

# A STUDY ON GROWTH AND DEVELOPMENT OF AUTOMOBILE INDUSTRY IN INDIA

A. Jaganathan

Department of Business Administration with Computer Applications, Government Arts and Science College, Gudalur, India

## Abstract

After economic reforms took place in India in 1991, it is only in the mid-1990s, that the automotive industry started opening up. Thus, the mid-1990s are characterized by the entry of global automotive manufacturers through joint ventures in India. Till the 1990s, the automotive industry in India was primarily dominated by Maruti Suzuki, Tata Motors, Hindustan Motors and Premier Padmini in the passenger car segment. Ashok Leyland, Tata Motors and Mahindra & Mahindra dominated the commercial vehicle segment while Bajaj Auto dominated the two-wheeler segment. Eventually multinational automakers, such as, though not limited to, Suzuki and Toyota of Japan and Hyundai of South Korea, were allowed to invest in the Indian market ultimately leading to the establishment of an automotive industry in India. A number of foreign firms also initiated joint ventures with Indian companies. The study is cover evolution and facts about Indian automobile industry.

## Keywords:

Automobile, Combination, Passenger Car, Service

## 1. INTRODUCTION

The history of the Automobile actually began about 4000 years ago when the first wheel was used for transportation in India. Several Italians recorded designs for wind driven vehicles. The first was Guido da Vigevano in 1335. Vaturio designed a similar car which was also never built. Later Leonardo da vinci designed clockwork driven tricycle with tiller steering and a differential mechanism between the back wheels [1].

A Catholic Priest named father ferdinan varbiest is credited to have built a steam-powered car for the Chinese emperor Chien Lung in about 1678. There is no information about the automobile, only the event. Since James Watt didn't invent the steam engine until 1705, people can guess that this was possibly a model automobile powered by a mechanism [2].

Although by the mid-15<sup>th</sup> Century the idea of a self-propelled automobile had been put into practice with the development of experimental car is powered by means of springs, clockworks, and the wind, In the year 1769, a French engineer by the name of Nicolas-Joseph cugnot invented the first automobile to run on roads [3]. Designed by cugnot and Constructed by Brezin, this automobile, in fact, was a self-powered, there-wheeled military tractor that made the use of a steam engine. The range of the automobile however, was very brief and at the most, it could only run at a stretch for fifteen minutes. In addition, these automobile were not fit for the roads as the steam engines made them very heavy and large, and required ample starting time. It had a top speed of a little more than 3.2 km/h and had to stop every 20 minutes to build up a fresh head of steam [4].

Evans was the first American who obtained a patent for "a self-propelled carriage". He, In Fact, attempted to create a two-in- one combination of a steam wagon and a flat-bottomed boat,

which didn't receive any attention in these days. During the 1830's the steam car had made great advances. But stiff competition from railway companies and crude legislations in Britain forced the poor steam automobile gradually out of use on roads [6].

## 2. BACKGROUND

The early steam-powered automobiles were so heavy that they were only practical on a perfectly flat surface as strong as iron. A road thus made out of iron rails became the norm for the next hundred and twenty five years. The Automobiles got bigger and heavier and more powerful and as such they were eventually capable of pulling a train of many cars filled with freight and passengers [7].

Carl Benz and Gottlieb Daimler, both Germans, Share the credit of changing the transport habits of the world, for their efforts laid the foundation of the great motor industry as people know it today. First, Carl Benz invented the petrol engine in 1885 and a year later Daimler made a car driven by motor of his own design and the rest is history [8].

France too had joined the motoring scenario by 1890 when two Frenchmen Panhard and Levassor began producing automobiles powered by Daimler engine and Daimler himself possessed by the automobile spirit, went on adding new features to his engine. He built the first V-Twin engine with a glowing platinum tube to explode the Cylinder gas-the very earliest form of sparking plug. The engines were positioned under the Seat in most of the Daimler as well as Benz Cars. However, the French duo of panhard and levassor made a revolutionary contribution when they mounted the engine in the front of the car under a "bonnet" [9].

Charles Duryea built a car carriage in America with petrol engine in 1892, followed by Elwood Haynes in 1894, thus concrete the way for motor cars in that country. For many years after the introduction of automobiles, there kinds of power sources were in common use; Steam engines, gasoline or petrol engines, and electrical motors.

In 1900, over 2300 automobiles were registered in New York, Boston, Massachusetts, and Chicago of these 1170 were Steam Cars, 800 were electric Cars, and only 400 were gasoline Cars. In ten years from the invention of the petrol engine, the motor car had evolved itself into amazing designs and shapes. By 1898, there were 50 automobile manufacturing companies in the United State. In that year, Henry Ford revolutionized the manufacture of automobiles with his assembly-line style of production and brought out the model T, a Car that was inexpensive, versatile, and easy to maintain. This lead to the development of the industry and it was first begun in the assembly lines of his car factory. The several methods adapted by Ford, made the new invention (i.e. Car) popular amongst the rich as well as the masses.

The very first car introduced to Indian road in 189. A resident of Calcutta brought that car to India. The next year, there were four cars in Bombay, one of them owned by Jamshedji Tata and the other three also by Parsis. That same year, the first pneumatic tyres arrived in Bombay, with Dunlop opening an office in the city. Madras, it would appear, lagged behind, though it is related that a car was seen on Mount Road on a brief outing in 1894. If that unconfirmed appearance is ignored, the first recorded date of a car being in regular use in Madras is 1901. The car was owned by A J Yorke, a director of Parry & Co. He drove it daily from Ben's Gardens, Adyar, to Parry's in 'Black Town'. The South's first registered car, MC-1, belonged to Francis Spring, at that time Secretary of the Madras Railway Board and, in 1904, to become the Chairman of the Madras Port Trust and 'father' of the Madras Harbor. The first Indian-owned car in Madras, MC-3, was building contractor Namberumal Chetty's.

In 1903, Samuel John Green of Simpson & Co, Madras, built India's first steam car and caused a sensation on the roads of the city. The Madras Mail hailed its appearance as the beginning of "a new industry for Madras." Two years later, Simpson's built the first steam bus. It ran between Bezwada (Vijayawada) and Masulipatam (Machilipatnam) in what was possibly the first motor bus service in the country. Till 1930, cars were imported directly from foreign market, but very less in numbers.

In 1928, General Motors India Ltd commenced assembling trucks and cars in its factory in Bombay, the first car assembled in India rolling off the assembly line on December 4<sup>th</sup> 1928. Two years later, Ford Motor Co of India Ltd commenced assembly of automobiles in Madras, and the next year in Bombay and Calcutta. And in 1936, Addison & Co Ltd commenced assembly of cars and trucks in Madras. The evolution of Indian automobile industry can be classified in to three different phases. The main feature the phases are shown in table.

Table.1. Main Features evolution of Indian automobile industry

Phase	Main Features
Phase:1 (1940-1983)	<ul style="list-style-type: none"> <li>• Closed market</li> <li>• Growth rate was very slow due to limitation to domestic supply.</li> <li>• Less innovations</li> <li>• Number of companies: 5</li> </ul>
Phase:2 (1983-1993)	<ul style="list-style-type: none"> <li>• Joint venture between Indian government and Suzuki Japan to create Maruti Udyog Ltd.</li> <li>• Number of companies: 6</li> </ul>
Phase:3 (1993-till today)	<ul style="list-style-type: none"> <li>• Industry delicensed in 1993</li> <li>• Original Equipment Manufacturers (OEMS) started assembly in India</li> <li>• Imports allowed from April 2001</li> <li>• Number of companies: more than 40</li> </ul>

Source: Durgesh et al [5]

### 3. METHODOLOGY

**Phase 1:** In 1940s the Indian automotive industry was at a very emerging stage. A developing automotive industry emerges in India. In the initial years after independence Indian automobile industry was plagued by unfavorable government policies. All it

had to offer in the passenger car segment was a 1940s Morris model called the Ambassador. Mahindra & Mahindra was established a trading company and started the assembling of jeep-cj-3A utility vehicle. Hindustan Motors Ltd, Calcutta, and Premier Automobiles Ltd, Bombay, were established in 1942 and 1944 respectively to progressively manufacture complete automobiles. Hindustan Motors, a Birla group company, began manufacturing operations in 1948 by assembling Morris Oxford cars and Bedford trucks, gradually indigenizing the components. In 1957, the Morris Oxford, substantially indigenized, was re-introduced as the Hindustan Ambassador.

Premier Automobiles Ltd (PAL) was promoted by Walchand Hirachand, in collaboration with the Chrysler Corporation of the US. In March 1947, the company began assembling Chrysler products. Indigestion started in 1949 with the manufacture of radiators, mufflers, springs, propeller shafts, shock absorbers, etc.

In 1950 PAL entered into collaboration with Fiat, SpA of Italy and started assembly of Fiat 1100 cars. In 1953, following the Tariff Commission report, the Government of India granted protection to the automobile industry, thus enabling Premier Automobiles to step up its manufacturing program with full vigour and, in 1954, the first Indian-made 'Fiat 1100' cars rolled out.

Even after these innovations growth rate was not so rapid. Government of India and private sector jointly tried so hard to create an automobile manufacturing industry but the growth was very slow till 1960s. The major reason for slow growth was nationalization and license raj. People at that time were against any kind of joint venture or strategic alliance and big traders in India were not in favor of any foreign company to starts its operation in India. This caused problems to Indian private sector and growth rate became very slow.

**Phase 2:** Before this phase everyone had a mindset that car is a luxury and it is not affordable for middle class people. But in early 1980s Suzuki was allowed to invest in Indian market ultimately initiated the establishment of automobile industry in India. Maruti Suzuki ltd. formally known as maruti udyog ltd is a subsidiary of Japanese automobile manufacturer Suzuki. As of at the end of the year 2012, it had a market share of 37% of Indian passenger car market. Maruti udyog ltd. was established in February 1981 and its production started in 1983 with maruti 800. At that point of time maruti has no competition as such. Very few firms were there at that time to compete with maruti. Those were Hindustan ambassador and premier padmini (special reference to passenger segment) even these were also very old and outdated ones. People were looking for change, income was in increasing phase. Even middle class people wanted luxury and maruti 800 full filled their requirement. MUL gave them a small family car. After that maruti came up with maruti Omni, gypsy & maruti 1000. Since 1983 to next ten years maruti udyog ltd. ruled the Indian passenger car market. This was a golden decade for maruti udyog ltd. along with Indian automobile industry, but real revolution was yet to come.

**Phase 3:** This phase brought real revolution in Indian automobile industry. Till 1991 people had limited options to purchase a car. But in 1993 license raj was removed. Now market was free for new entrants. This gave a real opportunity to Indian automobile industry. In 1995 Daewoo merged with DCM (formerly merged with Toyota) and merged company now known

as DCM-Daewoo. Company launched its f-car cielo in Indian market in 1996. More than 20 000 Ceilo cars have been sold by DCM Daewoo through their appointed dealers all over the country a large majority of which was in Delhi and neighboring states.

In May 1996 Hyundai motor India ltd. was formed by Hyundai motor company, South Korea. When Hyundai Motors Company entered the Indian market in 1996, the Hyundai brand name was completely unknown throughout India. At time only few major players were there as MUL, HAM, M&M, Daewoo. Ford and Honda were also in the market but these were under the phase of production. In 1997 Maruti Udyog Ltd launched the upgraded version of the 800 cc on September 12<sup>th</sup> 1997 visitors at the ongoing 57<sup>th</sup> Frankfurt Motor Show were admiring the all-new Daewoo D'Arts.

In 1997 Daewoo launched its small car called Matiz in Seoul. The car was displayed at the fourth Auto Expo at Pragati Maidan in New Delhi in January and sales of the right-hand version in India begun in October. Hyundai motors India ltd. launched its first car Santro in September 1998. This was the time when revolution started in Indian auto mobile Industry.

Table.1. Country-wise motor vehicle production

Country	Motor Vehicle Production (Units)
China	19271808
United States	10,328,884
Japan	9942711
Germany	5,649,269
South Korea	4,557,738
India	445194
Brazil	3,342,617
Mexico	3,001,974
Thailand	2,483,043
Canada	2,463,732
Russia	2,231,737
Spain	1,979,179
France	1,967,765
UK	1,576,945
Czech Rep	1,178,938
Turkey	1,072,339
Indonesia	1,065,557
Iran	989,110
Slovakia	900,000
Argentina	764,495

Source: Production Statistics - International Organization of Motor Vehicle Manufacturers

The Table.1 show that the China ranked first in the production of motor vehicle followed by United States and Japan. Among the top 20 motor vehicle producing countries, India is in the 6<sup>th</sup> position in the production of motor vehicle during the year 2012.

Table.2. Global production of motor vehicles (cars and commercial vehicles)

Sl. No	Year	Production	Changes (%)
1	1997	54,434,000	
2	1998	52,987,000	-2.7
3	1999	56,258,892	6.2
4	2000	58,374,162	3.8
5	2001	56,304,925	-3.5
6	2002	58,994,318	4.8
7	2003	60,663,225	2.8
8	2004	64,496,220	6.3
9	2005	66,482,439	3.1
10	2006	69,222,975	4.1
11	2007	73,266,061	5.8
12	2008	70,520,493	-3.7
13	2009	61,791,868	-12.4
14	2010	77,857,705	26.0
15	2011	79,989,155	3.1
16	2012	84,141,209	5.3

Source: Production Statistics: International Organization of Motor Vehicle Manufacturers

It is observed from the Table.2 that global production of cars and commercial vehicle has been increased from 54,434,000 in 1997 to 84,141,209 in 2012, registering the growth rate of approximately 155% during the period. The compound annual growth rate of global production of cars and commercial vehicle is 2.76%.

Table.3. Gross turnover of the automobile manufacturers in India

Year	Gross Turnover (In Usd Million)	Trend (%)
2006-07	30,476	100.00
2007-08	36,612	120.13
2008-09	33,250	109.10
2009-10	43,296	142.07
2010-11	58,583	192.23
2011-12	59,982	196.82
2012-13	60,134	197.32

Source: SIAM Report

The Table.3 shows that the gross turnover of the automobile manufacturers in India has been increased to approximately 197% during 2012-13 when compared to 2006-07. The compound annual growth rate of gross turnover of automobile manufacturers is 10.20% during the period. The gross turnover of the automobile manufacturers in India during the period from 2006-07 to 2012-2013

Table.4. Domestic sales turnover (No. of Vehicles)

Years	Passenger Vehicles	Commercial Vehicles	Three Wheeler	Two Wheelers
07-08	1,549,882	490,494	364,781	7,249,278
08-09	1,552,703	384,194	349,727	7,437,619
09-10	1,951,333	532,721	440,392	9,370,951
10-11	2,501,542	684,905	526,024	11,768,910
11-12	2,618,072	809,532	513,251	13,495,769
12-13	2,686,429	793,150	538,291	13,797,748

Source: SIAM Report

It is observed from the Table.4 that the domestic sales of passenger vehicles segment grew at 173% in 2012-2013 as against 2007-08, registering the compound annual growth rate of 9.60% during the period. The overall commercial vehicle segment registered the growth rate of 162% in 2012-12 when compared to 2007-08 and compound annual growth rate was 8.34%. Three wheelers domestic sales recorded increased growth rate of 148% in 2012-13 as against the base year 2007-2008, registering compound annual growth rate of 6.70%. Total two wheelers domestic sales registered a growth of 190% in 2012-13 when compared to 2007-08. The compound annual growth rate was 11.32% during the period.

#### 4. CONCLUSION

India is expected to become the third largest automobile market in the world. In a developing nation and agro based economy like India, this is a great indicator of economic development. The rapid improvement in infrastructure, huge domestic market, increasing purchasing power, established financial market and stable corporate governance framework have made the country a favorable destination for investment by global majors in the auto industry. Access to latest and most efficient technology and techniques will bring competitive advantage to the Indian players. The role of Industry will primarily be in

designing and manufacturing products of world-class quality establishing cost competitiveness and improving productivity in labour and in capital. With a combined effort of manufacturers and conducive governmental policies, the Indian Automotive industry will emerge as the destination of choice in the world for design and manufacturing of automobiles.

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