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Growth and transformation of Chinese automobile industry: An analysis

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Abstract
The Chinese automobile industry is considered as infant industry when it compared with international standard. This industry grew very fast in the last decade and entrance in WTO (World Trade Organisation) becomes its turning point. The Chinese government provided various measures including financial assistance and drawn favourable policies for the automobile industry considering its strategic importance in economic development. Although Chinese automobile companies lacks in different aspects and domestic firms just copying the international brands, never made their own. The objective of this paper is to analyse the process of transformation of Chinese automobile industry and the key factors behind it. This study will demonstrate the global strategy of Chinese automotive industry in the process of internationalisation and the current status of the auto industry.

Keywords: China, Development, Automobile, Production, Market

Introduction

FAW (First Automobile Works) was China's first automobile manufacturing unit came into existence at beginning of the 1950s; its main product was a truck named *Jiefang.* Form then, no big progress has been seen in production as well as in technology of Chinese the automotive industry for around 30 years. In 1975, the Second Automobile Works (Dongfeng) was established in Hubei province and it produced Dongfeng trucks. Cars were produced in the First Auto Factory with the brand name *Hongqi,* and Shanghai Auto Factory mainly produce cars. During the period of planned economy major automobile producing enterprises were under the control of central government and not able to meet the demands Chinese economy. But when the central government extended the autonomy of local governments in 1970s in the area of automobile production positive results start coming out of this policy and with in the short span of time almost all provinces had auto factories. However the scale of production was too small, technology was outdated and effective mass production was impossible. Total auto production which was 40,000 in 1963 reached 100,000 in 1971 but did not rise above 150,000 in 1978.

As a result of globalisation and trade liberalisation in 1990s auto industries in emerging markets start transforming. Major multinational automaker of the world advanced into the Chinese auto market one after another such as Volkswagen, Toyota, Honda, BMW, Ford, General Motors, Chrysler, Nissan-Renault, Daimler etc. and established JVs (Joint Venture) with the Chinese domestic auto firms. Around 90 percent of the China's passenger car market was controlled by these joint ventures.

After China's entrance into World Trade Organisation in 2001, the automobile industry began to boom remarkably faster than ever, more car companies entered the market [1]. keeping in view various tariffs and non-tariff cuts. However quotas on auto import were firstly reduced than removed in 2004 under the new Automotive Industry Development Policy announced by national development and reform commission (NDRC).

The whole transformation process can be divided into three phase:

- Foundation (1950-1977)
- Growth (1978-2000)
- Boom (2001onwards).

The fast overall economic and industrial development stimulated the demand for commercial and passenger vehicle. There are various reasons behind the fast expending passenger car market and they are growing disposable income of Chinese people, govt. subsidies, easy loan policy and explosion of urban middle class wealth.

Production of trucks was stable but the production of cars and buses spread throughout the nation. In 2005, total auto production reached 5.7 million and production of cars reached approx 3 millions. By 2009 domestic market had become the world's largest, surpassing the US both in terms of domestic sales and production. After growing rapidly till 2010, sales volume dropped in 2011 due to tighter credit policies, the removal of subsides for auto purchase, restriction on licensing to cut congestion big cities and slowing economic growth. Auto sales fell from 46 percent in 2009 to 2.5 in 2011 but this does break the rhythm of the growth because ongoing urbanisation, rising purchasing power, policy initiative to support private consumption for the sustained growth of Chinas auto market in the years ahead. Car ownerships rates in China are still low in comparison to advance economies (car ownership per 1000 people in China 2011 was 56 and in 2015 it become 128). The low ownership rate implies huge potential for further growth of the market.

Objectives

1. To analyse the process of transformation of Chinese auto industry.
2. To find out the global strategy of Chinese automobile companies.
3. To analyse competiveness of Chinese automobile industry in the contemporary world.

Methodology

Data Collection and Data Analysis Techniques

The study is conducted on the basis of primary as well as secondary sources of data and information published in various governmental and private organisations such as OECD, OCIA, CAAM, IBEF, NASSCOM, Forbes etc. The present study is done with help the different statistical tools for instance percentage, trend analysis, line graph, column and bar graphs etc. are used to make graphical representation of the data available on subject.

Analysis

The automobile industry has been, without a doubt, a major deriving force in China's economic momentum as it has strong forward and backward linkages with various segment of economy. Over the past two decades the open door of the market supply in China has had a massive impact on the automotive market. This openness contributes to the globalisation of the automobile industry which implies the integration of the domestic market into international market.

The Chinese domestic market is big and rapidly growing mass market, high demand in both Chinese domestic market and in foreign market has helped in the development of Chinese automobile including other industries. Chinese auto industry has been protected by various measures at different times. JV (Joint Venture) requirements in the automobile industry guarantee that the Chinese companies have opportunity to learn many things from world leading automakers. JV restrictions have been a great success in creating a large automobile manufacturing infrastructure that could serve as a base for future industrial competitiveness. Almost all world leading auto companies from US, Japan, European Union have JVs with Chinese partners. The production and sales of Chinese automobile industry are already of world-class size although it is not in the position to directly compete with its US, Japanese and European counterparts.

China's auto production has expanded rapidly over the past decade, becoming an increasingly significant contributor to global output in volume terms. Expanding supply, lower production cost and an increasing share of low-end automobiles in total sales have been driven down average retail prices by more than 35 percent since 2004.

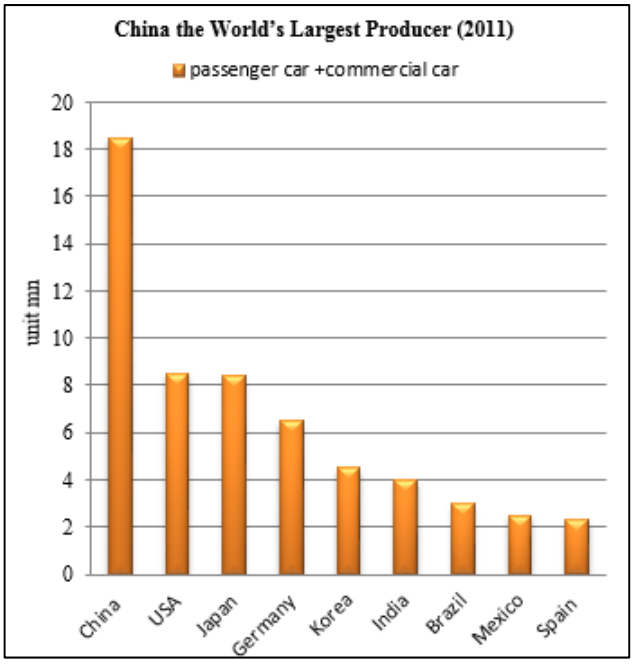


Fig 1: China's Commercial and Passenger Car Production in 2011
Source: BBVA and OICA Research Report

Table 1: China's Contribution to World Auto Production

Year	Cars	C.V	Total	Total Change
2001	703,521	1,630,919	2,334,440	12.8%
2002	1,101,696	2,185,108	3,286,804	40.8%
2003	2,018,875	2,424,811	4,443686	35.2%
2004	2,480,231	2,754,265	5,234,496	17.8%
2005	3,078,153	2,629,535	5,708,421	9.1%
2006	5,233,132	1,955,576	7,188,708	25.9%
2007	6,381,116	2,501,340	8,882,456	22.0%
2008	6,737,745	2,561,435	9,299,180	4.7%
2009	10,383,831	3,407,163	13,790,994	48.3%
2010	13,897,083	4,367,678	18,264,761	32.4%
2011	14,485,326	3,933,550	18,418,876	0.8%
2012	15,523,658	3,748,150	19,271,808	4.6%
2013	18,084,169	4,032,656	22,116,825	14.8%
2014	19,919,795	3,803,095	23,722,890	7.3%
2015	10,327,754	1,767,246	12,095,000	2.6%

Source: OICA (International Organisation of Motor Vehicle Manufactures)

The auto industry worldwide has been badly hit by the global economic crisis. Due to reduction in demand for new vehicles, since 2008 auto enterprises in North America have been experiencing a considerable decline in sales. In contrast the Chinese automobile industry has continued to develop and has been less affected [2]. by the crisis and it was the only country that had done better in the last decade [3]. China made history in the first quarter of 2009 when its auto sales (over 12 million) surpassed the United States to become the world largest auto market for the first time. In 2011, production car and truck exceeded 18 million 2.1 times of US domestic production and 2.2 times that of Japan.

United States has regarded as the king of automobile industry on the basis of dissemination of vehicles from major brands such as General Motors, Chrysler and Ford etc. but the global economic crisis weakened American dominance on world automobile industry severely. However, for the Chinese automakers, the crisis has turned out to be an opportunity to

strengthen their global competitive capacity. Zhejiang based Geely Holding Corporation is an example of this phenomenon. Its rapid growth and development plans are the indicators of the rise of Chinese auto firms and the potential of a power shift in the world auto industry towards China in future. Backed by central government, the Chinese automobile sector is expected to play a vital role in the world auto industry in future.

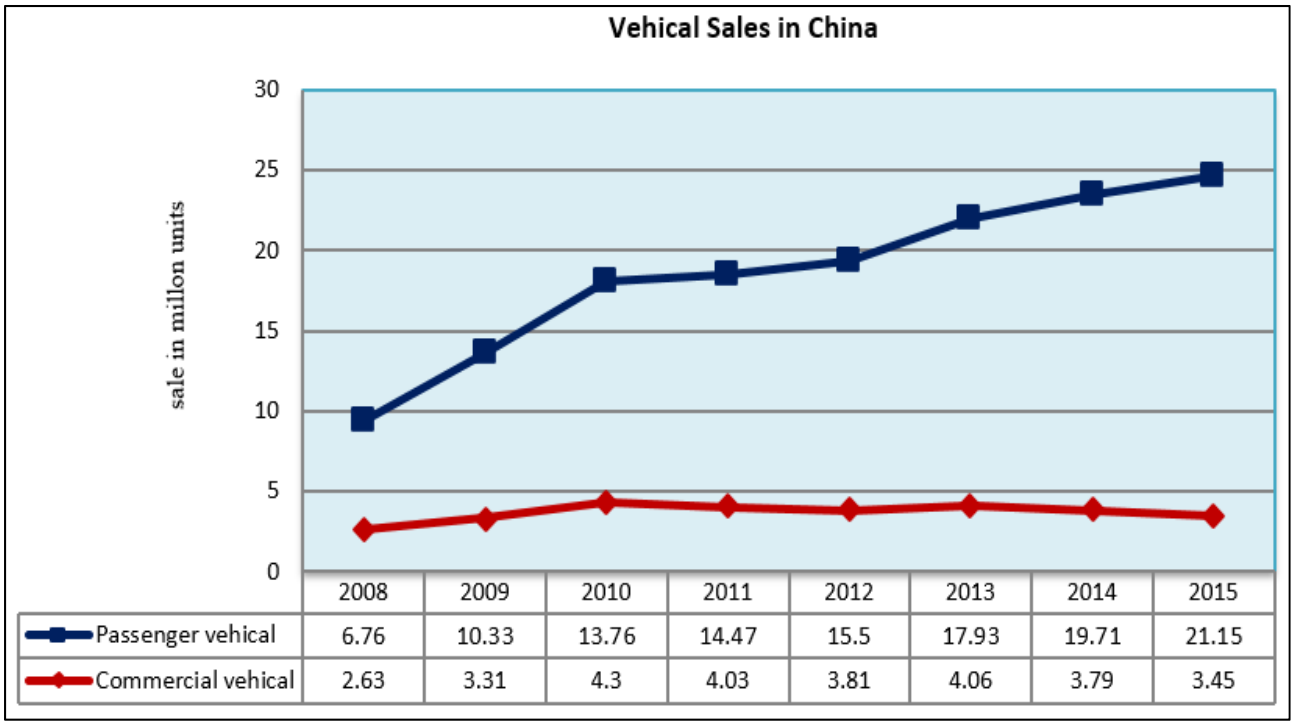
Table 2: Rising Share of China in World Car Production

	Share (%) in world production					
Rank	**Country**	**Year 2002**	**Country**	**Year 2007**	**Country**	**Year 2012**
1	Japan	20.84	Japan	18.69	**China**	24.61
2	Germany	12.39	China	11.99	Japan	13.56
3	USA	12.13	Germany	10.73	Germany	8.54
4	France	7.96	USA	7.38	S. Korea	6.61
5	S. Korea	6.41	S. Korea	7.00	USA	6.51
6	Spain	5.48	France	4.79	India	5.21
7	UK	3.94	Brazil	4.49	Brazil	4.16
8	Brazil	3.68	Spain	4.13	Russia	3.12
9	Canada	3.31	India	3.22	Mexico	2.87
10	Italy	2.72	UK	2.88	France	2.27
11	China	2.66	Canada	2.52	Spain	2.44

Source: OICA

Chinas share in the world car production was 2.66 percent in 2002, by 2007 it rise to 11.99 percent i.e. more than five-fold increase within a span of five years. In 2012 its share in world car production was 24.61 percent. As mentioned earlier China acquired number one position in car production in 2009 by dislodging Japan and continues with the first rank in 2012 too.

At the same time, Chinese automobile companies continue to deepen and join with international brand corporation. In the tide of industrial upgrading and international acquisition strategic transformation era of Chinese automobile industry has started. Now the industries are looking for expanding its global footprint. Chery is one of the many automakers to launch plants in abroad.



Source: http://www.statista.com/statistics/233743/vehicle-sales-in-china

Fig 2: Passenger and Commercial Vehicle Sale in China

The above figure clearly shows the drastic growth in the passenger vehicle from 6.76 million units in 2008 to 21.15 million units in 2015. On the other hand in commercial vehicle sale data is quite fluctuating.

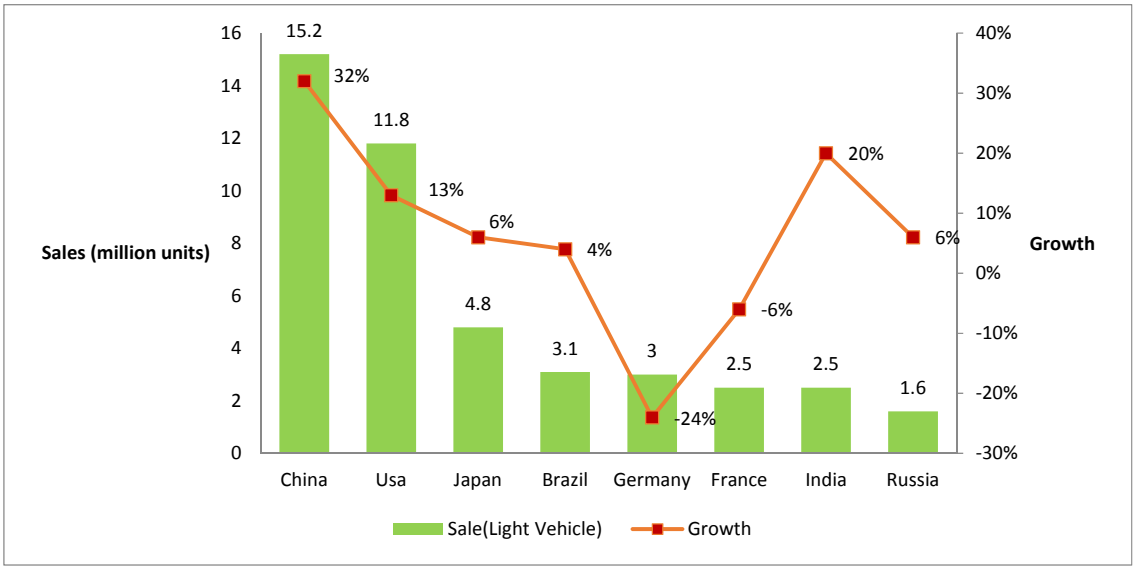


Fig 3: Light Vehicle Sales in Major Global Countries in 2010
Source: China Automotive Outlook

China's auto sales exceeded 15 million units in 2010, with passenger vehicle growth and sales, highest among major global markets. Light vehicle sales grew at record levels. Passenger and light commercial vehicle sales raised from 11.6 million units in 2009 to 15.2 million units in 2010, 32 percent increase in overall. As the incentive and subsidies phase over, sales growth dropped significantly [4].

Table 3: The World's Biggest Automobile Public Companies List Forbes, 2014 (values in billion $)

S. No.	Rank	Company	Country	Sales	Profits	Assets	Market value
1	12	Toyota Motor	Japan	222.6	18.8	385.5	193.5
2	19	Volkswagen Group	Germany	261.5	12	446.9	119
3	31	Daimler	Germany	156.6	9.1	232.2	102.9
4	47	Ford Motor	United States	146.9	7.2	202	64.5
5	48	BMW Group	Germany	101	7.1	190.7	83.4
6	67	General Motors	United States	155.4	5.3	166.3	54.6
7	70	Honda Motor	Japan	117.7	4.9	147.9	63
8	87	Hyundai Motor	South Korea	79.8	7.8	126.4	49.7
9	111	Nissan Motor	Japan	104	3.9	137.2	40.2
10	175	SAIC Motor	China	88.3	4	56.4	24.7
11	258	KIA Motors	South Korea	43.5	3.5	34.3	22.8
12	262	Renault	France	54.3	0.8	103.3	28.7
13	332	TATA Motors	India	34.5	1.8	32.4	19.9
14	419	Fuji Heavy Industries	Japan	23.1	2.5	17	21.3
15	436	Suzuki Motor	Japan	29	1.2	26.4	14.6
16	550	Mazda Motor	Japan	26.7	0.9	19.7	13.4
17	577	Porsche Automobile Holding	Germany	0	3.2	43.1	32.3
18	636	Mitsubishi Motors	Japan	21	1.1	14.3	10.3
19	670	Isuzu Motors	Japan	18	1.2	13.5	9.7
20	739	Dongfeng Motor Group	China	6.1	1.5	19.2	12.4
21	775	Peugeot	France	71.8	3.1	82.2	6.6
22	803	Mahindra & Mahindra	India	12.4	0.7	14.1	9.9
23	839	Great Wall Motor	China	8.9	1.3	8.7	15.4
24	1133	BYD	China	8.4	0.1	12.9	17.2
25	1469	Chongqing Changan Auto	China	5.8	0.5	8.2	7.7
26	1763	Guangzhou Automobile Group Co. Ltd.	China	3	0.4	9.5	7.4

Source: www.forbes.com

As per Forbes global 2000 list of biggest companies in the world, total 26 automobile companies have made their way onto it. The list is a compilation of sales, assets, profits and market value. No automakers were able to make it to the top 10 list. From the above table we can easily conclude that Chinese companies are getting global significance. There are six Chinese automobile companies in Global 2000 public enterprises list 2014 published by Forbes. SAIC got 175th rank, Dongfeng Motor Group at 739^{t}, Great Wall Motor at 839, BYD at 1133 rank, Chongqing Changan Auto 1469 and Guangzhou Automobile Group Co. Ltd. got 1763 rank.

Table 4: The World's Biggest Automobile Public Companies List Forbes, 2015 (values in billion $)

S. No.	Rank	Company	Country	Sales	Profits	Assets	Market value
1	11	Toyota Motor	Japan	252.2	19.1	389.7	239
2	14	Volkswagen Group	Germany	268.5	14.4	425.9	126
3	26	Daimler	Germany	172.3	9.2	229.5	103.3
4	45	BMW Group	Germany	106.6	7.7	187.3	81.4
5	63	Honda Motor	Japan	117.1	5.6	148.7	61.4
6	64	General Motors	United States	155.9	3.9	177.7	59
7	69	Ford Motor	United States	144.1	3.2	208.5	63.6
8	96	Nissan Motor	Japan	106.7	4.3	138.9	45.9
9	117	Hyundai Motor	South Korea	84.8	7	133.9	32.9
10	130	SAIC Motor	China	99.5	4.4	62.1	47.1
11	193	Renault	France	54.5	2.5	98.7	27.5
12	263	TATA Motors	India	42.3	2.7	37.4	28.8
13	289	Fiat Chrysler Automobiles	United Kingdom	127.5	755*	121.6	21.6
14	310	KIA Motors	South Korea	44.7	2.8	37.3	16.4
15	423	Fuji Heavy Industries	Japan	26.1	2	17.2	26.7
16	479	Suzuki Motor	Japan	28.4	991*	25.4	17.2
17	537	Mazda Motor	Japan	26.8	1.8	19.7	11.6
18	542	Dongfeng Motor Group	China	13.1	2.1	23.4	14.4
19	635	Peugeot	France	71.1	936*	74.3	13.7
20	695	Porsche Automobile Holding	Germany	undefined	4	36.9	15.3
21	711	Isuzu Motors	Japan	17.2	1.1	14.5	11.3
22	752	Great Wall Motors	China	9.8	1.3	9.9	24
23	636	Mitsubishi Motors	Japan	20.4	1.1	13.7	9
24	814	Mahindra & Mahindra	India	11.6	708*	14.7	12.4
25	867	BAIC Motor	China	9.1	732*	17.7	9.7
26	885	Chongqing Changan Auto	China	7.4	1.1	10.6	14.8
27	1037	BYD	China	9.3	70*	15.2	20.9
28	1564	Guangzhou Automobile Group Co. Ltd.	China	3.5	517*	10	9.5

Source: www.forbes.com, *(figures in millions dollar)

In 2015 there are seven Chinese automobile companies out of total 28 automobile companies in Forbes list. SAIC got 130th rank which was at 175th rank in 2014 similarly Dongfeng Motor Group at 542 from 739, Great Wall Motor got 752 from 839, BYD at1037 from 1133, Chongqing Changan Auto acquired 885 rank from 1469 and Guangzhou Automobile Group Co. Ltd. got 1564 from 1763 rank. One more Chinese automobile company get entry in this list is BAIC Motor with 867th rank.

In this way each Chinese auto company improved their ranking in just one year, so we can easily forecast the future of Chinese automotive companies their global acceptance and growing reputation.

The classic picture of Chinese automotive industry is manufacturing cheap cars with low invested cost producing cars to the markets with poor of technology and safety features. Chinese brand of automobile sold in China, which have around 40 percent of market share, are competitively priced although they largely lags behind the world's leading auto brands in terms of quality, reliability and efficiency. Most sales were made to emerging economies and many third world markets such as Africa, south-east Asia and Middle East (namely Algeria, Chile, Iraq, Brazil, Iran, Egypt Russia, South Africa, Saudi Arabia, Syria etc.) where price factor is more considerable in comparison to other factors. Sales were never made to the developed countries (Western Europe and the United Sates) as Chinese companies somewhere lack in combining necessary skills to provide vehicles that meet international standard these may be designing, developing, testing, marketing, distributing but surely technology and quality. Its weak R&D (Research and Development), innovation and designing capabilities are the key challenges in its international competiveness. For instance in 2011 SAIC spend 0.1 percent of revenue on R&D while Toyota spend 3.8 percent and Ford spend 3.9 percent on the same which is quite high in comparison to China.

The negative image of Chinese brands automobile needed to be change. In order to improve its global competitiveness Chinese companies start focusing on technology development and management capabilities. With the government encouragement, domestic firms have opted for strategic partnerships with the foreign players, aiming to facilitate technology transfer and improved domestic design and engineering capabilities. Chinese automaker have realised the need for acquiring technology in response to that some excellent example seen recently. SAIC bought $ 499 million of General Motors IPO stock in November 2010, in March BYD and Daimler chrylser set up 50-50 joint venture to develop and produce electric vehicles for China's domestic market. In same year private-owned company Geely holdings acquired Volvo cars from ford motors. Volvo is one of world leading safety cars, famous for using an integrated high-technology in environmental cars. Some independent Chinese assembler such as Chery and Geely have started the export of small cars and commercial vehicles to Western Europe and have announced bold plans to sell hundreds of thousands of units in Europe and North America in coming years.

In essence we can say major factors responsible for growth and globalisation of Chinese automobile industry is:

- Liberalisation
- Accession into WTO (World Trade Organisation)
- JV (Joint Venture)

- Government support at central and provincial level
- Easy loan policy and subsidies for car purchases.

Chinese government adopted mix of open and restricted market policy to save the domestic companies from global competition and take advantage of technology transfer with the help of JV restrictions.

Findings and Suggestions

1. The Chinese automobile industry has world class production and sales capacity but lack in global competiveness.
2. Despite several year of assistance by government, Chinese automotive industries yet not compete directly with world's leading auto companies.
3. Chinese automobile companies spend small portion of profits on R&D (Research and Development) and still many manufactures compete on of bases of low labour cost and pricing rather than on advance technology and innovation features.
4. Recent increasing export to developed countries market shows Chinese brand acceptance in these markets, earlier the situation was not like that. Chinese companies have been steadily obtaining the trust of worldwide markets.

For the growth and development of any industry combine effort of both the government and the industry players is required. Therefore for the growth and recognition of Chinese automobile industry, companies should invest more in R&D, focus on technology and innovation and work on quality improvement because its safety records are one of the worst. Government should come up with those policies which are beneficial not only for big manufactures but also for small companies. Policies need to be designed to encourage them to invest in technology and innovation to reduce dependence on foreign technology imports.

Conclusion

The automobile industry, which is an important component of manufacturing sector of any country, is considered to be an important indicator of its economic development. Chinese automobile industry is also a major driving force in Chinese economic development. China's rapid transformation into global manufacturing hub has attracted billons of dollar in FDI. A recent report of US national intelligence council project state that by 2030 China will replace the US and become the largest economy in the world. China has successfully utilised foreign technologies and became a strong competitor to many industries in developed countries. It is gradually gaining more independence, now Chinese companies are in position to compete in global arena and fulfil the current demands and expectations of customers at international level.

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