



# The Influence Of Income On Satisfaction With Technical And Non-Technical Aspects Of Luxury Vehicles

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## Abstract

Satisfaction is the positive emotional response of customers towards a product or service, and it is the outcome of previous experience. The present study is conducted to analyse the level of satisfaction of the customers towards the Luxury Segment of cars and to analyse the influence of the income level of customers on their level of satisfaction. For this, the respondents' satisfaction with their luxury car brands was identified based on their satisfaction with technical attributes and non-technical attributes of the car. The area of the study is limited to the Ernakulam district, Kerala. Primary data was collected from 380 luxury car owners through the snowball sampling method. Findings revealed that performance is a highly considered technical factors, while the feeling of comfort is the main factor that leads to the satisfaction of non-technical attributes. A highly significant relationship remained between the annual income of the customers and their level of satisfaction on technical attributes, whereas no such association was found between the income level of customers and their satisfaction level on non-technical attributes.

**Key words:** Customer satisfaction, Luxury Car, Technical attribute, Non-technical attribute, Income class

## I INTRODUCTION

Customer satisfaction occurs as a result of good emotional reaction derived from a prior event (Wang et al., 2001). Considering customer satisfaction from a dynamic approach is beneficial to companies, particularly for high-involvement durable items, where the customers utilise the product and engage with service frequently, each transactional satisfaction of customers leads to cumulative satisfaction and thereby customer loyalty (Haralayya, 2021). When it comes to the market for luxury cars it is distinctive and stands out from the competition in terms of brand, cost, technology, accessories, specifications, performance, and added options (Loureiro and Kaufmann, 2016).

A luxury car is defined by its exceptional performance, style, and strong emotional and symbolic connections, which is generally affordable to the high-income group and provide the owner with comfort, dependability, enjoyment, and social prestige (Loureiro and Kaufmann, 2016). Price, style, social standards, performance, safety, fuel economy, spaciousness, and brand all have a big impact on whether or not someone decides to buy a luxury vehicle (Gokhale et al., 2021). As the luxury car brands rely more on the delivery of technical product knowledge, luxury brands should balance their content offerings to elicit both the sense of brand scarcity and an emotional connection with their customers.

The income and economic well-being of customers is the key indicator of their purchasing capacity and influences the standard of living of the customers who choose high-end products like luxury cars (Farhangi et al., 2014). As the growing number and desires of middle-class and upper-middle-class customers led to the democratization of luxury (Kapferer and Valette, 2016), car dealers target affluent customers who can purchase luxury cars (Stylidis et al., 2016).

The ultimate objective of luxury car business is to make profits and contribute to the growth of the companies. The study will help luxury car manufacturing companies and marketers to analyze the level of satisfaction of customers towards technical and non-technical attributes and to analyse the influence of customers' level of income on their satisfaction towards luxury cars.

## II LITERATURE REVIEW

Satisfaction is the positive emotional response of the customers and it is the outcome of previous experience (Paulssen and Birk, 2007). It reflects the extent to which the customer is satisfied with a brand, which enables to analyse of the relationship of customers with that brand (Algesheimer et al., 2005). Shirin and Puth (2011) explored that automotive customers are less price-sensitive, customer satisfaction and customer value are the main notions of loyalty.

High-quality materials, safety and social media presence leads to customer satisfaction (Koch and Mkhitarian, 2015). Innovativeness of vehicles, environmental concerns and product quality the most important determinants of satisfaction (Chu et al., 2019). Kohli and Singh (2021) examined the acceptability of emerging technological features and the influence of these on customer satisfaction in the automobile market. The results revealed that all the emerging technological features namely integration with smartphones, rearview camera, heated and cooled seats, automated window cleaning etc. are found to be attractive and result in more customer satisfaction.

Income of the customer is the basic element that determines the consumption pattern. In the case of luxury products, the higher the income level, the higher the impact on purchase decisions (Al-Abdallah et al., 2021). The income of the customers have a significant direct effect on their intention to use Autonomous vehicles (Park et al., 2021).

Among the literature explored, it is found that customer satisfaction is a powerful factors, and the study incorporated technical and non-technical factors for understanding customer satisfaction

## III STATEMENT OF THE PROBLEM

The recent expansion of luxury car markets in India encompasses much more dynamics than in other sectors. The boom in the country's wealthy class is evolving in terms of lifestyle-associated symbolic consumption. Attracting this high-income category of customers is the most essential factor for the automobile manufacturers. Hence, the present study is conducted to unveil the level of satisfaction of the customers towards Luxury Segment of cars and to analyse the influence of annual income earned by the customers on their level of satisfaction.

## IV OBJECTIVES OF THE STUDY

1. To examine the socio-economic background of the customers of luxury car
2. To identify the determinants of technical and non-technical attributes of luxury cars
3. To analyse the level of satisfaction of customers towards the technical and non-technical attributes of luxury cars
4. To analyse the influence of the income level of customers on the satisfaction of the technical and non-technical attributes of the luxury car

## V RESEARCH METHODOLOGY

The study is conducted in Ernakulam District in the State of Kerala, India. Ernakulam district, the hub of the luxury car market, is selected purposively. Snowball sampling method was adopted to arrive at the sample respondents. The questionnaire was administered to all 400 luxury car owners. Due to partial responses and unwillingness to respond, the final sample resulted with 380 valid responses. Hence the final sample resulted with 380 luxury car owners.

Primary and secondary data were used for the study. The primary data were collected using well-structured questionnaire. The secondary data obtained from the previous studies, journal articles, textbooks, newspapers, reports, conference proceedings and official websites.

Descriptive statistics were applied to categorize the respondents based on their socio-economic profile. The chi-square test was applied to determine the level of satisfaction on technical and non-technical attributes and to analyse whether a significant correlation exists between the respondents' annual income and level of satisfaction.

## VI RESULTS AND DISCUSSIONS

### 6.1 Socio-Economic Profile of the Respondents

The age-wise distribution of the respondents shows that 40.26 percent of respondents belong to the age group of 41 to 50 years, 29.74 percent of respondents were over the age of 50 years, 17.63 percent of respondents were in the age group of 30 to 40 years, while 12.37 percent of respondents were under the age of 30 years.

The male participants accounted for 81.32 percent of the total sample, while the female participants constituted 18.68 percent. Therefore, the vast majority of respondents who purchased luxury cars are male.

The educational qualification of the respondents shows that 34.21 percent are graduates, 31.84 percent have been educated up to school level, 20.53 percent of respondents were professionally qualified and the remaining 13.42 percent were postgraduates.

About 53 percent of the respondents were in business. 21.58 percent have a profession, 15.79 percent of the respondents were pensioners and agriculturalists and only 9.74 percent were employees.

About 61 percent of the respondents earn annual income of ₹25 lakhs to ₹50 lakhs and 30.53 percent of the respondents were earning between ₹50 lakhs to one crore. The annual income of 8.16 percent of respondents ranges from ₹1 crore to ₹1.5 crore

## 6.2 Brand and Period of Luxury Cars Owned by the Respondents

With respect to the brand of luxury cars owned, 23.16 percent of the respondents purchased the luxury segment of cars from Toyota, 22.89 percent owned BMW, 21.05 percent purchased the luxury cars of Mercedes Benz. 18.16 percent respondents owned luxury cars from Audi, 9.47 percent of the respondents have purchased the luxury cars from the brands of Volkswagen, and the remaining 5.26 percent have owned Porche.

While analyzing the period of using the luxury cars owned by the respondents most of them were using their car for two to three years (44.47%). About 36 percent have used their car for up to two years and the remaining 19.47 percent have usage experience of less than one year. It is inferred that the sample luxury car owners were using luxury cars for the previous three years.

## 6.3 Satisfaction of on the Attributes of Luxury Cars

Customers of luxury cars have expectations, and they anticipate attributes such as exclusivity, uniqueness, aesthetics and symbolic value. This forced the maker of luxury vehicles to assess their vehicles against rivals in the premium market as well as other manufacturers (Stylidis et al., 2016). The respondents' satisfaction on the luxury car brands was identified on the basis of their satisfaction with technical attributes and non-technical attributes of the car.

Satisfaction of respondents on technical attributes of luxury car were measured through their satisfaction with performance, safety and security, electronics, and spaces. Non-technical attributes were measured by assessing their satisfaction with status, style and design, quality and comfort. The responses were obtained through Likert five-point scale and the findings displayed in Table 1

**Table 1 Satisfaction of Respondents on Technical and Non-technical Attributes**

	Attributes	Highly Satisfied		Satisfied		Neutral		Dissatisfied		Highly Dissatisfied		Mean	S.D
		n	%	n	%	n	%	n	%	n	%		
Technical Attributes	Performance	302	79.47	70	18.42	0	0.00	2	0.53	6	1.58	4.74	0.645
	Safety & Security	258	67.89	108	28.42	4	1.05	6	1.58	4	1.05	4.61	0.694
	Useful Electronics	185	48.68	181	47.63	10	2.63	0	0.00	4	1.05	4.43	0.652
	Space	227	59.74	125	32.89	14	3.68	10	2.63	4	1.05	4.48	0.780
Non Technical Attributes	Status	264	69.47	104	27.37	6	1.58	2	0.53	4	1.05	4.64	0.65
	Style and Design	274	72.11	94	24.74	4	1.05	4	1.05	4	1.05	4.66	0.661
	Quality	276	72.63	92	24.21	4	1.05	6	1.58	2	0.53	4.67	0.634

	Comfort	290	76.3 2	78	20.5 3	6	1.58	4	1.05	2	0.53	4.71	0.60 4
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Source: Computed Data (SA-Strongly Agree, A- Agree, N- Neutral, DA- Disagree, SDA-Strongly Disagree)

As regards the respondents' satisfaction on the technical attributes of luxury cars owned by them, 97.89 percent respondents have homogenous view on their satisfaction with the performance of luxury car with the mean value of 4.74 and SD of 0.645. About 96 percent were satisfied on the safety and security features of the car (Mean 4.61; SD .694) and availability of useful electronic components (Mean 4.43; SD 0.652) and 92.63 percent respondents satisfied on the interior space of the luxury car (Mean 4.48; SD 0.780).

With respect to non-technical aspects, it is also important for luxury car buyers, they feel elited while purchasing the car. As per the opinion of respondents, 97 percent of them feel satisfied with all the elements of non-technical attributes namely comfort (Mean 4.71; SD 0.604), quality (Mean 4.67; SD 0.634), style and design (Mean 4.66; SD 0.661), and status of owning the car (Mean 4.64; SD 0.650).

#### 6.4 Association between the Attributes of Luxury Car and Satisfaction of the Respondents

The satisfaction of customers on the attributes of luxury cars were categorized in to three levels namely low, moderate and high as per quartile distribution. To assess whether any significant association exists between the attributes of luxury cars and the levels of satisfaction, the Chi-square test was applied to test the goodness of fit and the results displayed in Table 2.

H01 : The levels of satisfaction are equally distributed among the respondents regarding the attributes of luxury cars

Ha1 : The levels of satisfaction are equally distributed among the respondents regarding the attributes of luxury cars

**Table 2 Association between Attributes of Luxury Cars and Level of Customer Satisfaction**

Attributes of Luxury cars	Level of Satisfaction			Total	Chi-square Value	P value
	Low	Moderate	High			
Technical attributes	119 (31.30%)	76 (20.00%)	185 (48.70%)	380 (100%)	47.595	<0.001**
Non-technical attributes	126 (33.20%)	63 (16.50%)	191 (50.30%)	380 (100%)	64.679	<0.001**
	(28.95%)	(44.73%)	(26.32%)	(100%)		

Source : Primary Data \*\* denotes significant at 1% level

The table 2 reveals that the null hypothesis in two cases at one percent level of significance.. Hence the levels of satisfaction are not equally distributed regarding technical and non-technical attributes. There is goodness of fit.

While considering all the attributes together under technical attributes, 48.70 percentage of the respondents expressed a high level of customer satisfaction. Hence customers ought to be informed well for the entire technical attributes of the luxury car.

As regards to non-technical attributes of luxury cars, 50.30 percent of the respondents exhibited high level of satisfaction, 33.20 percent of the respondents showed low level of satisfaction and the remaining 16.5 percent are moderately satisfied with the non-technical attributes of luxury cars.



## 6.5 Association between Income and Level of Customer Satisfaction on the Attributes of Luxury Cars

The income of the customers has a significant direct effect on their intention to use Autonomous vehicles (Park et al., 2021). Hypotheses were formulated to analyse whether any significant association exists between the annual income of the customers and their level of satisfaction on the luxury cars owned by them.

H02: There is no significant association between income and the level of customer satisfaction

Ha2: There is a significant association between income and the level of customer satisfaction

The association between the income class and customer satisfaction were analysed through chi square test, and the results are displayed in Table 3.

**Table 3 Annual Income and Level of Customer Satisfaction on the Attributes of Luxury Cars**

Annual Income	Customer satisfaction towards Technical attributes			Customer satisfaction towards Non-technical attributes		
	Low level	Moderate level	High level	Low level	Moderate level	High level
₹ 2500001 - ₹ 5000000 (n=233)	67 28.8%	54 23.2%	112 48.1%	87 37.3%	38 16.3%	108 46.4%
₹ 5000001 - ₹ 10000000 (n=116)	34 29.3%	18 15.5%	64 55.2%	32 27.6%	21 18.1%	63 54.3%
₹ 10000001 - ₹ 15000000 (n=31)	18 58.1%	4 12.9%	9 29.0%	7 22.6%	4 12.9%	20 64.5%
Total n=380	119 31.3%	76 20.0%	185 48.7%	126 33.2%	63 16.6%	191 50.3%
Chi-square value	14.321			6.126		
p value	0.006**			0.190		

Source : Computed Data \*\* denotes significant at 1%

As per the results of Table 3, a highly significant relationship remained between the annual income of the customers and their level of satisfaction on technical attributes. Income classes up to one crore exhibit a high level of satisfaction on technical attributes, but the respondents belonging to the income class of 1 crore to 1.5 crore (58.1%) exhibit a low level of satisfaction on technical attributes.

While considering non-technical attributes, no significant association exist between annual income and satisfaction level. Majority of the respondents exhibit high level of satisfaction.

It is inferred that a statistically significant association exist between income class and level of customer satisfaction regarding technical attributes, no such association was found between income level of customers and their satisfaction level on non-technical attributes.

## VII IMPLICATIONS OF THE STUDY

The study points out some implications on the basis of findings, which guide the manufacturers of luxury cars and dealers to develop product features and to adopt effective marketing strategies

- ❖ Technical and non-technical attributes of luxury cars are important to dealer satisfaction to customers
- ❖ Technical attributes such as electronics, and safety features are weighed highly by customers belonging high income.
- ❖ Aesthetic or intangible elements like comfort, quality, style and design of luxury cars derive high satisfaction
- ❖ In order to attract more business professionals and other high-income classes to buy luxury cars, manufacturers focus on features such as comfort, prestige and advanced technology.

## VIII CONCLUSION

The findings shows that the majority of customers have a high level of satisfaction with regard to the technical features and non-technical attributes of the luxury segments of cars. As these products satisfy the esteemed needs of customers, prefer prestige and status over tangible aspects. The annual income of the luxury car customers significantly influences their level of satisfaction with technical attributes, whereas the annual income has no such impact on their level of satisfaction with non-technical attributes. The study also recommends that manufacturers to inculcate the voice of customers while designing new technologies to improve their profitability and to level of satisfaction of customers.

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