

BENCHMARKING IN THE AUTOMOBILE INDUSTRY

Dr. Mrs. Geetha Sivaraman

The first automobile was made by Guido da Vigevano in 1335. It was a windmill-type drive with gears and wheels. In the early 15th century Portuguese arrived in China and interaction of two cultures lead to a variety of new technology including creation of wheel that turned under its own power. By 1600, small steam power model engines were developed. The early steam powered automobiles were too heavy that they were only practical on a perfect flat circle as strong as iron.

In 1769, the first road vehicle was military tractor invented by French Engineer and Mechanic Nicolas Joseph Cugnot (1725 to 1804). Between 1832 to 1839 Robert Anderson of Scotland invented the first electric carriage. Electric cars with used rechargeable batteries that powered a small electric motor.

Carl Benz and Gottlieb Daimler both Germans shared the credit of changing the transport habits of the world. Carl Benz invented petrol engine in 1885 and Daimler made a car after a year driven by motor. France too had joined the motoring scenario by 1890, when two Frenchmen Panhard and Levassor began producing automobiles powered by Daimler engine. Charles Duryea built a car garage in America with petrol engine in 1892 followed by Elwood Haynes in 1894 thus paving the way for motorcars in that country. Around 1900 electric land vehicles outsold all other types of cars in America.

Henry Ford revolutionized the manufacture of automobiles with his assembly line style of production and brought out the model T, a passenger car that was inexpensive, versatile, and easy to maintain. Herbert Austin and William Morris introduced mass production methods (for car makers) in UK thus paving the way for a revolution in the automobile industry.

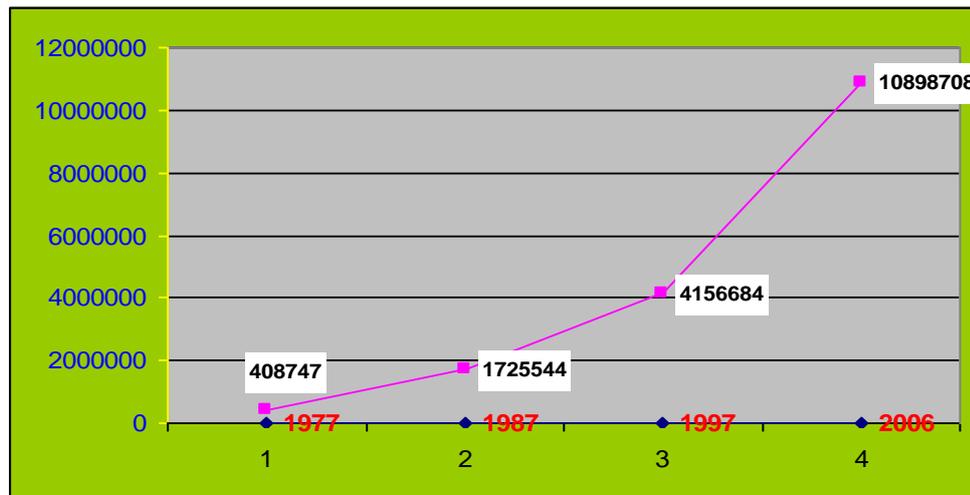
Since the mid 1970s, the rising cost of fuel increased the demand for smaller cars. Small cars were produced in Japan, Europe and in the United States. Today stepping into the 21st century, the computerised cars have been made that are beyond imaginations with best features in suspension, weight, speed, control, navigation etc. Currently the use of CNG and LPG is legitimate on all vehicles. Reva, an electric car has made a limited success. With the advent of internet, the customer could place the customised order and expect the manufacturer to fulfill his needs as per his/her requirements with minimum time.

There was a boom in demand for all types of vehicles in India. Hence, many multinational automakers from Japan, USA and Europe entered the Indian market through joint ventures. Customer preferences and demands have also undergone change.

The total production of vehicles increased from 4.2 million 1998-99 to 7.3 million in 2003-04. There was a greater preference for motorcycles followed by scooters but mopeds have registered a low or negative growth. The fastest growths have come from commercial vehicles against passenger cars.

The US automobile industry produced 12.8 million vehicles in 2000. The three major automobiles in the United States – General Motors Corporation, Ford Motor Company and Daimler Chrysler AG provide 3/4ths of the industries total direct employment in the United States.

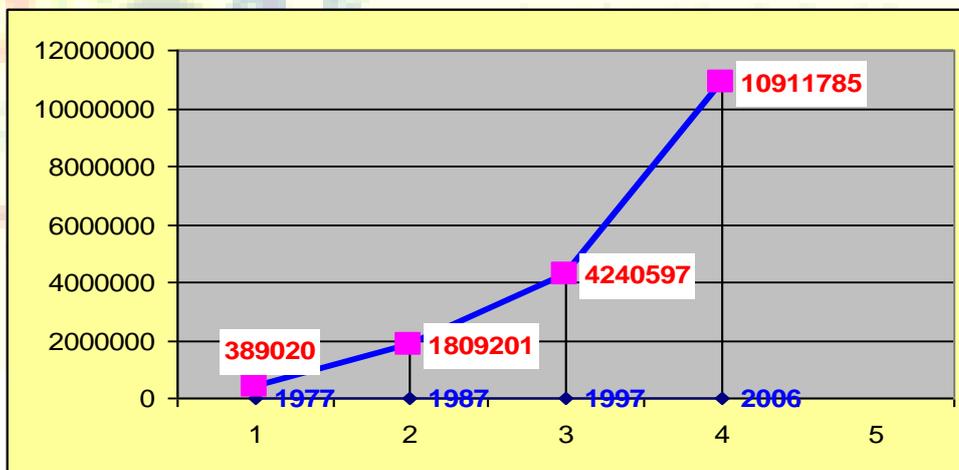
Ten Year Comparative study of Production trend of all Vehicles from 1977 to



2006

The ten year study of production of vehicles shows that there was a tremendous demand for road transport and hence there is increasing demand for all types of automobiles for more than three decades.

Ten Year Sales trend of all Vehicles from 1977 to 2006 Line graph 2



The total sale of all vehicles shows the increase in demand for all types of vehicles because of increasing purchasing power of population. The demand for the vehicles shows consistently increasing trend.

The automobile manufacturers including two wheelers were playing in a highly competitive environment in India. India has today emerged as the second

largest two wheeler producer, the fifth largest commercial vehicles and 11th largest in Car production.

Ashok Leyland registered a turnover of Rs.83,047.17 million during 2006-07 a rise of 35%. Its market share in Medium & Heavy Commercial Vehicles segment rose by 0.8 % to 28%. International operations grew by 23.5 % over the previous year with sales of 6025 vehicles (4879).

The Indian Automobile industry, particularly in the commercial vehicle segment, witnessed the entry of several new players into the highly competitive Indian market by setting manufacturing facilities alone or in collaboration with their counter parts in India. The major entrants include heavy weight champions like MAN in collaboration with Force Motors, SCANIA with L&T, ISUZU with Swaraj Mazda, International Trucks with Mahindra & Mahindra and Asia Motor Works. HINO MOTORS, a Japanese leader in Trucks and Buses reached out customers worldwide through its original strengths. It achieved a share of 30.5% in sale of Japanese medium and heavy duty trucks, thus achieving the top rank in the Japanese market for the 34th consecutive year since 1973. Its technological capabilities and reliability enabled the company to have a firm position in the world of Motor sports. In Australia, it unveiled the very first hybrid truck to the masses at the Queensland Truck and Machinery show.

PIAGGIO has launched the much awaited APE truck; a four wheeled mini truck is competing against the TATA ACE. Piaggio enjoyed a reputation when VESPA scooter was introduced and then came up with APE three wheeler, now it is maintaining its reputation with APE truck. It can be used for transporting large volumes of cargo delivering right at the door of the consumer at low cost. It has a wide range of four wheeled mini trucks like QUARGO and Porter for the Global market. These vehicles are sold in Europe, Latin American markets.

Daimler Chrysler started collaboration for trucks in India, then it also became the pioneer for the luxury car market in India. In 2006, it sold 2121 vehicles achieving growth of 11% (2005). In the first quarter of 2007, the company recorded

Further growth of 17%. Daimler Chrysler entered in 1994, started out on a quality journey in 1997 with ISO 9001. It has a world-class network spread across 27 cities in India.

Honda Sael Cars India Ltd., has sold atleast 40% of its total sales in North India. It operates in different regions and aims to contribute significantly towards the economic development, employment opportunity and also look at upgrading training institutes.

The Maruti SX4 pitched against the Honda City, Ford Fiesta, Hyundai Verna and Chevy Aveo. It also embarked on developing global cars like SWIFT and SX4 and tune to domestic requirements of Indian markets. India's total car sales was 1.8 million units compared to China's more than 7 million. More than 80 % of the market in India comes from compact car segment. In the entry level car market segment A1, Maruti has 100% market share. In the A2 segment, it has 58.5% market share. The SX4 Sedan is positioned in the mid sized premium A3 segment where Maruti has Esteem at entry level and Baleno at mid range. It has already launched 5 new models. General Motors manufactures the Chevrolet, Aveo, U-VA, Optra, Optra SRV, Tavera and new Spark mini car. India's projected growth of exports from 2,40,000 units last year to 1 million units in 2010. The global vehicle production will grow to about 1.3 billions by 2030 focusing on low cost automobiles. Tata Motors Ltd. introduced its Indica car in 1997. It has revolutionised the thinking on passenger car with introduction of low cost Nano. Now almost all world players are planning to introduce low cost Nano type cars.

Mahindra & Mahindra dominates utility vehicle segment with 47% market share. The gross revenues during the year ended 31st March 2007 is Rs.11558 crores as against Rs.9451.4 crores during the corresponding period last year, registering a growth of 22.3%. It sold 1,27,856 utility vehicles against 1,14,694 units sold last year, a growth of 11% as against a industry growth of 14%. The new SCORPIO launched in the beginning of the year (2007) and Maxi truck launched in the third quarter of the year has been well accepted by the market. In the three wheeler segment it sold 14,146 units against 18,112 units in the previous year, a decline of 21.9%, which is

However much lower than industry decline of 28.3 %. In the smaller 3 wheeler segment, it entered in 2006 with CHAMPION ALFAS, sold 19,554 units against 4,307 units sold in the previous year. It also commenced manufacturing of LOGAN – a product of its joint venture with RENAULT. The tractor industry sales showed a total of 3,18,317 units against 2,62,621 units last year resulting in growth of 21.2%. It maintained its full domestic market share at 29.9%.

The market share of Bajaj Auto Ltd., in motorcycle increased from 31% in 2005-06 to 34% in 2006-07. The turnover of Bajaj Auto Ltd., a leader in 2 & 3 wheeler segments is at Rs.100.76 billion, the increase of 24% over 2005-06. It has introduced BAJAJ PULSAR a new model and BAJAJ DISCOVER continue to gain while BAJAJ PLATINA was introduced in April 2006. Three wheeler sales for the year grew by 28%. It continues to be the No.1 exporter of two and three wheelers in the country. Exports were up by 88% at Rs.16.9 billion. It registered the highest ever two wheeler export of over 3 lakhs units and three wheeler exports of approximately 1.40 lakh units. They have also plans for passenger car segment.

The Indian Automobile Industry continued to grow registering 30% increase over the past decade, 1995 to 2005. It generated employment covering over 5% of world's total manufacturing employment. Auto Industry is the single largest industry for the cause of economic growth in the world. It also gives chance to other allied industries to grow like Iron & Steel, Aluminums, Glass, Plastics, Computer Chips, Rubber etc. as Autos are built using these goods.

The Auto Industry is committed to be environmental friendly by improving on quality and using hybrid technology like Gasoline, Diesel engines and electric power. Automobiles have futuristic safety system to prevent accidents.

In addition to direct employment, more than 50 million people earn their living from cars, trucks, buses and coaches. The Auto Industry is one of the largest investor in Research & Development. It also contributed to government revenues, around the world over 430 billion Euros. Pune was called the Detroit of India and has become an Automobile hub.

The Indian commercial vehicle manufacturers have maintained their market leadership. The giant companies are planning for expansion as the covering of all the evolving marketing segments are still possible and have a very long way to go before it attains any degree of maturity. The competition brought improvements in terms of technology and passenger safety.

Volvo, MAN, International Trucks and Engine Corporations, Scania etc. have entered the Medium & Heavy Commercial Vehicles segment either through Joint venture or on their own. The competition from local players like Asia Motors Works in addition to Commercial vehicle manufacturers like Tata Motors Ltd., Ashok Leyland Ltd., Eicher Ltd., Swaraj Mazda etc. are also increasing day by day. There is tremendous growth potential for car sector in India including Luxury car market. The sophisticated design and advanced technology are preferred by today's Indian customers. India is fast growing powerful market for small car segments as well as luxury segments. Now auto makers are working on diesel hybrids, bio diesel and many alternatives. The electric motor replaces the conventional systems which operate as a generator which offers significant improvements in the design, safety, environmental friendly and also speed of the car. Indian companies will focus on the investment link opportunities in other countries. The technical support received from Multi-National Companies not only helps in reducing the emission but also to achieve low cost.

The major markets have focused on hybrids, diesel technology and fuel cells in the future to develop cars which can give solutions to global warming. This innovation differentiates the organization from competition with high performance. Car owner spends more time inside the cars. Therefore, the automakers are diverting their attentions from exterior styling to interior designing and comforts. Automakers give importance for JIT (Just In Time) deliveries as the trend is towards greater online customization of cars i.e. manufacturer make vehicles for specific customer orders example – Peugeot Citroen's, Bratislava plant in Slovakia has onsite storage.

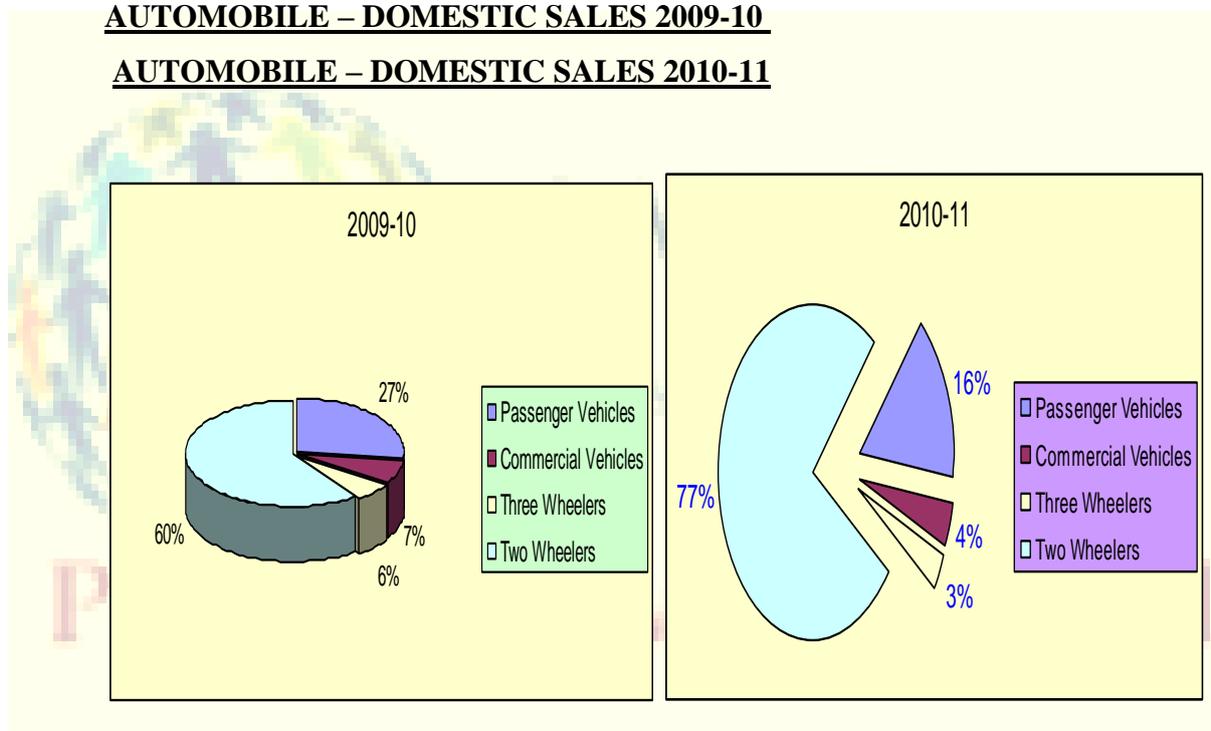
Worldwide trade is becoming cheaper and affordable. Hence, there is improvement in logistics (supply chain management). For example, Toyota has a

production system – the model of lean manufacturing. The increase in the supply chain meets the demand in time. As a result, there is complete solution for distribution process.

The hybrid energy systems provide cleaner vehicles with enhanced performance but they can be viable in markets only if the relevant raw materials are available. It also reduces the fuel consumption. In UK, hydrogen fueling infrastructure is developing fast. By diversifying the energy supply, all nations are able to produce fuel from local sources.

AUTOMOBILE – DOMESTIC SALES 2009-10

AUTOMOBILE – DOMESTIC SALES 2010-11

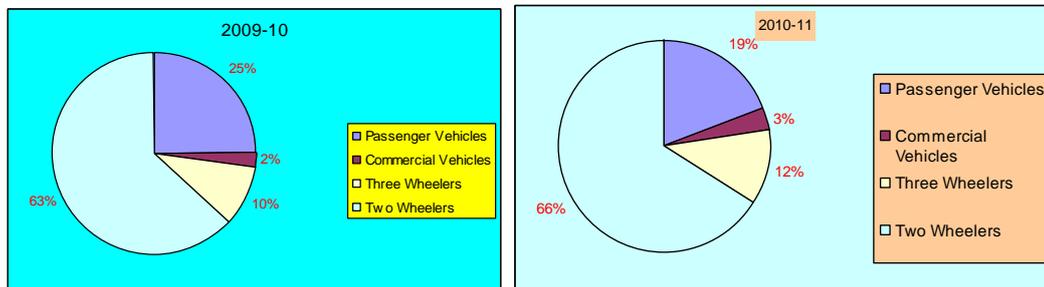


The two year comparative study of **domestic sales** of 2009-10 & 2010-11 revealed the following:

- Two wheeler sales has been increased by 17%
- Three wheeler sales has been decreased by 3%
- Commercial vehicles sales has been decreased by 3%
- Passenger vehicle sales has been decreased by 9%.

EXPORT SALES – 2009-10

EXPORT SALES – 2010-11



The two year comparative study of export sales of 2009-10 & 2010-11 revealed the following:

- Two wheeler sales has been increased by 3%
- Three wheeler sales has been increased by 2%
- Commercial vehicles sales has been increased by 1%
- Passenger vehicle sales have been decreased by 6%.

The companies are trying to produce vehicles not only environment friendly but also economical. There is overwhelming response for such models from the prospective customers as they welcome novel products which give maximum benefit to them. There is continuous innovation and novel ideas generated by automobile industry manufacturers as the likes and preferences of consumers are continuously changing due to lifestyle, standard of living and purchasing power.

Source: Auto magazines

News Papers

Internet