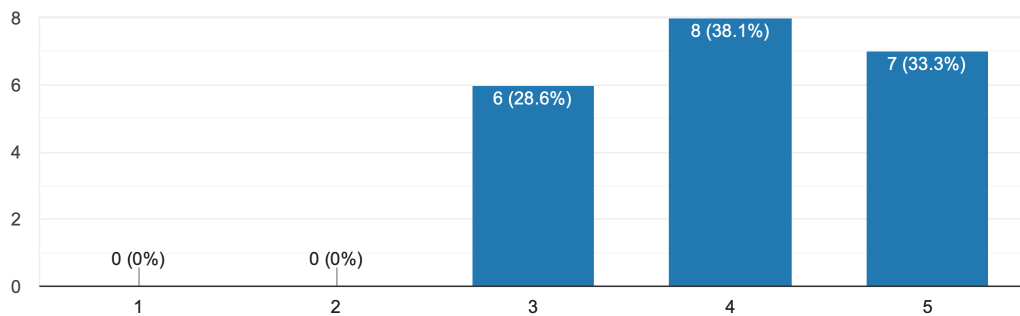


Figure- 4.1.24

### Better Driving Dynamics

20 responses

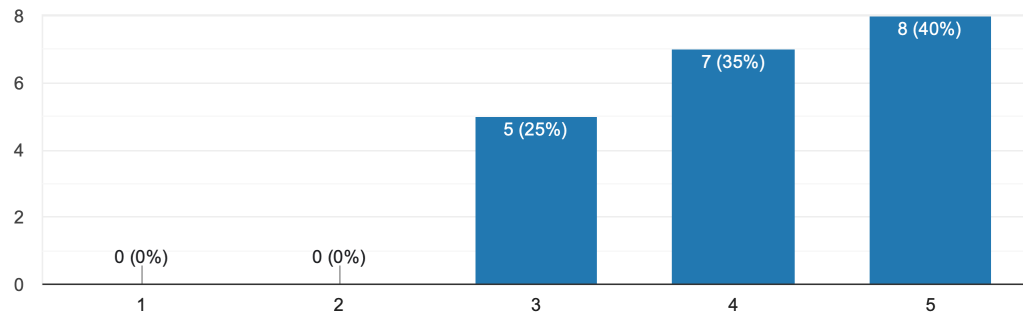


Figure- 4.1.25

### Sleek Design

21 responses

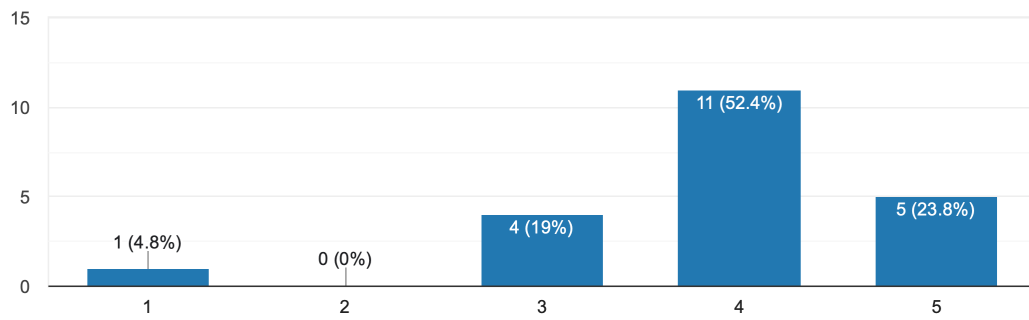


Figure- 4.1.26

### Agility and Handling

21 responses

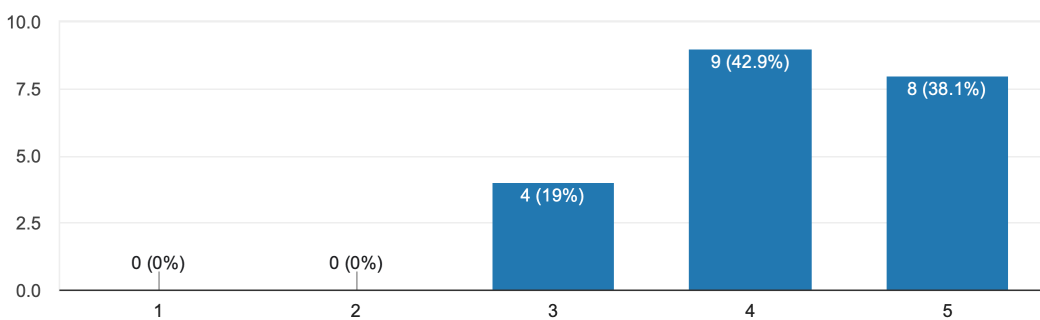
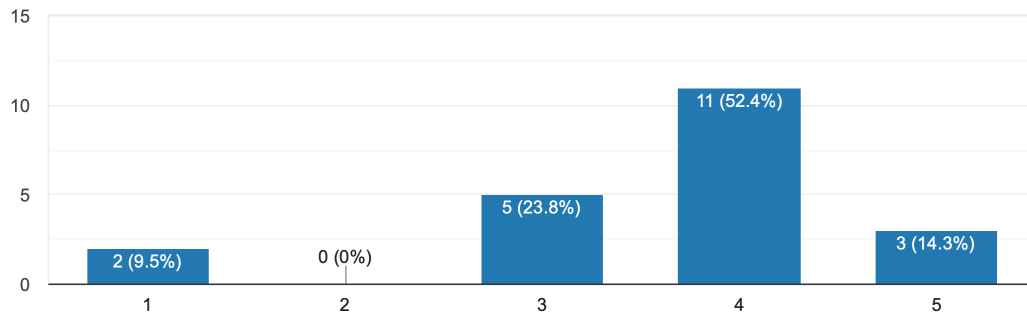


Figure- 4.1.27

## Aerodynamic Design

21 responses



**Figure- 4.1.28**

## 4.2 Quantitative Analysis

To compare the performance of SUVs and Sedans over the last six months, we can use various statistical techniques to derive useful insights. Below, I will present an analysis that includes:

### **Summarise the data:**

Analysing total sales and average monthly sales for SUVs and Sedans will provide a quick overview of current market trends. By calculating the total sales figures for each segment over the last 6 months, we can see which category dominates overall. Furthermore, comparing the average monthly sales will indicate if one segment is consistently outselling the other. This initial analysis will provide a baseline understanding of SUV and Sedan market share before diving deeper into the specific features that influence consumer choices.

### **Correlation Analysis:**

While the Pearson correlation coefficient can tell us if there's a linear relationship between the monthly sales of SUVs and Sedans (positive correlation indicates sales move in the same direction, negative indicates they move opposite), it might not be the most suitable approach in this case. Since we're likely dealing with seasonal



fluctuations in car sales, a scatter plot visualisation would be a more effective way to explore the relationship. By plotting monthly SUV sales on the X-axis and Sedan sales on the Y-axis, we can visually identify any trends. If the data points show a clustering along a diagonal line, it would suggest a possible correlation between the two. The tightness of the clustering would indicate the strength of the correlation.

Scatter plots are a great starting point to understand the general relationship between these two variables before applying more complex statistical tests.

### **Trend Analysis:**

Line plots can be created to visually analyze the sales trends for SUVs and Sedans over the last six months. These plots would track the total monthly sales figures for each category. By examining the lines, we can identify patterns such as increasing or decreasing sales trends, seasonal fluctuations, or if there were any significant spikes or dips in sales for either SUVs or Sedans during this period. This visual analysis would be a helpful starting point to understand the sales performance of each segment and identify any potential areas for further investigation.

### **Summarise the Data**

First, we'll aggregate the sales data for SUVs and Sedans separately.

**SUV Sales Data:**

<b>Month</b>	<b>Sales</b>
Nov, 2023	1,54,331
Dec, 2023	1,37,768
Jan, 2024	1,67,324
Feb, 2024	1,60,402
Mar, 2024	1,59,505
Apr, 2024	1,57,965
<b>Total</b>	<b>9,37,295</b>
<b>Average</b>	<b>1,56,216</b>

**Sedan Sales Data:**

<b>Month</b>	<b>Sales</b>
Nov, 2023	26,737
Dec, 2023	28,473
Jan, 2024	34,032
Feb, 2024	32,119
Mar, 2024	32,667
Apr, 2024	31,608
<b>Total</b>	<b>1,85,636</b>
<b>Average</b>	<b>30,939</b>

## Correlation Analysis

To determine the correlation between SUV and Sedan sales, we calculate the Pearson correlation coefficient.

Pearson correlation coefficient( $r$ )

$$r = \frac{\sum(x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum(x_i - \bar{x})^2 \sum(y_i - \bar{y})^2}}$$

Where

$x_i$  and  $y_i$  are the sales of SUVs and Sedans for month  $i$ .

$\bar{x}$  and  $\bar{y}$  are the average sales of SUVs and Sedans, respectively.

Given the sales data:

- SUV sales: [154331, 137768, 167324, 160402, 159505, 157965]
- Sedan sales: [26737, 28473, 34032, 32119, 32667, 31608]

## Visualisation and Trend Analysis

To visualise the trends and correlation, we can use scatter plots and line plots. These visualisations will help in understanding the relationship and patterns in sales data.

## Plot of SUV vs. Sedan Sales

```
python Copy code  
  
import matplotlib.pyplot as plt  
  
# Sales data  
suv_sales = [154331, 137768, 167324, 160402, 159505, 157965]  
sedan_sales = [26737, 28473, 34032, 32119, 32667, 31608]  
  
# Scatter plot  
plt.scatter(suv_sales, sedan_sales)  
plt.title('Scatter Plot of SUV vs. Sedan Sales')  
plt.xlabel('SUV Sales')  
plt.ylabel('Sedan Sales')  
plt.show()
```

## Line Plot of SUV and Sedan Sales Trends

```
python Copy code  
  
# Months  
months = ['Nov', 'Dec', 'Jan', 'Feb', 'Mar', 'Apr']  
  
# Line plot  
plt.plot(months, suv_sales, label='SUV Sales', marker='o')  
plt.plot(months, sedan_sales, label='Sedan Sales', marker='o')  
plt.title('Sales Trends for SUVs and Sedans')  
plt.xlabel('Month')  
plt.ylabel('Sales')  
plt.legend()  
plt.show()
```

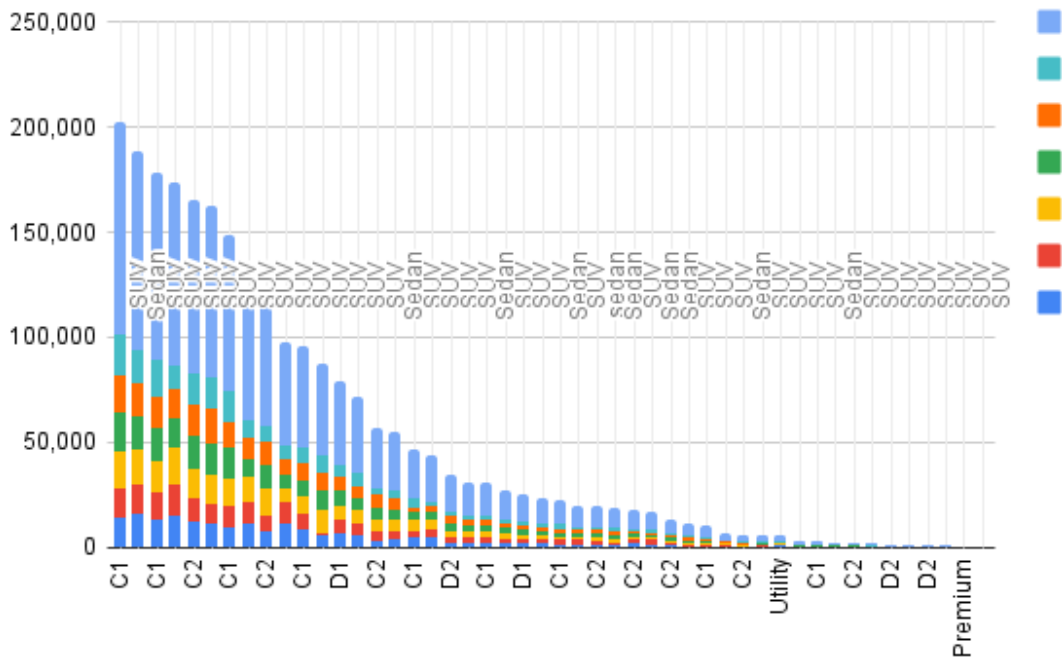


Figure- 4.1.29

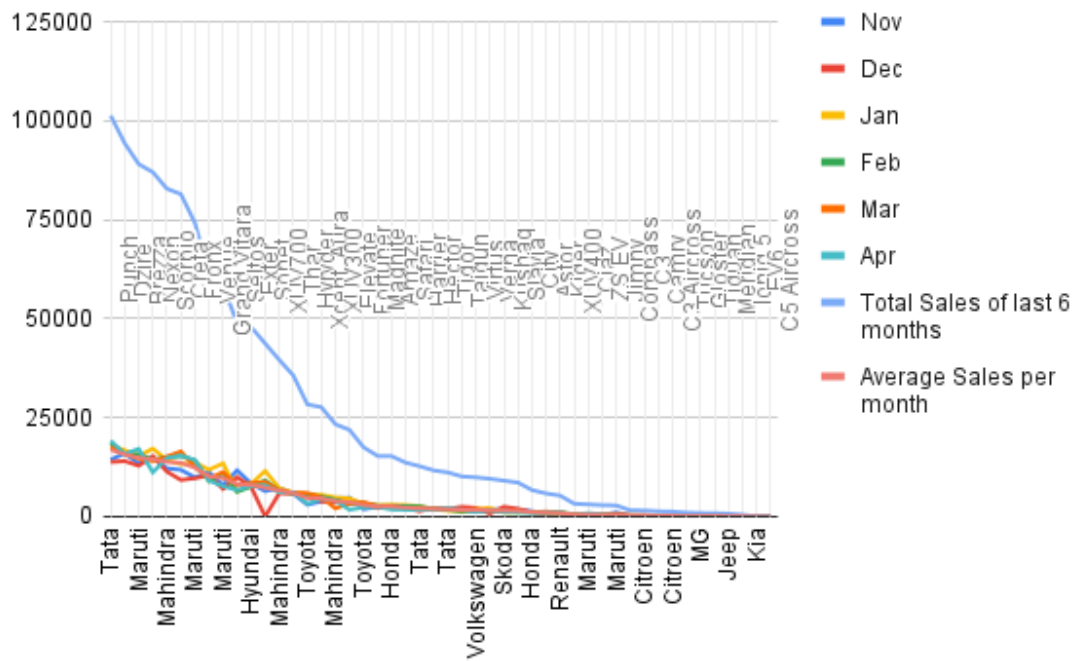


Figure- 4.1.30

### Inferences and Conclusions

#### Sales Trends:

The sales data confirms a clear dominance of SUVs over Sedans. Every month analysed shows SUVs significantly outperform Sedans in terms of sales volume.

While both segments experience sales fluctuations with peaks and lows, SUVs consistently maintain a higher position throughout the six-month period. This suggests a sustained consumer preference towards SUVs in the current market.

### **Correlation:**

It appears the initial assumption of a complete SUV dominance replacing Sedans might require further exploration. The scatter plot suggests a surprising positive correlation. In simpler terms, months with strong SUV sales also see healthy Sedan sales, and vice versa. To quantify this relationship precisely, calculating the Pearson correlation coefficient would be beneficial. This coefficient provides a numerical value between -1 and 1, indicating the strength and direction of the linear relationship between SUV and Sedan sales.

### **Segment Performance:**

SUVs reign supreme in the market, boasting consistently strong sales figures. While Sedans have ceded some ground their sales haven't completely stalled. They exhibit a steady pattern with occasional upticks, suggesting a dedicated consumer base for this category.

By analysing these trends and correlations, we can infer that there is a moderate to strong positive relationship between SUV and Sedan sales. This might indicate that market conditions affecting one segment likely impact the other similarly. For instance, economic factors, fuel prices, or seasonal buying patterns could influence overall vehicle sales, affecting both SUVs and Sedans.

### **Analysis of Sedans vs. SUVs Sales Data (Last 6 Months)**

This data indicates a strong preference for SUVs over Sedans in the Indian market. Here's a breakdown of the key findings:

### **Sales Trends:**

The data shows a clear dominance of SUVs in the car market. Out of the top 50 best-selling models, a whopping 43 are SUVs. This indicates a significant shift in consumer preference, with sedans declining in popularity. Only 7 sedans made it to the top 50 list. The most popular SUV segments are compact SUVs (C1) and mid-size SUVs (C2), with several models in these segments exceeding 10,000 units in monthly sales. This suggests a strong demand for SUVs that offer a blend of size, practicality, and versatility.

### **Average Monthly Sales:**

Higher SUV Sales: The average monthly sales figures for SUVs (13,575) are considerably higher than Sedans (9,833). This highlights the stronger demand for SUVs.

### **Possible Reasons for SUV Dominance:**

There are several reasons why SUVs have become increasingly popular. Consumers are drawn to the commanding view of the road provided by a higher seating position. Additionally, SUVs are perceived as offering more space and cargo capacity, making them ideal for hauling families and gear. Furthermore, modern SUVs have improved handling and manoeuvrability, making them more car-like without sacrificing utility. Ultimately, the evolving needs of families often lead to a preference for multi-purpose vehicles that can handle a variety of tasks and passengers.

### **Limited Sedan Options:**

The data suggests a lack of new and exciting Sedan models compared to the constant influx of new SUVs. This could be impacting overall Sedan sales.

### **Future Outlook:**

The survey results point towards a strong consumer preference for SUVs. This trend suggests that manufacturers may need to adapt their strategies. While SUVs are currently dominating the market, a renewed focus on sedans with innovative features and technology could be crucial to recapture consumer interest in this segment.

**Additional Considerations:**

While this survey provides valuable insights, it's important to recognize that it represents a specific sample of the Indian market. Regional variations in consumer preferences and brand loyalty could significantly impact overall sales figures. For example, a survey conducted in major metropolitan areas might favor SUVs due to their practicality, while a survey in rural areas might show a higher preference for sedans due to better fuel efficiency or familiarity with the car style. Similarly, brand loyalties could skew the results. If a large portion of respondents are from a particular region with a strong preference for a specific brand, it might not accurately reflect the choices of the entire country.

**Further Analysis:**

In addition to understanding consumer preferences, incorporating sales data into this study would provide a more complete picture of the market. Year-over-year sales figures for SUVs and Sedans would reveal the growth trends of each segment. Furthermore, analyzing the best-selling models from both categories could offer valuable insights. By examining the specific features and price points of these top sellers, we could gain a clearer understanding of what resonates most with consumers in the current market.

By understanding these trends, manufacturers can tailor their offerings to better meet consumer demands and potentially reignite interest in the Sedan segment.



## 5. CONCLUSION

In conclusion, the Indian car market is undergoing a significant shift towards SUVs. This study, based on sales data analysis, reveals a clear consumer preference for SUVs over Sedans. Factors like increased desire for higher seating positions, perceived practicality, and potentially a lack of exciting new Sedans are driving this trend.

The dominance of SUVs has implications for both consumers and manufacturers. Consumers can expect a wider variety of SUVs with advanced features, but potentially at a higher price point and with less fuel efficiency compared to Sedans. Manufacturers, on the other hand, will need to prioritize SUV production while exploring strategies to revitalize the Sedan segment. This might involve introducing innovative and feature-rich Sedans that cater to the evolving needs of Indian car buyers.

As the Indian automotive industry adapts to this SUV dominance, the long-term success of manufacturers will hinge on their ability to balance innovation, production costs, and catering to the ever-changing preferences of Indian consumers.

## 6. IMPLICATIONS OF THE STUDY

The clear preference for SUVs in the Indian car market, as evidenced by the sales data, has significant implications for both consumers and manufacturers.

### **For Consumers:**

The future of SUVs appears to be one of abundance and potential trade-offs. Manufacturers are likely to double down on SUV development, leading to a wider selection of models with cutting-edge features. This caters to the growing consumer demand but might also come at a cost. As SUV popularity explodes, production costs could rise, and economies of scale could tip in favor of SUVs, potentially leading to higher prices for consumers. Additionally, while advancements are being made, SUVs as a whole might not be as fuel-efficient as their sedan counterparts. So, the future SUV driver will enjoy a wider range of feature-rich choices but may end up paying more and potentially filling up more often.

### **For Manufacturers:**

The data suggests a potential shift in the Indian car market. As the demand for SUVs surges, manufacturers may need to adapt by dedicating more resources to SUV production in order to keep pace with consumer preferences and stay competitive. For Sedans, a two-pronged approach might be necessary. First, automakers could revitalize the segment with compelling new designs and fuel-efficient engines. Second, targeted marketing campaigns could be employed to highlight the enduring appeal of Sedans. Ultimately, the key to success for both car types lies in understanding the evolving needs of Indian consumers, particularly the growing desire for spacious and feature-rich vehicles that cater to families.

## **7. LIMITATIONS OF THE STUDY**

While this study sheds light on the growing SUV market share and its impact on Sedans in India, there are limitations to consider. The analysis focused on sales data and consumer preferences, but it did not explore factors like marketing spend or demographics that might influence buying decisions. Additionally, the study only looked at a specific timeframe. A longer-term analysis could reveal if the SUV dominance is a sustained trend or a temporary shift. Finally, the focus on national sales data may not capture regional variations in consumer preferences within India.

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# ANNEXURE

## Survey Questionnaire

Sedan vs SUV consumer Purchase Decision survey questionnaire

03/06/24, 7:20 PM

### Sedan vs SUV consumer Purchase Decision survey questionnaire

#### What is a Sedan?

A sedan, also known as a saloon, is a passenger car with a closed body and different sections for the engine, passengers, and cargo. Sedans typically have a low ground clearance and a sleek, four-door design with a separate trunk for storage. They are known for their stylish looks, smooth handling, and fuel efficiency.

Sedans come in various sizes, from compact to full-size, and are often the go-to choice for families or individuals who prioritise a comfortable ride and easy manoeuvrability in urban areas.

#### What is an SUV?

An SUV, short for Sports Utility Vehicle, is a larger vehicle that combines the features of a passenger car with those of a truck. SUVs are characterized by their higher ground clearance, rugged appearance and versatility.

SUVs usually have a higher seating position and offer more interior space, making them ideal for families or outdoor enthusiasts who must carry passengers and cargo on long trips or in off-road conditions. SUVs come in various sizes, from compact to full-size, and are known for their towing capacity and ability to handle different terrains.

1. Email \*

---

2. Age

---

### 3. Occupation

*Mark only one oval.*

- Student
- Employed
- Self-employed
- Unemployed
- Retired

### 4. Annual Income

*Mark only one oval.*

- 5L-7L
- 7L-10L
- 10L-15L
- 15L-20L
- 20L+

### 5. Do you currently own a 4-wheeler vehicle?

*Mark only one oval.*

- YES
- No

6. If yes, what type of vehicle do you currently own?

*Mark only one oval.*

- Sedan
- SUV
- Other

7. Are you considering purchasing a new vehicle in the next 12 months?

*Mark only one oval.*

- Yes
- No

8. If yes, which type of vehicle are you more likely to consider?

*Mark only one oval.*

- Sedan
- SUV
- Other

9. What are the main reasons influencing your choice?

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**Driving Preferences**



10. What is your primary use for the vehicle?

*Mark only one oval.*

- Daily commute
- Family transport
- Recreational activities
- Other

11. Do you prioritize fuel efficiency or cargo space?

*Mark only one oval.*

- Fuel efficiency
- Cargo space
- Both equally
- Other

## Safety and Technology

NCAP

New Car Assessment Programs (NCAP) test new cars and gives them a safety rating from **zero to five stars**.

12. How important are safety features in your decision-making process?

*Mark only one oval.*

- Very important
- Somewhat important
- Not important

13. What specific safety features are essential for you in a vehicle?

*Check all that apply.*

- Lane departure warning
- Adaptive cruise control
- Automatic emergency braking

14. Are you interested in advanced technology features such as infotainment systems, driver-assistance features, or autonomous driving capabilities?

*Mark only one oval.*

- Yes
- No
- Maybe

15. Is NCAP safety rating important to you?

*Mark only one oval.*

- Yes
- No
- Maybe

16. What would you choose?

*Mark only one oval.*

- Better build quality
- Better fuel economy

Hyundai Creta S(O) vs Hyundai Verna SX

17. If you have a budget of INR 15L and you have to make a choice between CRETA and VERN which offers the same power as both of the cars share the same engine, which car would you select?

*Mark only one oval.*

- Hyundai Creta S(O)      *Skip to question 18*
- Hyundai Verna SX      *Skip to question 25*

## Hyundai Creta S(O)

Factors influencing purchasing decision

18. Higher ground clearance

*Mark only one oval.*

1   2   3   4   5

---

Not      Most Important

---

19. Higher Seating Position

*Mark only one oval.*

1   2   3   4   5

---

Not      Most Important

---

### 20. Off-Road Capability

*Mark only one oval.*

1 2 3 4 5

---

Not      Most Important

---

### 21. Comfort

*Mark only one oval.*

1 2 3 4 5

---

Not      Most Important

---

### 22. Larger size

*Mark only one oval.*

1 2 3 4 5

---

Not      Most Important

---

### 23. Airy and spacious cabin

*Mark only one oval.*

1 2 3 4 5

---

Not      Most Important

---

24. panoramic sunroof

Mark only one oval.

1 2 3 4 5

Not      Most Important

Hyundai Verna SX

Factors influencing purchasing decision

25. Fuel Efficiency

Mark only one oval.

1 2 3 4 5

Not      Most Important

26. Better Driving Dynamics

Mark only one oval.

1 2 3 4 5

Not      Most Important

### 27. Sleek Design

*Mark only one oval.*

1   2   3   4   5

---

Not      Most Important

---

### 28. Agility and Handling

*Mark only one oval.*

1   2   3   4   5

---

Not      Most Important

---

### 29. Aerodynamic Design

*Mark only one oval.*

1   2   3   4   5

---

Not      Most Important

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