

## **Perceived Customer Expectations in Purchasing Luxury Commercial Mini Bus (LCV Segment): An Empirical Analysis**

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### **ABSTRACT**

*The purpose of this paper is to make a correlation analysis of the responses of customers of a particular brand & make of Light Commercial Vehicle regarding various attribute ratings of a Commercial luxury minibus. Further it also seeks to determine the underlying benefits consumers are looking from a Luxury light Commercial Vehicle by classifying them according to their relative importance they put in the attribute ratings by using factor analysis. It has been revealed from findings of the study that organisations / customers are purchasing Light commercial luxury minibus due to several considerations and these considerations can be further attributed into to major factors which may be labelled as Economic benefit factor and Social benefit factor.*

**Keywords:** LCV Segment, purchasing, perceived customer, expectation, an empirical.

### **INTRODUCTION:**

#### **Passenger Light Commercial Minibus:**

A minibus or mini-coach is a passenger carrying motor vehicle that is designed to carry more people than a multi-purpose vehicle or minivan, but fewer people than a full-size bus. Minibuses have a seating capacity of between 8 and 20 seats. Larger minibuses may be called midi-buses. Minibuses are used for a variety of reasons. In a public transport role, they can be used as fixed route transit buses, airport buses, flexible demand responsive transport vehicles or large taxicabs. Private uses of minibuses can include corporate transport, charter buses, and tour buses. Schools, sports clubs, community groups and charities may also use minibuses for private transport. Individual owners may use reduced seating minibuses as cheap recreational vehicles.

#### **Overview of Commercial Vehicle Market in India:**

##### **Market size and segment -wise growth:**

India commercial vehicle market is projected to exhibit a CAGR of over 10% to reach \$ 21.9 billion by financial year 2023, on account of growing infrastructure development projects, emergent logistics sector, ease of financing, etc. Moreover, commercial vehicles market is anticipated to become more lucrative, as new models and brands are rolled out in the upcoming years.

The total sales of the Indian commercial vehicles (CV) industry had reached to 9,53,320 units in the year 2017-18. Out of which domestic sales were nearly 8,56,453 units and the remaining were exported. The overall Commercial Vehicles segment grew by 19.94% in April-March 2018 as compared to same time period in previous year. Medium & Heavy Commercial Vehicles (M&HCVs) grew by 12.48% and Light Commercial Vehicles grew by 25.42% in April-March 2018 over the same period last year. The CV industry is segmented broadly into LCV, having gross vehicle weight below 7.5 tonnes, and M&HCV, having gross vehicle weight above 7.5 tonnes. The growth in the CV industry has been driven by increased industrial production as well as the growth in investments made in building infrastructure in the country. While the passenger bus industry has seen moderate growth, goods vehicles witnessed an impressive growth.

The latter is dominated by multi axle vehicles. The share of LCV is increasing rapidly. The composition of the CV industry has been changing over the period of time.

This shift indicates the evolution of a hub and spoke model, wherein multi axle trucks are used for long distance hauls and pickups are used for the last mile logistics. The introduction of Tata Ace in the sub 1 tonne segment has shown significant growth in the CV market. However, a shift in the market to tractor trailers is expected to start in the near future, with improvements in the road infrastructure.

Economics of operation is the most important purchase criteria in the case of a CV. Other factors, which influence sales, include price, service network of the manufacturer and resale value of the brand being purchased. The industry is characterised by a low proportion of owner driven vehicles. The large uneducated driver population makes criteria like driver safety and comfort to be of trivial consideration.

**Major Brands and Market Shares in the Commercial Vehicles Market:**

Currently for April-January 2017-18, in the overall CV segment, Tata Motors with total sales of 329,986 units has recorded growth of 21.5 percent (April-February 16-17: 271,404 units). Commanding a 44.13 percent market share, the company remains the single largest player. Mahindra & Mahindra, riding on its strong performance in the pick-up segment, remains the second largest player but it is now aggressively challenging the established players in the M&HCV segment to become the third largest player. Ashok Leyland, the second largest M&HCV player, is the third largest player in the overall CV industry with a market share of 18.33 percent. The Chennai-based company sold 137,079 units in the same period, growing by 18 percent. The LCV market is dominated by Tata Motors, followed by Mahindra & Mahindra. The latter a relatively new player in the CV segment, has formed a joint venture with International Trucks to manufacture M&HCV trucks in India. Eicher Motors, having a 6 per cent share in the overall market, is a leading player in the LCV trucks segment and has recently entered the M&HCV trucks segment. Other key players include Swaraj Mazda, present in the LCV segment and Volvo India, a leading player in luxury passenger buses and heavy duty tippers. All the major players in the CV segment are in the process of enhancing their capacities and launching new products.

**Table 1: Commercial Vehicle sales In India**

Year	Total Sales	Growth
2011-2012	8,09,532	18%
2012-2013	7,93,150	-2%
2013-2014	6,32,738	-20%
2014-2015	6,14,961	-3%
2015-2016	6,85,704	12%
2016-2017	7,14,232	4%
2017-2018*	7,47,774	19.30%
2017-2018 Sales from April 2017 to February 2018		

Source: [www.autocapro.in](http://www.autocapro.in)

**LITERATURE REVIEW:**

Luxury Light Commercial Vehicle manufacturing companies today are facing new challenges to serve the ever-changing customer attitude towards the purchase of Luxury Commercial Vehicle. New Luxury Commercial Vehicle buyers may be grouped or categorized on the basis of relative emphasis they place on economy, comfort, performance, convenience and luxury. As markets grow increasingly international, companies are being required to reflect on how culture has an impact on a variety of marketing variables associated with consumers buying. Almost all countries of the world have a demand for consumer products. Yet, products are used in different ways and under various conditions to meet differing buyer needs. This might result in creating different segmentation of the target markets.

As such, consumer preferences are important factors in the markets. This globalization process has had an effect on the consumer decision making in various parts of the world. In general, globalization refers to the processes by which the world is being made into a single place with systematic properties (Robertson and Lechner, 1985). While globalization is at times alleged to be the same as integration of the world economy, it generally means the long term endeavour to integrate the global elements of life into each nation's economics, politics and cultural systems (Suh and Kwon, 2002). In essence, it raises the diligence and sensitivity to other people and other cultures (Shutte and Ciarlante, 1998). As such, people may be interested in other cultures, aware of and

have much knowledge about individual nations. They are generally sensitive to different points of view based on other cultures (Suh and Kwon, 2002). Originating from these notions, one would assume that consumers' cultivated openness to foreign cultures (globalize mind-set) would decrease their ethnocentric tendencies (Suh and Kwon, 2002). Globalization affects consumer behaviour and attitudes in many ways (Hofstede et al., 1999). This trend is happening in many product categories, including consumer goods, industrial products and business services. International companies focus on the buyer preferences to achieve a market niche that will produce profits and sustainable market growth. Companies many times market essentially the same products in all countries without any changes (Wild et al., 2003).

This activity has increased the international rivalry of global firms functioning in diverse parts of the world. These foreign firms not only are offering more variety of products but are also offering them less expensively (Kaynak et al., 1998). In addition, the improved lifestyles of consumers and enhancement of communication systems are making foreign products very eye-catching to consumers around the world when compared to domestic products. Globalization is important to international marketing because it generates new market and enhances revenues.

However, for the market to markets to produce the profits necessary to sustain their investment, international marketers must constantly monitor consumer behaviour so that buyers' needs are not neglected (Wild et al., 2003). Different countries are at different phases of development; hence, their consumers have diverse needs at different times. Increased globalization will lead to the development of various perspectives consumers have on the product's country of origin. This ultimately affects the consumer's decision making (Papadopoulos and Heslop, 1993).

In market there are various types of Light Commercial Mini-Bus vehicles available with different specification to cater the needs of customers. Factor analysis allows us to look at these groups of customers that tend to be related to each other and estimate what underlying reasons might cause these variables to be more highly correlated with each other, (Anderson, 1998). The basic purpose of this paper is to make a correlation analysis of the responses of customers, regarding various attribute ratings of a Luxury Commercial Mini-Bus. Further the study seeks to determine the underlying benefits consumers are looking from a Luxury Commercial Mini-Bus by classifying them according to their relative importance they put in the attribute ratings by using factor analysis method of principal component analysis.

#### **OBJECTIVES OF THE STUDY:**

1. Identify and analyse the relative important factor considered by consumer while purchasing a Luxury Commercial Mini-Bus Vehicle.
2. To study the correlation between a particular brand of Light Commercial Vehicle and various attributes ratings of a Commercial luxury minibus.

#### **RESEARCH METHODOLOGY:**

It is a descriptive nature of the study based on survey method. Both primary data and secondary data collected were collected from relevant sources. For the primary data collection structured questionnaire (close ended) has been used and the respondents were asked to indicate their level of agreement or disagreement with the following Statements (Q1 to Q6) using five point Likert scale (Strongly Disagree = 1, Strongly Agree = 5).

**Q1-** A Luxury Commercial Mini-Bus should be fuel efficient.

**Q2-** A Luxury Commercial Mini-Bus should be spacious and comfortable.

**Q3-** A Luxury Commercial Mini-Bus should be available with easy finance scheme.

**Q4-** A Luxury Commercial Mini-Bus should enhance the prestige of the Owner / Organisation.

**Q5-** Price is not an important consideration for having a Luxury Commercial Mini- Bus.

**Q6-** A Luxury Commercial Mini-Bus should have better and more safety features.

#### **Identified and Defined Variables:**

S1: Fuel Efficiency

S2: Comfort

S3: Ease of Finance

S4: Enhanced Prestige / Image

S5: Price

S6: Safety

The data collected were analyzed using SPSS-21.0 package under Ms-Excel environment to meet desired the objectives. A detail statistical analysis and discussion of the results are presented through Tables 2 to 7.

**SCOPE OF STUDY:**

Scope / Area	IN	OUT
Segment	Light Commercial Vehicle	Medium Commercial Mini-Bus / Heavy Commercial Vehicles
Product	Mini-Bus (>=8 Seater & <= 16 Seater) Luxury (Deluxe)	Bus >= 16 Seater Standard, Semi- Deluxe Buses
Location	Pune	Outside Pune
Customers	Existing List of Customers of our brand of Mini-Bus	Customers of other Companies / Brands / Make of Mini-Bus
Competitors	N/A	N/A
Process	N/A	N/A

Sample size: Out of the existing list of 112 existing customers / organisations of luxury commercial mini-bus, 101 were approached, out of which only 46 responded to the survey. So only 45.5% of the existing customers whom we approached showed interest in the survey.

**STRATIFICATION:**

Percentage / Customers	Total	% Percentage
IT Services	18 Customers	39.13 %
Manufacturing	10 Customers	21.74 %
Others (Airlines / Travels /NGO’s, Contractors etc...)	18 Customers	39.13 %

**LIMITATIONS OF THE STUDY:**

1. The first limitation is that this study was specifically focused on customer behaviour in Pune, which is a very small representation to the universe.
2. The result shows a behavioural trend of customers belonging to one particular brand of LCV whereas there are at-least 5 different competitors for the same product in the region.
3. The data set used in this study was sizable, it was a convenience sample. A larger sample is needed for more conclusive results.
4. Further research using the same methodologies in customer behaviour analysis should be conducted in neighbouring cities / states and for different brands to verify or refute the findings revealed in this study.

**ANALYSIS AND DISCUSSION:**

1. Factor Analysis Seeks to find the latent factors that account for the patterns of collinearity among multiple metric variables.

**Two Tests in Factor Analysis:**

- a) Barlett’s Test of Sphericity
- b) Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO)

**Bartlett's test of sphericity:**

Calculates the determinate of the matrix of the sums of products and cross-products (S) from which the intercorrelation matrix is derived. The determinant of the matrix S is converted to a chi-square statistic and tested for significance. The null hypothesis is that the intercorrelation matrix comes from a population in which the variables are noncollinear (i.e. an identity matrix). And that the non-zero correlations in the sample matrix are due to sampling error.

**Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO):**

**Table 2: KMO Measures and Sampling Adequacy**

Kaiser Mayer Olkin Measure of Sampling Adequacy		0.673
Bartlett's test of sphericity	Approx.Chi Square	304.147
	Df	15
	Sig	0.00

**Results of Bartlett's Test of Sphericity & Kaiser Mayer Olkin Measure of Sampling Adequacy:**

- a) Table 2 represents the values of approximate chi-square by Bartlett’s test of Sphericity, which is found to be 304.417. Since this value is significant at the 0.05, so we reject the null hypothesis that the population correlation matrix is an identity matrix. This means that there exist correlations among the variables S1,S2,S3,S4,S5,S6..
- b) The value of KMO (Kaiser-Meyer-Olkin Measure of Sampling Adequacy) is found to be 0.673 which is greater than 0.5. So, factor analysis is an appropriate technique to analyze the data.

**Table 3: Correlation Matrix**

	S1	S2	S3	S4	S5	S6
S1	1	0.095064	0.861841	-0.10277	-0.85653	0.017271
S2	0.095064	1	-0.02818	0.531319	-0.24241	0.570673
S3	0.861814	-0.02818	1	-0.2856	-0.72648	0.028863
S4	-0.10277	0.531319	-0.2856	1	0.023093	0.602772
S5	-0.85653	-0.24241	-0.72648	0.023093	1	-0.2039
S6	0.017271	0.570673	0.028863	0.602772	-0.2039	1

The correlation matrix as above (Table 3) presents the extent of relationship among different variables. Table 3 reveals that there exist high correlations among variable S1 (A Luxury Commercial Mini-Bus should be fuel efficient), S3 (A Luxury Commercial Mini-Bus should be available with easy finance scheme) and S5 (Price is not an important consideration for having a Luxury Commercial Mini-Bus) with the correlation coefficients  $r_{s1,s3} = 0.861$ ,  $r_{s1,s5} = -0.85653$  and  $r_{s3,s5} = -0.72648$ .

It is to be noted that the negative coefficient of a negative variable leads to positive interpretation that price is a significant factor. We would expect these variables to be correlated with the same set of factors.

Like wise, there is relatively high degree of correlation among variables S2 (A Luxury Commercial Mini-Bus should be spacious and comfortable), S4 (A Luxury Commercial Mini-Bus should enhance the prestige of the owner) and S6 (A Luxury Commercial Mini-Bus should have better and more safety features) with correlation coefficients  $r_{s2,s4} = 0.5313$ ,  $r_{s2,s6} = 0.570$  and  $r_{s4,s6} = 0.602$ .

Thus we expect these variables to be correlated with the same set of factors. A Principal Component Analysis method is employed to determine the necessary factor extraction.

The Table 4 (Communalities) represents the application of Principal Component Analysis. to the attribute ratings of Luxury Commercial Mini-Bus by different respondents. “Communality” is the amount of variance a variable shares with all other variables being considered. This is also the proportion of variance explained by the common factors.

**Table 4:**

Communalities	
	Variables
S 1	0.940
S 2	0.687
S 3	0.885
S 4	0.745
S 5	0.895
S 6	0.772

**Extraction Method:** Principle Component Analysis

Table 5 represents the table for initial Eigen values.

An Eigen value represents the total variance explained by each factor. Principal component analysis is recommended as we are interested to determine the minimum number of factors that will account maximum variance in the data.

From the above table Factor-1 account for variance of 2.794 which is  $(2.794/6)*100$ , that is, 46.56%. Similarly, Factor-2 accounts for variance of 2.138, which is  $(2.138/6)*100$ , that is, 35.63% and so on.

The next step is to determine the number of factor to be extracted through Eigen value approach. In this approach only factor with Eigen values greater that 1.0 are retained which is presented in Table 5.

**Table 5: Total Variance Explained for Initial Eigen Values**

Explained Variance (Eigenvalues)						
Value	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
Eigenvalue	2.794	2.138	0.471	0.335	0.187	0.057
% of Var.	46.562	35.633	7.847	5.887	3.122	0.950
Cum. %	46.562	82.195	90.042	95.928	99.050	100.000

**Extraction Method:** Principle Component Analysis

From Table 4 it is observed that the Eigen values greater than 1.0 (default option) resulted two factors being extracted. This is also depicted through the Screen plot (a plot of the Eigen values against the number of factors in order of extraction) in figure 1 where a distinct break occurs at three factors.

Again from the accumulative percentage of variable accounted for, we found that the first two factors account for 82.195 % of the variance, and that the gain achieved in going to three factors is marginal. Thus two factors appear to be reasonable in this situation. The total variances explained by the two factors retained are presented in Table 5.

**Scree Plot**



Table 6 represents the factor matrix, which is an important output of principal component analysis. The coefficients are the factor loadings which represents the correlation between the factors and the six variables (S1 to S6). From the above factor matrix it is found that coefficients for factor-1 has high absolute correlations with variable S1, S3 and S5, that is, 0.984, 0.953 and -0.847 respectively. Similarly factor-2 has high absolute correlation with variable S2, S4 and S6, that is, 0.842, 0.794 and 0.864 respectively.

**Table 6**

Factor Matrix		
Variable	Factor 1	Factor 2
S1	0.984	0.204
S2	-0.087	0.842
S3	0.953	0.098
S4	-0.439	0.794
S5	-0.847	-0.363
S6	-0.235	0.864

**Extraction Method:** Principle Component Analysis

By rotating the factor, we would like each factor to have non zero or significant loadings for only some variables. Likewise, we would like each variable to have non zero or significant loadings with only few factors. Rotation does not affect the communalities and the percentage of total variance explained. Table 7 represents the rotated factor matrix.

Table 7

Varimax Rotated Factor Loadings		
Variable	Factor 1	Factor 2
S 1	0.986	-0.057
S 2	0.130	0.818
S 3	0.982	-0.153
S 4	-0.227	0.838
S 5	-0.983	-0.123
S 6	-0.008	0.878
Rotation completed in 2 iterations		
Rotation was normalised		

### Interpretation:

Interpretation is facilitated by identifying the variables that have large loadings in the same factor. The factor can then be interpreted in terms of the variables that load high on it. In the rotated factor matrix of Table 7, factor-1 has high coefficients for variable S1 (Fuel Efficiency), S3 (Easy Finance Scheme) and S5 (Price Consideration). Therefore these factors may be labelled as one factor, that is, 'Economic benefit factor'. It is to be noted that the negative coefficient of a negative variable leads to positive interpretation in case of variable S5, that is, Price is an important consideration for the purchase of a Luxury Commercial Mini-Bus for the customers. Thus the Economic benefit factor affects customers who seek benefits of fuel efficiency, easy finance scheme and the Price consideration, which they can afford.

Factor-2 is highly correlated with variable S2 (Spacious and comfortable), S4 (Enhancement of prestige) and S6 (Safety measures). Thus these variables may be grouped into one factor and can be labelled as 'Social benefit factor'. They intend to seek benefit from a Luxury Commercial Mini-Bus that can provide them more space and comfort, more and better safety features and which can enhance their prestige for being the owner of a luxury Luxury Commercial Mini-Bus.

### MANAGERIAL IMPLICATIONS AND CONCLUSION:

Considering the growth and potential of Indian automobile Industry, there is a need to understand the perceived expectations of customer towards luxury commercial vehicles in Indian Market. The Present study can be concluded that customers purchasing Luxury Commercial Mini-Buses can broadly be categorized into two major factors which may be labelled as:

#### Customers inclined more towards Economic benefit factors:

The factor affecting customers who prefer to purchase a Luxury Commercial Mini-Bus by putting more emphasis on fuel efficiency, easy finance and price may be labelled as those whose buying decision is triggered by Economic benefit factors.

#### Customers inclined more towards Social Benefit Factors:

This is the second factor, least concerned with fuel efficiency and price of the Luxury Commercial Mini-Bus. They seek benefits of comfort, safety and prestige from a Luxury Commercial Mini-Bus at any cost. Factor affecting customers of this class may be labelled as those whose buying decision is triggered by Social benefit factors.

The implication of the study is to know perceived customer expectation and this study will helps manager to understand market situation in critical business environment and to formulate marketing strategy for creating competitive advantage and sustainable development of commercial vehicle segment industry.

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