Chapter 1

INTRODUCTION AND CONCEPTS

India is a vast country having large population, with diverse socio-economic structure and cultural background. The regional economic differences, individual preferences and perceptions influence the customers buying pattern and choice. It is still fresh in the memory that in Indian Automobile sector, in 70’s and 80’s, Scooter was getting soled at premium. Scooter was so much in demand that to supplement the production of scooters by three privet sector companies, naming Bajaj Scooter, LML Scooter and Lamberata Scooter, government has started manufacturing scooters through various state government run companies like Maharashtra Scooters. Aravali Scooters ( in Rajasthan), West Bengal Scooters, Girmar Scooters ( in Gujarat ), etc. However though the production of two wheelers is still ruling the Indian Automobile sector, scooter has vanished from the market. By the end of the century the manufacturing of scooter has virtually stopped and most of these companies either diversified or closed.

To tape the new market generated by prospering Indian economy, the luxury car manufacturers like , Volvo, Mercedes, and Volkswagen etc., has not only started the manufacturing facilities in India, but are also introducing new luxury models of car in Indian market at rapid pace.

The great Indian Middle Class, having a formidable purchasing power, is the back bone of growth in Indian manufacturing sector, is so unpredictable in its preferences, choices, and priorities that a in-depth study is required to find out sustainability of any product, spicily a product which is falling in the category of comfort or to some extent luxury for the middle class consumers.

Government policies related to duties, development of roads, industrial policies and factors like urbanization, infrastructure development issues of the cities resulting in traffic problems, long term policy initiatives like Auto Policy- 2002, Road Development Vision Plan, and fund allocation in five year plans are also influencing factor for the sustainability of a product like small car.
A revolution in Indian automobile sector was expected with the introduction of Nano car, which is priced between the price of two wheelers and the most popular small car in the Indian small car users, Maruti-800. It was thought that to save the discomfort of traveling in rains or in hot sun, on two wheelers Nano car will be preferred, which will have serious implications on the manufacturing of two wheelers and sale of other models of personal vehicles. Therefore a special study of preferences and perceptions of Nano car was required.

In view of above facts the current study deals with the sustainability of small car segment in the Indian automobile sector.

1.1 INTRODUCTION

Due to variety of reasons like government policies of license, protectionism, very poor availability of roads and limited purchasing power of the Indian consumers were the major hurdles, which kept the growth of Indian automobile industry, specially the passenger car segment low, for quite some time.

The automobile industry has gathered immense pace in India in the last few years and hence is flying very high. Large investments are made by the Indian business houses as well as foreign manufacturers to take advantage of the phenomenal growth witnessed by Indian Auto sector.

The government of India’s auto policy 2002, the increase in the disposable income with Indian Middle Class, fast development of good quality roads linking metros all the big cities of India has provided much needed boost to the Indian automobile sector.

Due to the liberalization and globalization policy put in place by the government of India in 1991, India being the second largest growing economy in the world. The automobile sector in India got the much needed boost. New collaborations were signed and foreign companies started looking to India with interest.

The small car segment of the automobile in India came for a special emphasis. During this period many companies like Maruti Udyog, TELCO, Mahindra, and Hyundai etc.
have started manufacturing small cars which were later joined by other car manufactures like FORD, Fiat, Chevrolet etc. The interest generated by the small car sector was so attractive that the car manufacturers like Mercedes, Audi, Volvo has also started looking into possibilities.

At this stage it is imperative to first elaborate on the various concepts used in this study. Since the study is basically for the sustainability of small car in Indian automobile sector, these concepts are not dealt extensively but are touched upon so as to create a background for the study.

1.2. THE BASIC CONCEPTS

The following basic concepts are deliberated in this study--

1 Indian- Automobile Sector

2 Small Cars

3 Middle Class

4 Sustainability

It was also felt necessary to give the details of policy document naming Government of India’s Automobile Policy 2002 as this policy has provided a platform for the growth of Indian Automobile Industry and had far reaching implications.

A summery of Government of Indian Road Development Plan – Vision 2021 is also included in this chapter

Since the development of roads, especially the National Highways, Express Ways, State Highways, Roads linking the cities and villages has a bearing on the car sale, in this study some information about Development of Roads in India, as published by the Indian Government is also included.
1.3. INDIAN AUTOMOBILE SECTOR-

Historically the automobile sector was considered as comprising of Automobile Manufacturing Plants. In 1980’s and 1990’s the manufacturing facilities were driven by the theory of self reliance. Except for very few parts of the automobiles like Auto Electricals, Fuel Injection systems, Spark Plugs, Bearings, Pistons and Piston Rings, Automobile Batteries, Tyres etc. all other components and body parts used to be processed or finished in house. In Indian Auto- Industry the concept of out sourcing and using sub-assemblies ready for assembly line concept has started gaining momentum only at the turn of the 20th century. This change in the system and increase in volumes has resulted in giving multi dimensional meaning to automobile sector in India.

The Indian Automobile Sector broadly includes the following-

1. Automobile Manufacturing Industry.
3. Auto finance companies.
5. Repair workshops.
6. R & D, Automobile / Auto component designee and testing organizations.
7. Auto Logistic support services.

1.3.1 Global & Indian Automobile Manufacturing Industry-

India’s automobile sector has travelled a long way both during the pre independence and post independence era. Though it has started almost from a scratch, it has assume considerable significance in the context of the manufacturing activity of India.

In the world automobile sector Henry Ford designed the first car in United State1989. In 1903 Ford motor company was established. In 1908 the first moving assembly line was established using the mass production techniques of the automobile industry, thus introducing mass production of car in USA.
In India, however, the first company for manufacturing car, the Hindustan Motors (HM), was establish in 1942, followed by Premier Automobile (PAL) in 1944. The first car was produced and rolled over Indian roads in 1949.

The protection policy of government of India was a major hurdle in the development of Indian automobile industry. The government of India’s new economic policy of 1991, followed by globalization should be credited for the rapid expansion of automobile industry in India, (with special reference to small car segment). This has not only resulted in the establishment of new manufacturing facility with higher capacity, but also in improving the quality of vehicles in all parameters like comfort, safety, aesthetics, technical performance etc.

With large population, especially the middle class with increased purchasing power the Indian domestic market emerge as a big market for all types of vehicle, especially small cars.

Until 2005, the U.S.A. led the world in total automobile production. In 1929 before the Great Depression, the world had 32,028,500 automobiles in use, and the US automobile industry produced over 90% of them. At that time the U.S. had one car per 4.87 persons. In 2006, Japan narrowly passed the U.S. in production and held this rank until 2009, when China took the top spot with 13.8 million units. By producing 18.3 million units in 2010, China produced nearly twice the number of second placed Japan (9.6 million units), with the U.S. in third place with 7.8 million units.

It will be interesting to note the production statistics of cars by some of the leading car manufacturing countries. Table 1.1 presents cars and commercial vehicles produced by different countries in the year 2011.
### Table: 1.1 Production of cars and commercial vehicles in different countries for the year 2011

<table>
<thead>
<tr>
<th>Country</th>
<th>Cars</th>
<th>Commercial Vehicles</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>577,233</td>
<td>251,538</td>
<td>828,771</td>
</tr>
<tr>
<td>Australia</td>
<td>189,503</td>
<td>34,690</td>
<td>224,193</td>
</tr>
<tr>
<td>Austria</td>
<td>130,343</td>
<td>22,162</td>
<td>152,505</td>
</tr>
<tr>
<td>Belgium</td>
<td>562,386</td>
<td>0</td>
<td>562,386</td>
</tr>
<tr>
<td>Brazil</td>
<td>2,534,534</td>
<td>871,616</td>
<td>3,406,150</td>
</tr>
<tr>
<td>Canada</td>
<td>990,483</td>
<td>1,144,410</td>
<td>2,134,893</td>
</tr>
<tr>
<td>China</td>
<td>14,485,326</td>
<td>3,933,550</td>
<td>18,418,876</td>
</tr>
<tr>
<td>Czech Rep.</td>
<td>1,191,968</td>
<td>7,866</td>
<td>1,199,834</td>
</tr>
<tr>
<td>Egypt</td>
<td>53,072</td>
<td>28,659</td>
<td>81,731</td>
</tr>
<tr>
<td>France</td>
<td>1,931,030</td>
<td>363,859</td>
<td>2,294,889</td>
</tr>
<tr>
<td>Germany</td>
<td>5,871,918</td>
<td>439,400</td>
<td>6,311,318</td>
</tr>
<tr>
<td>Hungary</td>
<td>200,000</td>
<td>2,800</td>
<td>202,800</td>
</tr>
<tr>
<td>India</td>
<td>3,053,871</td>
<td>882,577</td>
<td>3,936,448</td>
</tr>
<tr>
<td>Indonesia</td>
<td>561,863</td>
<td>276,085</td>
<td>837,948</td>
</tr>
<tr>
<td>Iran</td>
<td>1,413,276</td>
<td>235,229</td>
<td>1,648,505</td>
</tr>
<tr>
<td>Italy</td>
<td>485,606</td>
<td>304,742</td>
<td>790,348</td>
</tr>
<tr>
<td>Japan</td>
<td>7,158,525</td>
<td>1,240,129</td>
<td>8,398,654</td>
</tr>
<tr>
<td>Malaysia</td>
<td>496,440</td>
<td>43,610</td>
<td>540,050</td>
</tr>
<tr>
<td>Mexico</td>
<td>1,657,080</td>
<td>1,022,957</td>
<td>2,680,037</td>
</tr>
<tr>
<td>Netherlands</td>
<td>40,772</td>
<td>32,379</td>
<td>73,151</td>
</tr>
<tr>
<td>Poland</td>
<td>740,000</td>
<td>97,132</td>
<td>837,132</td>
</tr>
<tr>
<td>Portugal</td>
<td>141,779</td>
<td>50,463</td>
<td>192,242</td>
</tr>
<tr>
<td>Country</td>
<td>Cars</td>
<td>Commercial Vehicles</td>
<td>Total</td>
</tr>
<tr>
<td>-------------</td>
<td>-------</td>
<td>---------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Romania</td>
<td>310,243</td>
<td>24,989</td>
<td>335,232</td>
</tr>
<tr>
<td>Russia</td>
<td>1,738,163</td>
<td>249,873</td>
<td>1,988,036</td>
</tr>
<tr>
<td>Serbia</td>
<td>15,050</td>
<td>740</td>
<td>15,790</td>
</tr>
<tr>
<td>Slovenia</td>
<td>168,955</td>
<td>5,164</td>
<td>174,119</td>
</tr>
<tr>
<td>South Africa</td>
<td>312,265</td>
<td>220,280</td>
<td>532,545</td>
</tr>
<tr>
<td>Spain</td>
<td>1,819,453</td>
<td>534,229</td>
<td>2,353,682</td>
</tr>
<tr>
<td>Sweden</td>
<td>188,969</td>
<td>0</td>
<td>188,969</td>
</tr>
<tr>
<td>Taiwan</td>
<td>288,523</td>
<td>54,773</td>
<td>343,296</td>
</tr>
<tr>
<td>Thailand</td>
<td>549,770</td>
<td>928,690</td>
<td>1,478,460</td>
</tr>
<tr>
<td>Turkey</td>
<td>639,734</td>
<td>549,397</td>
<td>1,189,131</td>
</tr>
<tr>
<td>Ukraine</td>
<td>97,585</td>
<td>7,069</td>
<td>104,654</td>
</tr>
<tr>
<td>UK</td>
<td>1,343,810</td>
<td>120,189</td>
<td>1,463,999</td>
</tr>
<tr>
<td>USA</td>
<td>2,966,133</td>
<td>5,687,427</td>
<td>8,653,560</td>
</tr>
<tr>
<td>Uzbekistan</td>
<td>146,300</td>
<td>33,260</td>
<td>179,560</td>
</tr>
<tr>
<td>Total</td>
<td>59,929,016</td>
<td>20,163,824</td>
<td>80,092,840</td>
</tr>
</tbody>
</table>

Source: International Organization of Motor Vehicle Manufacturers

To make understandable at a glance production figures of top 20 motor vehicle production countries have been presented in the following figure 1.1. for the year 2011.

From the perusal of the above table and figure it quite clear that China tops the list with the production figure of 18,418,876 vehicles followed by USA with 8,653,654 units, at far distant from China. USA is closely followed by Japan with 8,398,654 vehicles. The standing of India is far below with 3,936,448 vehicles.
It is also interesting to know about the production of cars and commercial vehicles in different years. Table 1.2 presents the data relating to production of cars and commercial vehicles from the year 1997 to 2010.
Table 1.2 Global production of motor vehicles

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>54,434,000</td>
</tr>
<tr>
<td>1998</td>
<td>52,987,000</td>
</tr>
<tr>
<td>1999</td>
<td>56,258,892</td>
</tr>
<tr>
<td>2000</td>
<td>58,374,162</td>
</tr>
<tr>
<td>2001</td>
<td>56,304,925</td>
</tr>
<tr>
<td>2002</td>
<td>58,994,318</td>
</tr>
<tr>
<td>2003</td>
<td>60,663,225</td>
</tr>
<tr>
<td>2004</td>
<td>64,496,220</td>
</tr>
<tr>
<td>2005</td>
<td>66,482,439</td>
</tr>
<tr>
<td>2006</td>
<td>69,222,975</td>
</tr>
<tr>
<td>2007</td>
<td>73,266,061</td>
</tr>
<tr>
<td>2008</td>
<td>70,520,493</td>
</tr>
<tr>
<td>2009</td>
<td>61,791,868</td>
</tr>
<tr>
<td>2010</td>
<td>77,857,705</td>
</tr>
</tbody>
</table>

Source: International Organization of Motor Vehicle Manufacturers

1.3.2 Scenario of Indian Automobile Industry

The liberalized policies of the Indian Government paved the way towards steady evolution of India as a stable and market driven economy with the real Gross Domestic Product growth in excess of 8%, foreign exchange reserves crossing the $150 billion mark.

Foreign Direct Investment, absence of local content regulation, manufacturing and imports free from licensing & approvals in the automobile sector coupled with customs tariff or auto components reducing to 12.5% resulted in increased number of
multinationals establishing their bases in India. With export markets looking up, the Indian automobile industry is poised for a phenomenal growth. The automobile production in the sub-continent has been growing steadily @ 18.53% per annum from 2002-03 onwards with total vehicle production standing at a mammoth 1,00,31,296 nos. in 2005-06 as shown in Fig.1.2

![Graph showing Indian automobile production](image)

**Fig.1.2 Indian automobile production**

Among the automobiles, 2 wheelers account for 75.77%, cars about 11.09%, 3 wheelers to the tune of 4.33%, tractors about 2.95%, buses & trucks constitute 2.19%, Multi Utility Vehicles (MUVs) to the tune of 1.96% and Light Commercial Vehicles (LCVs) about 1.71% of the total number of automobiles produced in the country.

Presently, India is the second largest market after China for two & three wheelers. In tractors production, India is one of the two largest manufacturers in the world along with China. The subcontinent stands as the 4th largest producer of trucks in the world. Coming to the passenger car segment, the country is positioned 11th in car production in the world.
The Indian passenger car market is far from being saturated leaving ample opportunity for volume growth since the per capita car penetration per 1000 is only 7 compared to 500 in Germany. The production of cars in the country has been growing at a mammoth 27.58% per annum from 2002-03 onwards as is shown in Fig.1.3

In general, cars are broadly classified as Mini, Compact, Mid-Size, Executive & Premium varieties. There has been a steady rise in compact car production from 333,000 in 2002-03 to 715,000 in 2005-06, mid-size cars from 122,000 to 204,000 nos., executive cars from 2000 to 23,000 nos. and premium variety cars from 4000 in 2002-03 to 5000 nos. in 2005-06. The mini car segment production reduced from 150,000 in 2002-03 to 98,000 nos. in 2005-06.

These statistics vividly reveal the increasing capacity of the Indian customer, thus driving the passenger car demand rapidly. Analysts speculate car production in the sub-continent to touch 1575,000 in 2009 and 2654,000 by 2014. Cars and MUVs exports rose from 72,000 in 2002-03 to reach 176,000 nos. in 2005-06 with growth @ 48.155 per annum from 2002-03 onwards.
Out of the two wheelers produced in India, motorcycles account for 81.59%, scooters about 13.42% and mopeds to the tune of 4.99% of the total production. The production statistics is shown in Fig.1.4

![Fig1.4- Two Wheeler Production in India](image)

This shows the growth of 2 wheelers @ 16.58% per annum from 2002-03 onwards. Out of this, motorcycles have exhibited production growth @ 19.99% per annum, scooters @ 6.74% per annum & mopeds @ 2.65% per annum from 2002-03 onwards.

Two wheeler production units in India constitute of Japanese OEMS (Original Equipment Manufacturers) which include Hero Honda Motors, Honda Motorcycle & scooter India (P) Ltd., Yamaha Motor India (P) Ltd. & Suzuki Motorcycle India (P) Ltd. and Indian OEMs consisting of Bajaj Auto Ltd., T V S Motor company Ltd., LML Ltd., Kinetic Engineering Ltd., Majestic Auto Ltd., Kinetic Motor Company Ltd. and Royal Enfield of Eicher Ltd.

Out of the aforementioned, Hero Honda accounts for 39.55%, Bajaj Auto about 26.87%, TVS Motors 17.98%, Honda Motors 7.94%, Yamaha Motors 3.27%, LML 1.41% and the remaining 2.98% of the total 2 wheelers production in the country. The exports of two wheelers made a significant growth from a level of 180,000 in 2002-03 to reach 513,000 nos. in 2005-06. The latest estimates put up production of 2 wheelers to 13.6 million by 2009.
The production of Multi Utility Vehicles (MCVs) has been showing sparkling growth @ 23.84% per annum, Light Commercial Vehicles (LCVs) @ 35.49% and Medium & Heavy Commercial Vehicles (M & HCVs) @ 27.33% per annum from 2002-03 onwards in India as shown in Fig.1.5

![Graph showing production of MUVs, LCVs, and M&HCVs](image)

**Fig.1.5 Production of MUV’s, LCV’s AND M & HCV’s. Source- Steel world**

Industry analysts put up MUVs production to reach 207,000 in 2009 and 277,000 in 2014. Commercial vehicle exports made a steady growth from a level of 11,000 in 2002-03 to 41,000 in 2005-06. The manufacturing units for four wheelers in India constitute of Japanese OEMs covering Maruti Udyog Ltd., Toyota Kirloskar Motor (P) Ltd., Honda, & Swaraj Mazda Ltd., Indian OEMs consisting of Tata Motors Ltd., Mahindra & Mahindra Ltd., Ashok Leyland Ltd., Force Motors Ltd., Eicher Motors Ltd., & Hindustan Motors Ltd., Korean OEM Hyundai Motor India Ltd., American OEMs which include General Motors India (P) Ltd. & Ford India (P) Ltd. and European OEMs consisting of Skoda Auto India (P) Ltd., Daimler Chrysler India (P) Ltd., Volvo India (P) Ltd., Tatra Trucks India Ltd. & Fiat India (P) Ltd.

Presently, Maruti Udyog accounted for 33.24%, Tata Motors 26.14%, Hyundai Motors 15.13%, Mahindra & Mahindra 7.47%, Ashok Leyland 3.78%, Toyota Kirloskar 2.61%, Honda Siel Cars 2.40%, Force Motors 2.08%, General Motors 1.78%, Ford India 1.57%, Eicher Motors 1.41% and other 2.39% of the total production of four wheelers in India.
The tractors production in the country has been making a steady growth @ 25.80% and three wheelers @ 19% per annum from 2002-03 onwards as illustrated in Fig.1.6

![Graph showing production of tractors and three-wheelers in India from 2002-03 to 2005-06]

**Fig.1.6 Production of Tractor and Three-Wheelers in India (No’s on Y-axis are in x1000) Source: Steel world**

The Indian automobile industry is flooded with huge investments involving green field and brown field projects. Hyundai plans to set up a LCV plant at Pune, India. Toyota would be investing US$ 4.2 billion for starting production of small cars & Suzuki plans to invest US$ 1.6 billion in India. Isuzu Motor & Nissan Motor belonging to Hitachi Ltd. Of Japan would begin manufacturing cars in India. Tata Motors is setting up its novel small car production facility near Kolkata. (Now shifted to Gujarat) Hyundai plans to make India an export base for small cars. Telecon is investing about US$ 54 million for production of earth moving vehicles/components at Kharagpur in India. Also, Honda Motorcycles & scooters have ambitious plan for making this sub-continent a hub for two wheelers exports. All these forward towards further increase in demand for auto components.
1.3.3 Indian Auto component and, Auto-ancillary Industry.

The Indian automotive component industry is dominated by around 500 players which account for more than 85% of the production. The turnover of this industry was growing at a mammoth 28.05% per annum from 2002-03 onwards as illustrated in Fig.1.7 This indicates that it is emergence as one of India's fastest growing manufacturing sectors.

![Fig.1.7 - Turnover of Indian auto component industry (in US $ Million)](image)

Source-ACMA

During 1990s, the auto components market in India used to be dominated by supplies to the aftermarket with only 35% exports sourced by global Tier 1 OEMs (Original Equipment Manufacturers). The industry made a sustained shift to the global Tier 1 market and today, the component manufacturers supply 75% of their exports to global Tier 1 OEMs and the remaining to the aftermarket. This is largely due to the growing capability of the Indian component suppliers in understanding technical drawings, conversance with global automotive standards, attractive costs (manufacturing costs are 25%-30% lower than its western counterparts), flexibility in small batch production and growing information technology application for design, development and simulation.
Besides the increasing demand of auto components from global majors, the domestic automobile industry has also shown a sparkling growth caused by increasing customer base and affordable loans. Based on this, the turnover of the Indian auto component industry is expected to touch US$ 18.7 billion by 2009 and estimated to reach US$ 40 billion by 2014.

### 1.3.4 India Emerging as Hub for Auto Components

Indian auto component industry is fast emerging as an attractive OEM & Tier 1 supplier. The auto component exports from India rose from a mere US$ 0.760 billion in 2002-03 to US$ 1.8 billion in 2005-06 showing growth @ 45.61% per annum from 2002-03 onwards. In 2005-06, about 36% of the component exports headed for Europe, 26% for America, 16% for Asia, 10% to Africa, 10% to Middle East, 1.5% to Oceania and others account for 0.5% of the total exports. Based on the sparkling growth in demand for auto components, global auto majors and domestic giants have been investing heavily in India because of India's competitive advantage. Accordingly, the total investment in Indian auto component industry has shown a tremendous growth @ 22.12% per annum from 2002-03 onwards as shown in Fig.1.8

![Investment in Auto component Industry](chart.png)

**Fig.1.8 Investment in Auto component Industry** (in US $ Billion)

Source- Steel world
The investment is expected to rise further. Among various investments coming in India, auto parts maker Robert Bosch of Germany planned investment of US$ 201.4 million in its Indian subsidiaries, with bulk of investment in Motor Industries Co. Ltd. (MICO). Hitachi Ltd. of Japan planned to start auto component manufacturing in India with its O E M s - Suzuki Motor & Nissan Motor to begin manufacturing of cars in India. GKN Driveline, a wing of UK based auto component manufacturer GKN opened a new manufacturing facility in India. Dubai based auto ancillary Parts International Company planed to invest about US$ 3.6 million in India over three years which includes setting up a manufacturing facility to service exports to CIS & SAARC countries. Fiat India has been taking various measures to become a global sourcing hub for components by exporting components worth US$ 8.3 million target to its operations in South Africa and plans to source components worth US$ 200 million. Toyota invested US$ 197 million to supply transmission system, gear boxes, axles, propeller shafts and aluminum pressure die casting products to global operations. Delphi is planning to source components such as piston rods, steering system, drive shafts, catalytic converter, stampings in power train, sheet metal/stampings for chassis and electrical parts like wiring harnesses & armature motors worth US$ 250 million by 2007. General Motors which presently is sourcing components worth US$ 6 million from Indian suppliers intends to ship parts worth US$ 1 billion for its global production units by 2010 and the components include crankshaft forgings, radiator caps, gear boxes, leaf springs, wiring harnesses & cables. Ford Motors plan to source components like steering columns, alloy wheels, crankshafts, exhaust parts, complete engines for IKON model, radiators, springs, castings, forgings, leaf springs, body panel, horns, dash board assembly, starters, alternators & door trims from the present level of US$ 150 million to around US$ 600 million by 2009 from India. Visteon which had already invested US$ 56 million is sourcing components for exterior, instrument, cluster assembly & bumpers, AC system, starters, motors, alternators and panel instrument assembly from India. Along with this, over 20 OEMs have set up International Purchasing Offices (IPOs) in India for components and the figure is expected to double by 2010.
Considering the above, Indian auto component manufacturers are substantially increasing investments in production capacities, establishing partnerships in India & abroad and have been investing in or acquiring companies overseas. In continuation with this, global multi nationals are shifting automotive design centers into India with India evolving as an excellent automotive R & D base for prototyping, testing, validating and production of auto components caused by excellent IT skills & exemplary automotive domain knowledge

1.5 Auto- finance companies.

With the desire to enjoy the comfort and luxury of life the Indian Middle class specially the young population are the target customer for the auto manufacturers, particularly the Passenger Car Segment. However this targeted customer base was not having enough savings to invest in personal transport. Initially the manufacturers has started financing through the internal resources, but as the business expanded the Auto- Finance companies take over this role, and currently almost all banks Public Sector or Private are having a separate vertical for auto financing.

1.5.1 Growth of Auto financing in India

India’s auto finance industry is estimated at Rs. 60,200 crore for financial year 2011. Over a five-year period, the auto finance industry has grown at the rate of 13%. The auto industry (passenger cars and multi-utility vehicles) has been a leading indicator of the growth of Indian economy. It has been growing at a rate of 16% for the past five years, roughly twice the rate of India GDP (gross domestic product) growth. Experts expect the industry to double in five years on the back of growing aspirations of the current set of manufacturers as well as the continued inflow of global players. The salient features of growth of auto financing in India are listed below,

(i) Stable growth.

India’s auto finance industry is estimated at Rs. 60,200 crore for financial year 2011. Over a five-year period, the auto finance industry has grown at the rate of 13%. The
accompanying table 1.3 gives the five-year trend for auto sales and for the financing industry. The auto finance industry has consolidated over the past few years (Except financial year 2009), finance penetration (cars sold against loans) has remained steady at healthy 70% levels (for perspective, the comparative number for China would be 12-15%).

(ii) Auto finance drivers.

In past few years, especially after adoption policy of Liberalization, Privatization, and Globalization India has witnessed a swift growth in auto finance business. This has contributed significantly to the growth of auto sector in India. A large number of banks and companies have started financing liberally in auto sector. Following reasons may be attributed to this phenomenon----

• Buoyant economy leading to higher disposable income.

• New models and launches in untapped segments.

• Extended product life cycles and competition amongst manufacturers have kept a check on car prices. In some instances, prices are unchanged from a decade ago.

• Geographical expansion and better distribution by both manufacturers and financiers has opened up new markets.

• Credit bureaus have been of tremendous help in taking informed credit decisions and lowering credit losses. For a thin margin business like auto finance, this has been a great help.

• With better availability of credit data, financiers have been offering higher-loan-to-value, and balloon installment schemes enable customers to keep monthly EMIs at affordable levels.
• The changing customer mindset towards leveraging has meant that more customers are willing to take loans early in their working lives. This segment typically looks at their cash flows and the EMI’s while deciding what car to buy.

This sector has recently also seen the entry of captives in the Indian market. BMW Financial Services, Volkswagen Financial Services, Daimler Financial Services and Toyota Financial Services have commenced operations in the country. The advent of captives signifies the importance that manufactures are according to the Indian market.

Usually, with the arrival of captives, the financing industry also expands as they launch new financing products. Residual value guaranteed products enable a customer to pay a fixed monthly rental for the lease period and then either buy the car at a pre-determined residual value or trade it in for a new car. Indian auto market has more than 35 financiers that offer auto financing solutions to the intended car buyers. Being one of the fastest growing automobile markets in the world, the Indian automobile market has got so much of potential and hence a number of auto finance companies have come up to tap the booming market. It can be added here that the passenger vehicle market constitutes almost 80% of automobile sales. In 2008, the stock passenger car was about 11 per 1,000 people. The production of passenger vehicle is further expected to go up at a CAGR of about 10% from 2009-10 to 2012-

Sensing this market potential, many financial companies in India have given special attention on auto financing. Table 1.3 presents growth trends of auto finance (cars) for five years as under.
Table 1.3 Five growth trends of Auto Finance (Cars)

<table>
<thead>
<tr>
<th>Financial year</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEW Car units sold (Nos.)</td>
<td>1,363,000</td>
<td>1,517,400</td>
<td>1,499,300</td>
<td>1,863,700</td>
<td>2,456,500</td>
</tr>
<tr>
<td>Growth %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11.3%</td>
<td>-1.2%</td>
<td>24.3%</td>
<td>32%</td>
<td></td>
</tr>
<tr>
<td>Car Industry sales volume (Rs. Cr)</td>
<td>51,113</td>
<td>56,902</td>
<td>56,975</td>
<td>72,683</td>
<td>98,380</td>
</tr>
<tr>
<td>Growth %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11.3%</td>
<td>0.1%</td>
<td>27.6%</td>
<td>35.4%</td>
<td></td>
</tr>
<tr>
<td>Cash sales (Rs. Cr)</td>
<td>12778</td>
<td>15933</td>
<td>19941</td>
<td>21805</td>
<td>27546</td>
</tr>
<tr>
<td>Growth %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>28%</td>
<td>35%</td>
<td>30%</td>
<td>28%</td>
<td></td>
</tr>
<tr>
<td>Finance penetration (Rs. Cr)</td>
<td>38334</td>
<td>40,969</td>
<td>37,034</td>
<td>50,878</td>
<td>70,834</td>
</tr>
<tr>
<td>Growth %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>72%</td>
<td>65%</td>
<td>70%</td>
<td>72%</td>
<td></td>
</tr>
<tr>
<td>Customer margin (Rs. Cr)</td>
<td>5,750</td>
<td>6,145</td>
<td>6,296</td>
<td>7,632</td>
<td>10,625</td>
</tr>
<tr>
<td>Growth %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>15%</td>
<td>17%</td>
<td>15%</td>
<td>15%</td>
<td></td>
</tr>
<tr>
<td>Auto Finance Market (Rs. Cr)</td>
<td>32,585</td>
<td>34,824</td>
<td>30,738</td>
<td>43,247</td>
<td>60,209</td>
</tr>
<tr>
<td>Growth %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6.9%</td>
<td>-11.7%</td>
<td>40.7%</td>
<td>39.2%</td>
<td></td>
</tr>
</tbody>
</table>

During the 2000s, the auto finance in India was dominated by private banks, when Citibank was the market leader. But its market share dropped from 27 per cent during 90s to less than 8 percent during early 2000. ICICI Bank became the new leader with almost 29.2 per cent market share during 2003-04. The journey continued till 2008 when HDFC bank took the lead. However, the current trend shows that the PSU banks like SBI, PNB, Bank of Baroda, Bank of India, Canara Bank, Syndicate Bank and Union Bank etc. are leaving behind their private sector counterparts in the 22,000 crore passenger car and 2-wheeler loan market. The reason behind this is the fact that, private banks have been compelled to reduce their exposure to the sector.
1.5.2 Major Auto finance Institutions in India.

To gain the comprehension of major auto finance companies and banks a brief description of them is provided here under---

(i) **State Bank of India**

State Bank of India (SBI) is one of the leaders in the auto finance segments in India. Recently it has slashed down its rate of interest for the new cars, which, in turn, has attracted a number of customers. Its long repayment option and extensive network of more than 12,150 branches have also made it quite popular among the customers. Recently SBI has inked a deal with General Motors for car finance.

(ii) **ICICI Bank**

ICICI Bank was the market leader in auto finance in India till 2008. Though currently not on the top, it still remains amongst the top 10 auto finance companies in India. However, to regain its lost reign, ICICI Bank is putting car loans on fast track. In the current financial year, ICICI Bank has doubled auto loan disbursement amount to more than 1,500 crore in financial year 2010 comparing to the financial year.

(iii) **HDFC Bank**

HDFC Bank is a market leader in auto finance in India. In order to stay in the race of dominating Indian auto finance market, HDFC Bank also cut down the rate of interest for its car loan.

(iv) **Bajaj Auto Finance Limited (BAFL)**

Bajaj Auto Finance Ltd is one of the leading auto finance companies in India. Offering a diverse array of financial products to its clients ranging from two wheeler loans to other loans like consumer durable loans, business loans and
many more, BAFL also offers free personal accident insurance to its clients. It has an extensive network of 50 branch offices and more than 6000 consumer durable dealerships.

(v) Citibank

Once a market leader in auto financing in India, Citibank offers automobile financing to its clients through its extensive dealership network across the country. One of the leading players in the market, Citibank offers a range of auto financing options for the customers.

(vi) Bank of Baroda

Bank of Baroda offers specially-designed car loans for the customers so that it meets their demands, status and taste. Loans are offered for new as well as used cars. Bank of Baroda also offers a unique facility for installation of CNG/LPG Gas-kit in the cars. Unique features and low interest rates are USPs of Bank of Baroda car loans.

(vii) Punjab National Bank

Punjab National Bank, a renowned leader in the field of auto finance market in India, offers auto loan for new as well as old vehicles of not older than 3 years. Loans are also offered for purchase of vehicles of foreign/indigenous makes. In September 2009, PNB tied up with Mahindra and Mahindra for financing their vehicles across the nation.

(viii) Kotak Mahindra Prime Limited (KMPL)

Kotak Car Finance has crafted a niche in the Indian auto finance market through its flexible schemes, hassle-free documentation and quick processing. KMPL finances new as well as used cars.
(ix) Sundaram Auto Finance

Sundaram Auto Finance is one of the market leaders in the auto finance market in India. Founded in 1998, this company extends finance in all models of cars. Customers can choose from a range of vehicle and finance packages offered by the company. It also has an extensive network of more than 400 branches across the nation.

(xi) United Bank of India

United Bank of India is one of the leading auto finance companies in India offering range of car financing options to the customers. It offers car loan for new cars as well as for used cars. In 2008-09,

(xii) Canara Bank

Canara Bank offers attractive interest in the auto loans for its customers. From August 2009, Canara Bank further reduced its auto loan rates to woo the customers.

1.6 Repair workshops.

With advancement of technology used by automobile manufactures, coupled with increase in on road population of vehicles the concept of Road Side Garages, which were mostly in Un-Organized sector, has given way to Well Equipped Work Shops, managed and operated at multi location by big business houses. These workshops are having direct contacts with the manufacturers for the genuine spare parts, skilled technicians and are in the position to invest higher capital for using the latest technology.

However the fact remains that India is home to numerous authorized and local auto repair shops. Considering the rapid increase in the sale of two and four wheelers in the last decade a host of auto repair shops have come up in all parts of the country. Be it in the metros or towns in case of a car breakdown or a puncture you do not have to
worry too much as there in all probability will be an auto repair shop in close proximity. Apart from repairing the automobile and its parts the many auto repair shops in India also offer services like car washing, servicing, painting and repairing punctures Tyres. Apart from offering a host of repairing services the auto repair shops in India also sell some of the latest automobile parts.

1.7 Auto Sales & support / Dealers organizations

India is a large country and for spreading the sale of automobile it was felt necessary by the manufacturers to have their product available all over India. This was not possible without opening its show rooms and sales support services in all parts of the country. To meet this requirement every manufacturer has its own Dealer Net Work, which has become a big business employing large finance, manpower and recourses.

1.8 R & D, Automobile / Auto component designee and testing organizations-

In the early period technology used by auto manufacturers was developed out side India, and was through the foreign technology collaborations. Even most of the critical components used in automobiles manufacturing were imported, but with the phenomenal growth in auto sector large investment is going in the R&D, Design and testing services. This investment opportunity and availability of trained manpower generated interest in the foreign as well Indian business houses to set up R&D, Designee and testing facilities in the auto hubs of India.

1.8.1 National Automotive Testing and R&D Infrastructure Project (NATRIP)

The most critical intervention of the Government thus far in the automotive sector has come in the form of an ambitious project on setting up world-class automotive testing and R&D infrastructure in the country to help manufacturing, encourage localized R&D, boost exports, converge India’s unparalleled strengths in IT and electronics with automotive engineering sectors to firmly place India in USD 6 trillion global automotive business. NATRIP aims at facilitating introduction of world-class automotive safety, emission and performance standards in India as also
ensure seamless integration of Indian automotive industry with the global industry. The project will deepen manufacturing, enhance employment, encourage localized R&D, boost exports converge. India’s unparalleled strengths in IT and electronics with automotive engineering sectors to firmly place India on the global automotive map. The project aims at addressing one of the most critical handicaps in the overall growth of automotive industry today, i.e. major shortfall of testing and pre-competitive common R&D infrastructure. National Automotive Testing and R&D Infrastructure Project envisage setting up of the following facilities:

(i) A full-fledged testing and homologation center within the northern hub of automotive industry at Manesar in the State of Haryana.

(ii) A full-fledged testing and homologation center within the southern hub of automotive industry at a location near Chennai in the State of Tamil Nadu.

(iii) Up-gradation of existing testing and homologation facilities at Automotive Research Association of India (ARAI), Pune and at Vehicle Research and Development Establishment (VRDE), Ahmednagar

(iv) World-class proving grounds or testing tracks on around 4,000 acres of land in Madhya Pradesh.

(v) National Center for Testing of Tractors and Off-Road Vehicles together with national facility for accident data analysis and specialized driving training at Rae Bareilly in the State of Uttar Pradesh.

(vi) National Specialized Hill Area Driving Training Center as also Regional In-Use vehicle management Center at Dholchora (Silchar) in the State of Assam.
Expected Benefits

NATRIP facilities will be state of the art and will be globally benchmarked. These institutions will have significant global marketing focus to attract overseas automotive testing, homologation, product validation and development work. Apart from ensuring availability of world class infrastructure to test modern vehicles and components and promoting larger value addition in automotive manufacturing.

NATRIP is also slated to make a significant contribution to improving the road safety scenario in the country. India, accounting for nearly 10% of global road fatalities, loses more than 80,000 human lives every year in road accidents. These accidents cost the national economy in excess of Rs. 55,000 crore annually as per an estimate by the Planning Commission. NATRIP is aimed to ensure better safety and performance profile of vehicles. Its cost would be more than fully recovered if it helps to reduce road accidents even by a fraction. NATRIP is a path-breaking initiative of the Government and is slated to change the automotive landscape of India.

1.9 Auto Logistic support services -

With large volume and increasing utilization of Just in time concept by the Auto manufacturers, Auto Dealers and also by the consumers the dependence on railways for the movement of raw materials, components, sub-assemblies, and the finished Automobiles has sifted to Road transportation systems.

New ventures, specializing in meeting the logistic requirements of Auto sector came in existence, the already existing transport organizations started new verticals not only for transportation of material for auto companies but for meeting the entire logistic Supply- Chain
1.10 SMALL CARS -

The term ‘Small Car’ is both relative and subjective. A small car in the US or the Middle East is regarded as big in countries such as India and Indonesia. Within a particular country, too, the small car market has fairly heterogeneous products. While a car equipped with the latest technology such as the Suzuki Swift is a small car, the basic Nano, which is available at one-third the price of the Swift, also belongs to the same segment.

To arrive at the acceptable definition of Small Car in Indian context it is important to first review the various classifications methods in use for classifying the automobiles. Some of the well accepted methods are as under-

1.10.1 Automobiles on road can be classified into two major types.

1. Passenger vehicles

2. Goods vehicles

Further these two can be classifies as follow

1. PASSENGER VEHICLES

(a) Light vehicles
   Mopeds
   Scooters
   Motor cycles
   Jeeps
   Station wagons
   Pick-Ups
   Cars

(b) Heavy vehicles
   Buses
   Coaches
   Single Decker
Double Decker
Deluxe
Mini buses
Big buses

2. GOODS VEHICLES

(a) Tempo
    Three wheeler,
    Four wheeler

(b) Light vehicles
    Delivery van,
    Light Truck

(c) Heavy vehicles
    Truck
    Tractor Trailer

To make understandable at a glance the classification various types of automobiles is presented in Figure 1.9
1. 10.2 Classification of cars

Cars are classified according to the body design. There are three main categories according to the car body design- They are hatchback, sedan and estate cars.

**Hatchback cars**

A hatchback car is a vehicle that has a large door in the back that swings upward, while many other models also use this type of door; a hatchback car is traditionally looked at as a small coupe with respect to sedan-size car with a raise-open door in the back instead of a trunk, which usually gives it more storage space. It is commonly referred to as a three-door or five-door car, in reference to the hatchback adding an extra door to the number of side doors the car also has. Hatchback cars are mostly marketed as being versatile vehicles, allowing more storage capacity than a standard
car, but better handling and gas mileage (and a lower cost) than vans or sport utility vehicles. This has led to hatchbacks becoming popular.

Hatchbacks are classified as any car with a cargo space open to its passenger area and with a rear window or door...

**Sedan cars**-

A *sedan* car (American English) or *saloon* car (British English) is a passenger car with two rows of seats and adequate passenger space in the rear compartment for adult passengers. The vehicle usually has a separate rear trunk (boot in British English) for luggage. It is one of the most common body styles for modern automobiles.

A basic way to define a sedan is a car with large boot space and a totally separate section for passengers. A sedan will have a hard roof and can have seat room to accommodate four passengers or more.

Sedan car are generally having three segments. The first segment is equipped with the engine and other control systems; second segment is having two rows of seats for passengers and the third is for cargo. Sedans offer big room space even for adults, this is why sedans are preferred by many people.

**Estate cars** -

A *estate car* (also known as an *station wagon*) is an automobile with a body style variant of a sedan/saloon with its roof extended rearward over a shared passenger/cargo volume with access at the back via a third or fifth door (the lift gate or tailgate), instead of a trunk lid. Station wagons can flexibly reconfigure their interior volume via fold-down rear seats to prioritize either passenger or cargo volume.

The American Heritage Dictionary defines a station wagon as "an automobile with one or more rows of folding or removable seats behind the driver and no luggage
compartment but an area behind the seats into which suitcases, parcels, etc., can be loaded through a tailgate.

1.10.3 Small Car Definitions

1. A car that has limited or no luxury features and is more functional, offering customers basic mobility and value for money, can be considered a small car.

2. Excise duty rules in India define a small car as one that is shorter than 4,000 mm with an engine size smaller than 1,200 cc, if gasoline, and 1,500 cc, if diesel.

3. From a price perspective, it is difficult to objectively define a small car. According to the standard Indian income classification, any car costing up to INR 500,000 can be considered a small car.

For the purpose of this research, researcher has considered the Government of India’s definition of small car, as used in Excise duty rules, which is as under.

A small car is one that is shorter than 4,000 mm with an engine size smaller than 1,200 cc, if gasoline, and 1,500 cc, if diesel.

It will be interesting to note the sale trend of Small cars in India. Table 1.4 presents these trends---

<table>
<thead>
<tr>
<th>Year</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Export</td>
<td>138,374</td>
<td>154,447</td>
<td>187,677</td>
<td>301,550</td>
<td>418,266</td>
</tr>
<tr>
<td>Domestic</td>
<td>662,094</td>
<td>832,172</td>
<td>928,750</td>
<td>935,059</td>
<td>1,191,650</td>
</tr>
</tbody>
</table>

Note: CAGR Export 26%, CAGR Domestic 14%

Source- SIAM
From the perusal of above data is quite evident that between 2006 and 2010 the export of car increased three fold and domestic of cars secured an impressive increase of two fold during the corresponding period.

1.11 Middle Class-

National Council for Applied Economic Research's (NCAER) Centre for Macro Consumer Research, which uses 'household income' as the criterion has defined that “a family with an annual income between Rs 3.4 lakh to Rs 17 lakh (at 2009-10 price levels) falls in the middle class category”. (As per 2000-01 prices, middle class classification was based on annual income of Rs 2-10 lakh.) Currently India has 31.4 million middle class households (160 million individuals).

The Indian middle class, target consumers for many companies, is expected to swell up to 267 million people in the next five years, up 67 per cent from the current levels, thus providing a great market opportunity for firms, according to NCAER.

A report by National Council for Applied Economic Research's (NCAER) Centre for Macro Consumer Research said by 2015-16, India will be a country of 53.3 million middle class households, translating into 267 million people falling in the category.

As per the finding of" NCAER's Centre for Macro Consumer Research (CMCR), "Factors such as the country's GDP growth, which is projected to be around nine per cent, going ahead and high growth rate of urbanization will result in the increase of middle class in the country.

Further ahead, by 2025-26 the number of middle class households in India is likely to more than double from the 2015-16 levels to 113.8 million households or 547 million individuals.

As per the findings, the percentage of the middle class in the country's total population will increase to 20.3 per cent by 2015-16 and 37.2 per cent by 2025-26.
Besides, the growth in the number of middle class households will translate into huge demand for the products such as cars, televisions, computers, air-conditioners, microwave ovens, etc..

Interestingly, as per NCAER findings, the middle class that represents only 13.1 per cent of India's population currently owns 49 per cent of total number of cars in India, 21 per cent of TVs, 53.2 per cent of computers, 52.9 per cent of Air Conditioners, 37.8 per cent of Microwave Ovens and 45.7 per cent of credit cards.

The report said a typical Indian middle class household spends about 50 per cent of the total income on daily expenses with the remaining goes into savings. This means a middle class family has strong purchasing power to spend on durables and other items.

1.11.1 Middle Class Effect on Indian Market

India has been a consumption-driven economy for the last many decades and will continue to be so over the coming two decades. As per McKinsey Global Institute (MGI), spending in India is expected to increase about 2.5 times by 2025. The middle class population in India is going to increase by about 12 times during 2005-2025, fuelling consumption demand.

India’s gross domestic product (GDP) at constant prices had grown about four times during 1990-2009 and is expected to grow by about five times by 2030, according to data sourced from McKinsey Global Institute. The increase in GDP is going to be beneficial for many sectors and provides many investment opportunities.

Private consumption has been the driver of Indian GDP for the past many decades. It has nearly doubled over 2003-09 and is likely to further increase by about 2.5 times by 2030. The increase in private consumption is growing primarily due to rising income of Indian Middle Class.
1.12 Urbanization in India

As per the United Nations, urbanization in India is expected to increase from about 30% in 2010 to about 40% by 2030 and the number of people living in urban areas will increase by about 62% to 59 billion. Also, the middle class population in India will increase by about 12 times to 580 million and will constitute 41% of the population by 2025 as against about 5% in 2005, according to data sourced from MGI. The per capita income of India is expected to increase about 18 times by 2039, according to Emerging Market Forum. Disposable income for households is expected to increase by about three times by 2025, according to MGI.

Growing urbanization, a young working-age population, higher income will result in increased spending and, there will be a consumption boom over the next two decades. Growing income and rising disposable income over the next two decades will result in the discretionary spending to increase from about 52% in 2005 to about 70% of the customer wallet by 2025, according to MGI. The growing discretionary spending will result in demand for Cars.

The Automobile industry will be a significant beneficiary of rising income, growing middle class and increasing urbanization in the country.

1.13 Profile of Indian Consumer: - (with Specific Reference to Rural Market)

The very recent survey conducted by National Sample Survey Organization (NSSO), has indicated that in 2010-11 the consumption in Rural India has out placed the urban India in the two year period of 2009-10 and 2011-12.

Some of the key findings are (source Times News Network):

- More than 50% of India’s consumer durables and two wheelers are in rural area.
- The growth of consumption in rural area was 19% where it was only 17% in urban area during 2010-11 and 2011-12.
• In 2011-12 total rural consumption was Rs. 12.9 lakh crore against the national Rs. 23.4 lakh crore.
• The indication of life style change – about 1 out of 2 rural house holds in India has a Mobile phone.

One of the key reasons for the increased consumption is the impressive growth of the middle class in rural India. Around 70 per cent of the total households in India reside in the rural areas. The total number of rural household is expected to rise from 135 million in 2001-02 to 153 million in 2009-10. This presents the largest potential market in the world. According to the study conducted by NCEAR, the number of 'lower middle income' group in rural areas is almost double as compared to the urban areas, having a large consuming class with 41% of the Indian middle class and 58% of the total disposable income.

The Indian rural market has been growing at 3-4% per annum, adding more than 1 million new consumers every year and now accounts for close to 50% of the volume consumption of fast-moving consumer goods (FMCG) in India. The market size of the fast moving consumer goods sector is projected to be more than double to US$ 23.25 billion by 2010 from the present US$ 11.16 billion. As a result, it is becoming an important market place for cars.

There were nearly 70 million households (33% of the total) with an income of more than US$3,000 in 2006. These "well-off" households already own relatively expensive consumer durables, such as air conditioners and refrigerators. Some of the startling facts about Indian consumers are being quoted here-----

• 600 million + effective buyers by 2010
• 550 million + under the age of 20 by 2015
• 70 million + earn Rs. 8, 00,000+ ($18,000) a year – number to rise to 140 million by 2011. Some of the important facts about Indian consumers as per their consumption pattern are depicted in Table 1.5 as under
Table: 1.5 Consumption Pattern of Indian consumers

<table>
<thead>
<tr>
<th>Class and Consumption Pattern</th>
<th>NO. in 1990-2000</th>
<th>No. in 2005-06</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middle Class (annual income &gt; US$ 4,700)</td>
<td>3 million households</td>
<td>6 million households</td>
</tr>
<tr>
<td>CONSUMING (US$ 1000-4700)</td>
<td>55 million</td>
<td>75 million</td>
</tr>
<tr>
<td>CLIMBERS (US$500-1000)</td>
<td>66 million</td>
<td>78 million</td>
</tr>
<tr>
<td>ASPIRANTS (US$350-500)</td>
<td>32 million</td>
<td>33 million</td>
</tr>
<tr>
<td>DESTITUTES (Less than US$350)</td>
<td>24 million</td>
<td>17 million</td>
</tr>
</tbody>
</table>

Source: The Great Indian Retail Story 2006, Ernst & Young.

1.14 Sustainability

The word sustainability is derived from the Latin sustainere (tenere, to hold; sus, up). Dictionaries provide more than ten meanings for sustain, the main ones being to "maintain", "support", or "endure". However, since the 1980s sustainability has been used more in the sense of human sustainability on planet Earth and this has resulted in the most widely quoted definition of sustainability as a part of the concept Sustainable development, that of the Brundtland Commission of the United Nations on March 20, 1987:

“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

Sustainability is increasingly viewed as a desired goal of development and environmental management. This term has been used in numerous disciplines and in a
variety of contexts, ranging from the concept of maximum sustainable yield in forestry and fisheries management to the vision of a sustainable society with a steady-state economy.

The meaning of the term is strongly dependent on the context in which it is applied and on whether its use is based on a social, economic, or ecological perspective. Sustainability may be defined broadly or narrowly, but a useful definition must specify explicitly the context as well as the temporal and spatial scales being considered.

Although societies differ in their conceptualizations of sustainability, indefinite human survival on a global scale requires certain basic support systems, which can be maintained only with a healthy environment and a stable human population. A clearer understanding of global sustainability and the development of appropriate indicators of the status of basic support systems would provide a useful framework for policy making.

Sustainability Practical view -

It is the ability to continue a defined behavior indefinitely

For more practical detail the behavior you wish to continue indefinitely must be defined. For example:

Environmental sustainability is the ability to maintain rates of renewable resource harvest, pollution creation, and non-renewable resource depletion that can be continued indefinitely.

Economic sustainability is the ability to support a defined level of economic production indefinitely.

Social sustainability is the ability of a social system, such as a country, to function at a defined level of social well being indefinitely.
A more complete definition of sustainability is thus environmental, economic, and social sustainability. This forms the goal of the ‘Three Pillars of Sustainability’. The same has depicted the help of following diagram-

![Three pillars of Sustainability](image)

**Figure: 1.10-Three pillars of Sustainability**

Source- Thwink glossary

The present study has been undertaken to study the economic sustainability of small cars in Indian automobile sector, with specific reference to study the market sustainability of such cars, with a view to find out whether such cars will withstand in Indian car market in foreseeable future.

For this study since it is related to the life cycle of a product naming the Small Car, the Market Sustainability which is part of bigger concept of economic sustainability will be more appropriate to focus. There for this study the concept will be- ‘that considering the various factors affecting the buying. Preferences of Consumer will the Small Car will be a Preferred Choice for a long time.’

**1.15 AUTO POLICY 2002- Government of India**

(Source- Government of India Publication)

This policy was issued by the Ministry of Heavy Industries & Public Enterprises, Department of Heavy Industry, in March 2002.

The objective of the policy as given in the policy was “To establish a globally competitive automotive industry in India and to double its contribution to the economy by 2010”.
The government of India’s policy shift in 1991 to economic liberalization, and globalization has galvanized the growth in automobile sector; still the industry was not able to grow at faster pace. Many foreign players in the automobile sector started showing their interest in the Indian automobile industry, in absence of a long term policy there was lot of uncertainty. Even the Indian auto manufacturers and specially the auto component manufacturers which were manly Small and Medium Enterprises (SME,s), were left behind. To address all concerns of Indian as well as foreign enterprises need for long term policy guide lines were very strongly felt by all stake holders.

The policy document has best high lighted the following as the need for the Automotive Policy-

The extant policy was attracting many overseas companies into India but needed to be more investor friendly, addressing emerging problems and be WTO compatible. The Indian car markets were full of possibilities; but the demand profiles inhibited volume production, save by a few, and were encouraging contention rather than competition. World over, the majors have consolidated to elevate technology, enlarge product range, access new markets, cut costs and go for versatility. They have resorted to common platforms, modular assemblies and systems integration by component suppliers and E-Commerce.

The automotive industry was in the midst of a major structural transformation in globalised scenario. "System Supply" of integrated components and sub-systems was becoming the order of the day, with individual small components being supplied to the system integrators instead of the vehicle manufacturers. In this process, most of the Small Scale Manufacturing (SSI) units manufacturing smaller individual components were on their way to become tier 2 and tier 3 suppliers, while the larger companies including most MNCs were being transformed into tier 1 companies, which purchase from tier 2 & 3, and sell to the auto manufacturers.

Indian auto sector needed to grow collaterally and in harmony with world industry. India was having the potential to be a global automotive power. However, concerted
efforts were required to take auto manufacturing to a self-sustaining level where they shall have volumes, generate requisite technology and meet evolving emission requirements.

It is also important to note that, volume is important for any manufacturing enterprise. However, it is more important for automobile sector, both for the manufacture of vehicles as well as auto components. Lack of volume will not only inhibit efficient manufacture but also R&D and introduction of new models. The investment and fiscal policies should create an environment for volume production and indigenous capability for innovation for small cars and auto components.

To fulfill these needs government of India, after careful evaluating all the inputs received through various government organizations e.g. Planning Commission, reports from various government ministries and departments, reports of the study groups on development of infrastructure etc., and also from industrial organizations like Confederation of Indian Industries (CII), Society of Indian Automobile Manufactures (SIAM), Federation of Indian Chambers of comers and Industry (FICCI), Automotive Component Manufacturers Association of India (ACMA), Federation of Automobile Dealers Associations of India (FEDA) etc., has prepared the Auto Policy and published the same in March 2002.

The policy out lined the following objectives-

**Quote**-

(i) This policy aims to promote integrated, phased, enduring and self-sustained growth of the Indian automotive industry.

(ii) Exalt the sector as a lever of industrial growth and employment and to achieve a high degree of value addition in the country;

(iii) Promote a globally competitive automotive industry and emerge as a global source for auto components;
(iv) Establish an international hub for manufacturing small, affordable passenger cars and a key center for manufacturing Tractors and Two-wheelers in the world.

(vi) Ensure a balanced transition to open trade at a minimal risk to the Indian economy and local industry.

(vii) Conduce incessant modernization of the industry and facilitate indigenous design, research and development.

(viii) Steer India's software industry into automotive technology.

(ix) Assist development of vehicles propelled by alternate energy sources.

(x) Development of domestic safety and environmental standards at par with international standards.

Unquote

To realize these policy objectives government of India in this policy document has indicated a three prong approach –

(a) The government will take suitable initiative in line with it’s commitments to WTO, the on going economic reforms, in the area of tariffs, duties, import regulations and for attracting investments etc.

(b) The government will allocate more resources for up-gradation of roads, and development of road infrastructure.

(c) To put in place an appropriate regulatory framework for safety & environmental aspect, and for smooth movement of traffic.
The Salient features of the Auto Policy-

(i) Foreign Direct Investment- Automatic approval for foreign equity investment up to 100% in the manufacturing of automobile as well as auto component segment.

(ii) Import tariff will be fixed in a manner so as to facilitate development of manufacturing capabilities as opposed to mere assembly without giving undue protection.

(iii) Ensure balanced transition to open trade; promote increased competition in the market and enlarge purchase options to the Indian customer.

(iv) The Government will review the automotive tariff structure periodically to encourage demand, promote the growth of the industry and prevent India from becoming a dumping ground for international rejects.

(v) In respect of items with bound rates viz. Buses, Trucks, Tractors, CBUs and Auto components, Government will give adequate accommodation to indigenous industry to attain global standards.

(vi) In consonance with Auto Policy objectives, in respect of unbound items i.e., Motor Cars, MUVs, Motorcycles, Mopeds, Scooters and Auto Rickshaws, the import tariff shall be so designed as to give maximum fillip to manufacturing in the country without extending undue protection to domestic industry.

(vii) The conditions for import of new Completely Built Units (CBUs), will be as per Public Notice issued by the Director General Foreign Trade (DGFT) having regard to environment and safety regulations.

(viii) Used vehicles imported into the country would have to meet CMVR, environmental requirements as per Public Notice issued by DGFT laying down specific standards and other criteria for such imports.

(ix) Appropriate measures including anti dumping duties will be put in place to check dumping and unfair trade practices.

(x) Restructuring of Excise Duty-

(a) For Motor Cars- Domestic demand mainly devolves around small cars not exceeding 3.80 meters in length. Small cars occupy
less of road space and save on fuel. These capture more than 85% of the market. India can build export capability and become an Asian hub for export of small cars. The growth of this segment needs to be spurred.

(b) Multi Utility Vehicles- MUVs are an important mode of economical mass transport in rural India due to poor road infrastructure and lack of good State transport system. They are the first vehicle purchased by a number of farmers, traders, small businessmen in rural and semi-urban markets. The Government will endeavor to provide fiscal incentives to this sector.

(c) Commercial Vehicles- Presently excise duty on commercial vehicles sold by a manufacturer whether as a chassis or with a complete body is 16%. However, no duty is levied on the body that is built by an independent body builder on chassis bought from a manufacturer. This dispensation inveigles production of the complete trucks and buses by the chassis manufacturer and is detrimental to safety standards. The duty imposed on the construction of bodies by an independent body builder, small or organized sector shall be equal to that of bodies built by a chassis manufacturer.

(d) The Government will encourage fabrication of bus body on bus chassis designed for better passenger comfort instead of truck chassis as is the current practice.

(e) The Government will promote the use of multi-axle vehicles for carriage of goods as they cause reduced environmental pollution and lesser wear and tear on road surface in comparison to the existing 2-axle trucks.

(xi) Improving road infrastructure- . Poor road infrastructure and traffic congestion can be a bottleneck in the growth of vehicle industry. A balanced and coordinated approach will be undertaken for proper maintenance, up gradation and development of roads by encouraging private sector participation besides public investment and
incorporating latest technologies and management practices to take care of increase in vehicular traffic.

For the convenience of traveling public the Government shall also promote multi-modal transportation and the implementation of mass rapid transport systems.

(xii) Incentive for Research and Development- The Government shall promote Research & Development in automotive industry by strengthening the efforts of industry in this direction by providing suitable fiscal and financial incentives.

The current policy allows Weighted Tax Deduction under I.T. Act, 1961 for sponsored research and in-house R&D expenditure. This will be improved further for research and development activities of vehicle and component manufacturers from the current level of 125%.

In addition, Vehicle manufacturers will also be considered for a rebate on the applicable excise duty for every 1% of the gross turnover of the company expended during the year on Research and Development carried either in-house under a distinct dedicated entity, faculty or division within the company assessed as competent and qualified for the purpose or in any other R&D institution in the country. This would include R & D leading to adoption of low emission technologies and energy saving devices.

Government will encourage setting up of independent auto design firms by providing them tax breaks, concessional duty on plant/equipment imports and granting automatic approval.

Allocations to automotive cess fund created for R&D of automotive industry shall be increased and the scope of activities covered under it enlarged.

(xiii) Building Bye Laws for Residential, Commercial and Other Uses - With the growth of vehicles, smooth traffic movement has come under severe strain. The problem has been aggravated because of inadequate provision of parking facilities generally. Starting with metropolitan and important towns, the Government will pursue with State Governments and Local bodies amendments to bye laws for upward
revision of the parking norms for new residential buildings, construction of common parking for existing residential areas besides parking up gradation in all commercial areas. Multi-storied parking shall also be encouraged.

(xiv) Environmental Aspects - The automotive and oil industry have to heave together to constantly fulfill environment imperatives. The Government will continue to promote the use of low emission fuel auto technology.

The Government after considering the recommendations of the Expert Committee on Auto Fuel Policy headed by Dr. R.A. Mashelkar, have approved a road map for implementation for the auto fuel quality consistent with the required levels of vehicular emissions norms and environmental quality. The Government will formulate a comprehensive auto fuel policy covering the other related aspects and ensure availability of appropriate auto fuel/fuel mixes at minimum social costs across the country. Suitable institutional mechanism will be put in place for certification, monitoring and enforcement of different technologies/fuel mixes. Appropriate fiscal measures will be devised to achieve milestones in the roadmap for implementation of auto fuel policy.

In the short run, the Government will encourage the use of short chain hydrocarbons along with other auto fuels of the quality necessary to meet the vehicular emissions norms.

There is prime need to support the development and introduction of vehicles propelled by energy sources other than hydrocarbons by promoting appropriate automotive technology. Hybrid vehicles and vehicles operating with batteries and fuel cells are alternatives to the conventional automobile, which in their early beginnings, As an impetus for the development of such vehicles, an appropriate long-term fiscal structure shall be put in place to facilitate their acceptance vis-à-vis vehicles based on conventional fuels.

Internationally, the practice is to levy higher road tax on older vehicles in order to discourage their use. In India, the road tax on vehicles varies in nature and quantum
among the states. Lifetime road tax is also in vogue. The endeavor will be to move to the international model.

In order to facilitate faster upgradation of environmental quality, the Govt. will consider having a terminal life policy for commercial vehicles along with incentives for replacement for such vehicles.

(xv) Safety - Government will duly amend the Central Motor Vehicles Rules, Bureau of Indian Standards (BIS) and other relevant provisions and introduce safety regulations that conform to global standards.

Testing and certification facilities need to be revised and strengthened in accordance with safety standards of global order. Government, in partnership with industry, will tend to this requirement.

(xvi) Harmonization of standards- Government recognizes the need for harmonization of standards in a global economy and will work towards it.

The Auto Policy has served an important purpose of giving suitable direction to future government regulations. This has encouraged investment not only in the automobile manufacturing but in other segments of auto industry as well. The cumulative effect was the development of new models, use of improved technology in automobiles produced, development of roads and other infrastructure etc.

One of the important fallout of the Auto Policy was that it has defined the Small Car segment and high lighted the future potential of this segment. This has resulted in preferential treatment by the government to this sector.

1.16 Indian road network over view

India has a road network of over 4.32 million kilometers in 2011, the third largest road network in the world. At 0.66 km of roads per square kilometer of land the quantitative density of India’s road network is similar to that of the United States (0.65) and far higher than that of China (0.16) or Brazil (0.20). However, qualitatively India's roads are a mix of modern highways and narrow, unpaved roads and are under
going a drastic change in recent years, for better. As of 2008, 49 percent - about 2.1 million kilometers - of Indian roads were paved.

Adjusted for its larger population, India has less than 4 kilometers of roads per 1000 people, including all its paved and unpaved roads. In terms of quality, all season, 4 or more lane highways, India has less than 0.07 kilometers of highways per 1000 people, as of 2010. These are one of the lowest road and highway densities in the world. For context, United States has 21 kilometers of roads per 1000 people, while France about 15 kilometers per 1000 people - predominantly paved and high quality in both cases. In terms of all season, 4 or more lane highways, developed countries such as United States and France have a highway density per 1000 people that is over 15 times as India.

**The changing face of Indian road network**

India in its past did not allocate enough resources to build or maintain its road network. This has changed since 1995, with major efforts currently underway to modernize the country's road infrastructure. India plans to spend approximately US$70 Billion by 2013 to modernize its highway network.

As of June 2012, India had completed and placed in use over 18,300 kilometers of recently built 4 or 6-lane highways connecting many of its major manufacturing centers, commercial and cultural centers.

The rate of new highway construction across India has accelerated in recent years. As of October 2011, the country was adding 11 kilometers of new highways, on average, every day. The expected pace of project initiations and completion suggests that India would add about 600 kilometers of modern highway per month, on average, through 2014.

Road Transport is vital to India's economy. It enables the country's transportation sector contribute 4.7 percent of India’s gross domestic product, in comparison to railways that contributed 1 percent, in 2009-2010. Road transport has gained in
importance over the years despite significant barriers and inefficiencies in inter-state freight and passenger movement compared to railways and air. The government of India considers road network as critical to the country's development, social integration and security needs of the country.

India's road network carries over 65 percent of its freight and about 85 percent of passenger traffic.

Indian road network is administered by various government authorities, given India's federal form of government. The table 1.6 below describes the regulating bodies.

Table: 1.6 Regulatory Bodies to Administer Road Network

<table>
<thead>
<tr>
<th>Road classification</th>
<th>Authority responsible</th>
<th>Total kilometers (as of 2011)</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Highways</td>
<td>Ministry of Road Transport &amp; Highways (Central government of India)</td>
<td>70,934 plus 40,000 kilometers under implementation</td>
</tr>
<tr>
<td>State Highways</td>
<td>State governments (state's public works department)</td>
<td>131,899</td>
</tr>
<tr>
<td>Rural and urban roads</td>
<td>Local governments, Panchayats and Municipalities</td>
<td>3,117,763</td>
</tr>
</tbody>
</table>

Government of India Road Development Plan – Vision 2021

(Source – Government of India Publications)

An efficient transport system is a pre-requisite for sustained economic development. It is not only the key infrastructural input for the growth process but also plays a significant role in promoting national integration which is particularly important in a large country like India. In a liberalized set up, an efficient transport network becomes all the more important in order to increase productivity and enhancing the
competitive efficiency of the economy in the world market. The transport system also plays an important role in promoting the development of the backward regions and integrating them with the main economy by opening them to trade investment.

Roads are nerves of economic growth and enhance other social as well as infrastructural development, therefore it need special attention in planning process.

The Government of India takes up the development works of National Highways through five year plans. However, the Ministry in 2001 had prepared, through Indian Roads Congress (IRC), ‘Road Development Plan VISION: 2021’ for a period of 20 years (2001-2021). This document provides the vision for the next 20 years for development and maintenance of all categories of roads i.e. National Highways, State Highways, Major District Roads and Rural Roads. The urban roads as well as the roads for specific need e.g. tourism, forestry, mining and industrial areas etc. have also been considered. The research and development, mobilization of resources, capacity building and human resources development, quality system, environment and energy considerations for the highway sector and highway safety are also included in this document which serves as only a valuable guide to the Centre and the State government for planning purpose.

**Objective of India Road Development Plan – Vision 2021**

National Highways: Minimum of two-lane carriageway with hard shoulders. Half the network should have four/six-lanes. Strengthening of weak pavements, rehabilitation of bridges showing signs of distress. Construction of bypasses, railway over bridges, safety engineering and drainage measures. Expanding the present NH system to 80,000 kms. by the end of 2021.

State Highways: Entire length of State Highways to be of minimum two lane standards of which some segments with additional hard shoulders and 10,000 kms., of State Highways to be four lane. Present State Highways system to be expanded to 1, 60,000 kms. by the end of 2021.
M.D.R.: 40% of Major District Roads should have a minimum of two-lane carriageway and the total length of network to be expanded to 3,20,000 kms. by the end of 2021.

Rural Roads: All villages with population more than 1000 to be connected by the year 2003, villages with population between 500 to 1000 to be connected by 2007 and villages with population less than 500 to be connected by 2010. Once the basic access to all the villages is achieved in the first decade, the work of further improvements of village roads and additional links may be taken up in subsequent decade.

The vision 2021 has laid down specific targets for all India National Highways; State Highways and Major District Roads of different categories of roads are presented in Table1.7 as follows:

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Category of Road</th>
<th>Area of Country (in sq. kms.)</th>
<th>Target of country as per Vision 2021 (in kms.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>N.H</td>
<td>31,66,414</td>
<td>80,000</td>
</tr>
<tr>
<td>2</td>
<td>S.H.</td>
<td>31,66,414</td>
<td>1,60,000</td>
</tr>
<tr>
<td>3</td>
<td>M.D.R.</td>
<td>31,66,414</td>
<td>3,20,000</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td>5,60,000</td>
</tr>
</tbody>
</table>

Source: Thrust of Tenth Five year Plan (2002-07)

12. The strategy adopted in formulation of Tenth Five Year Plan and annual plan 2004-05 is based on the following objectives:-

(1) Maximizing benefits by completing the ongoing schemes.

(2) Development of rural roads - Village connectivity.

(3) Upgradation of existing road network-
All single lane and intermediate lanes of State Highways to be widened and strengthened

Important major district roads to be improved, strengthened and widened.

(4) Bridges -
- Missing Bridges across State Highways and MDRs to be constructed.
- Distressed bridges on State Highways and important major district roads to be rehabilitated.
- Narrow bridges on important State Highways, and major district roads to be widened.

(5) Important Railway level crossings with traffic density above 1 lakh train vehicle units (TVU) to be replaced by road over head bridges.

(6) Construction of fly over and subways in important cities of the State.

(7) District headquarters to be provided bypasses at least for major traffic sectors.

(8) Improvement of Urban roads.

(9) Traffic safety measures e.g. improvement of road geometric, construction of subways etc.

(10) Computerization and modernization of P.W.D. secretariat, Engineer-in-Chief, Zonal Chief Engineers, Circle and Divisional level offices.

(11) Private sector participation.

(12) Construction of over head bridges, river bridges, bypasses and expresses ways to be taken up under BOT.

The road development and up gradation work, under taken by Government of India, various state governments, city corporations, municipalities, and other agencies has resulted in a fast development motor able road net work in India.

This road development has direct bearing on the growth of Indian Automobile sector in general and Personal vehicles in particular. This has significantly contributed to the growth of small car segment will also is also a prime factor for its sustainability.