

LOCALISATION & COST COMPETITIVENESS IN THE INDIAN AUTOMOTIVE INDUSTRY

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About Bosch

Started as a brain child of Robert Bosch in the year 1886, German multinational company Bosch has established itself as the one of the largest suppliers of automotive components all over the globe. Robert Bosch GmbH operates through its 440¹ subsidiaries and regional companies all over the world. Robert Bosch Stiftung GmbH, a charitable foundation, is the primary investor having 92% of the total share capital in Robert Bosch GmbH. The Bosch family and the Robert Bosch GmbH hold the remaining of the share capital in the company. This ownership structure acts as the biggest proponent for entrepreneurial freedom and strategic investment decisions for the future growth of the company. Headquartered in Gerlingen, near Stuttgart, Germany and with an employee base of 300,000 spread across 60 countries, Bosch managed to obtain revenue of 49 Billion Euros² in the financial year of 2014 from its worldwide trade operations. 78% of this total operation came from operations outside Germany.

Spanning over 150 odd countries, Bosch caters to the need of the industry by manufacturing core products like automotive components, industrial and building equipment. On the basis of these product categories, Bosch has segmented its operation into four verticals i.e. automotive technology, industrial technology, consumer goods, energy and building technology. With a vision of development and sustenance, the Bosch group is continuously innovating for the holistic welfare of the society. Bosch invests around 10% of its total annual revenue towards research and development. This led to the filing of 4,500³ patents in 2014 alone for the future development of high performance, efficient and eco-friendly products. In total Bosch group accounts for around 77000⁴ patents and utility models through its worldwide operations.

Bosch in India

Bosch started its operation in India in the year of 1922 by establishing an import based model. Finding India to be a strategically important market, it set up its first production unit in 1951. Currently Bosch has 10 manufacturing units and 7 research and development facilities⁵ across the country. The company has an employee base of over 26,000 in India and it generated revenue of \$2 Billion in the financial year of 2014. It has also introduced a state-of-the-art R&D facility to provide its customer with good quality products according to their needs. Bosch is one of the biggest success stories of a foreign multinational company operating in India. The reason for the success can be attributed to the factor mentioned below:

- **Customized & Price effective manufacturing:** Bosch's core strength is derived from the price effective manufacturing of customized products according to the need of the Indian local market.
- **Investment in R&D:** Bosch's R&D facility in India is the largest outside its home market in Germany. It contributes in a significant way for local and global product development.
- **Societal work and development initiative:** Bosch India has invested heavily for the workforce development. It has helped Bosch in talent utilization across several verticals within the company.

¹ http://www.bosch.com/en/com/bosch_group/business_sectors_divisions/business_sectors_divisions_2.php

² <http://annual-report.bosch.com/financial-report/financial-report/>

³ http://www.boschindia.com/en/in/sustainability_innovation_5/patents.html

⁴ <http://www.bosch-press.com/tbwebddb/bosch-usa/en-US/PressText.cfm?&nh=00&Search=0&id=341>

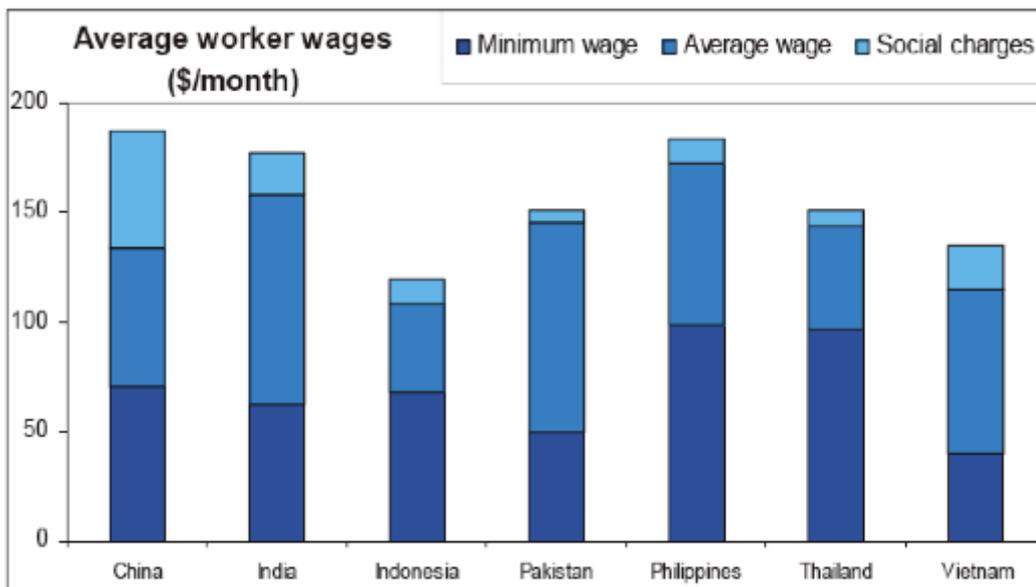
⁵ <http://www.livemint.com/Home-Page/JF92JSrZa9H3o4pXWb44HI/Boschs-long-tryst-with-India.html>

Significance of Localization

Due to the plateaued growth of the automotive industry in developed markets like North America, Western Europe and Japan, the automotive companies have shifted their focus towards new growth potentials in developing countries. These companies are primarily focusing on countries like China and India their future growth strategies, which have seen a cumulative growth rate⁶ of 25% and 15% respectively in automotive industry between 2001 to 2007 financial year. These two countries are expected to contribute more than 20% of the global car market in the FYI 2015-16. Almost all major car manufacturers have set up their manufacturing/assembly unit in China and India. The primary reason for the same is the tax benefits they obtain by selling domestically manufactured/assembled cars. For example in India, if BMW chooses to import and sell its fully finished car, it has to pay a duty of 120% whereas if it imports a CKD the import duty for the same is just 40%. Therefore, it is economically wise to set up assembly /manufacturing units in India rather than to import fully finished cars.

This was the trend followed by most of the automotive players. However, due to increase in competition and a pressure to reduce prices, these companies are now forced to progress towards the next step of sourcing the components from within India/China. Therefore, localization or local sourcing has become one of the key long term strategies for all OEM manufactures. The key advantages that can be leveraged through localization are explained below:

- **Shielding from global economic fluctuations:** Localization helps a manufacturer in shielding itself from any kind of global economic turmoil. This will maintain price stability in the domestic market irrespective of any global economic turmoil. The manufacturer can continue to thrive by leveraging localized supply of raw materials and domestic demand for different components.
- **Better Revenue Generation:** Because of low cost manufacturing and competitive pricing of the products, demand will be higher in case of the manufacturer. This in turn will help in achieving better revenue from both domestic and international markets.
- **Low Cost Human Resource:** Through localization, manufacturers can take the advantage of low cost human resource of a nation like India. By providing initial training and work specific insights, companies can utilize the vast knowledge pool of the country at a lower price. This will in turn help in bringing down the price for the product. As it can be seen from the following figure, manufacturers in countries like China, India, Indonesia, Thailand leverage the low cost human resource for cost effective production.



[Source: <http://www.dragonsourcing.com/product-localization/>]

⁶ <http://www.bcgindia.com/documents/file15171.pdf>

- **Reduction in Investment:** With localization, a manufacturer can continue their business without going for backward integration or foreign import. This helps in both controlling the capital investment and optimizing the operational investment for the manufacturer.
- **Reduction in Lead Time:** Localization can help in bolstering the supply chain by shortening the transportation time of raw materials or sub-system units from suppliers. This will not only reduce the production lead time but also help in minimizing the cost required for production pre-planning.
- **Faster Service Response:** With a shorter lead time, the manufacturer can respond quickly to the customer demands and grievances. This will lead to better customer satisfaction and customer engagement. Faster after-sale service will bring in more demand from customers requiring rapid resolution of the requirements and problems.
- **Need based Customization:** A manufacturer can implement mass product customization with the support from localized suppliers. Customers can be satisfied with quick but low price offerings based on their requirement. Customization can be done according to the emerging market demand at a faster pace.
- **Cost Benefits:** With localization, a manufacturer can source raw materials and sub-system units at a cost effective price. Again, this helps in keeping the manufacturer price competitive in the global market as well.

The Indian Automobile & Automotive Industry

India currently stands as the 7th largest producer in the world with an average annual production of 17.5 Million vehicles⁷. It is also expected to become the 4th largest automotive market by volume, by the end of 2015. The Indian car market is expected to have a potential growth of 6+ Million units annually by 2020. The Indian automotive sector valued at \$100 Billion⁸ at the end of financial year 2015, is one of the largest automotive industries all over the world. It contributes 22%⁹ towards the nation's GDP from manufacturing sector. Riding on the waves of 'Make in India', the industry not only saw a growth of 3.90% in domestic passenger vehicle segment but also fortified the net export by 4.42% in the financial year of 2015. The passenger vehicle segment has an overall share of 14% towards the total contribution from Indian automotive industry. Indian government has also taken several initiatives to strengthen this contribution from the automotive industry. 100% FDI through automatic path has been allowed to improve technical and financial conditions of Indian automotive sector. Excise duty has also been slashed to encourage the domestic production ratio.

Leveraging these factors, several foreign vehicle manufacturers like Suzuki, Hyundai, Ford etc. have initiated their expansionary plans of their Indian operations to not only cater to the domestic Indian market but also view India to be an export hub. Indian car manufacturers like Tata and Mahindra have also gone global and completed some foreign acquisitions and have also started their export operations. Apart from the above factors, a huge demand from expanding middle class family with a higher disposable income, thrust on infrastructure spending¹⁰ and road development in India have become the boosters for the growth of the sector.

This break-neck growth of worldwide automotive industry in the twentieth century brought about milestone changes in the price and performance of the diesel engines. These continuous improvements in the field of diesel engine manufacturing helped the Indian passenger and commercial vehicle segment to thrive. Diesel engine being the most efficient internal combustion engines has become the central driver in the nation's economic activities. Inherent performance parameters like better fuel economy, more power efficiency, and longer durability made diesel engines the most critical component in transportation, agricultural, industrial and mining activities. Several technological breakthroughs have also been achieved through collaborative research and development projects to bring down the emission levels making it more pro-business. But because of sluggish demand from global market, Society of Indian Automobile Manufacturers (SIAM) has forecasted Indian automotive industry to acquire a value of \$145 Billion by the end of financial year 2016. Therefore, an Indian

⁷ <http://www.makeinindia.com/sector/automobiles/>

⁸ <http://economictimes.indiatimes.com/industry/auto/news/passenger-vehicle/cars/slow-local-demand-and-global-slowdown-hindering-indian-automobile-industry/articleshow/46801554.cms>

⁹ <http://www.ibef.org/industry/india-automobiles.aspx>

¹⁰ <http://economictimes.indiatimes.com/industry/auto/news/industry/indian-automobile-industry-gets-loose-change-from-budget-2015/articleshow/46412094.cms>

domestic operation has assumed important role for all car manufacturers and hence a primary emphasis is laid on localization in order to leverage the benefits.

Hypotheses creation

Localization has several inherent advantages associated to it which can be utilized by the OEM manufacturers to have competitive advantage over others. Hence we can hypothesize the fact as follows:

- **Hypothesis-1:** For best selling cars in any price segment, the percentage of localization is higher compared to other cars
- **Hypothesis-2:** Car manufacturers who are rated high in quality of after sales service have a high degree of localization content in their cars

Analysis of Hypothesis 1

In order to analyze the Hypothesis-1, we can consider the sales data and the percentage of local content of several cars from different car manufacturers in India:

In the tabulation-1 provided in the following page, we have analyzed three different car segments in terms of price range. From the analysis, we have observed that the top selling cars in any price range have high degree of localization content. Thus, we can see that the advantages leveraged through localization have a direct influence on the sales volume of the cars.

												
Model Name	Maruti Suzuki Alto 800	Hyundai Eon	Hyundai Grand i10	Volkswagen Polo	Maruti Swift Dezire	Toyota Etios	Honda City	Skoda Rapid	Ford EcoSport	Renault Duster	Mahindra XUV500	Nissan Terrano
Price Category	RS. 3.14 – 3.95 Lakhs	Rs.3.09 - 4.2 lakhs	Rs. 6.48 -7.19 Lakhs	Rs. 5.44 – 8.50 Lakhs	Rs. 5.1 - 7.8 Lakhs	Rs. 6.03 - 8.4 lakhs	Rs 7.6 - 11.9 Lakhs	Rs. 7.69 - 11.8 lakhs	Rs.6.75 - 10.2 lakhs	Rs.8.30 - 11.3 Lakhs	Rs. 11.29 – 16.20 Lakhs	Rs.10.14 - 12.4 lakhs
Percentage of Localization	85% ¹¹	70% ¹²	90% ¹³	70% ¹⁴	>95% ¹⁵	70% ¹⁶	92% ¹⁷	50% to 65% ¹⁸	80% ¹⁹	60% ²⁰	90% ²¹	<88% ²²
Units sold ²³ [Based on Aug 2014-June 2015 sales data]	160976	68575	93,109	28,078	191,145	21,217	71,308	10,130	39344	25676	32264	13269

11 <http://www.thehindu.com/todays-paper/tp-national/tp-kerala/k-series-engines-from-maruti-suzuki/article887193.ece>

12 <http://bandung.bisnis.com/m/read/20130926/63532/436344/hyundai-eon-bakal-jadi-pesaing-mobil-murah-di-indonesia>

13 http://www.telegraphindia.com/1130910/jsp/business/story_17331490.jsp#.VaTnl_mqqko

14 <http://www.drivespark.com/four-wheelers/volkswagen-s-plans-localization-launch-india-specific-mode-007379.html>

15 <http://www.motoroids.com/news/new-maruti-suzuki-swift-launched-at-rs-4-22-lakh-ex-delhi-all-the-details/>

16 <http://www.carblogindia.com/toyota-becomes-number-1-car-seller-again-will-increase-localization-in-india/>

17 <http://www.hondacarsindia.in/2014/01/honda-cars-india-head-says-incentives-will-only-have-a-temporary-effect.html>

18 <http://auto.ndtv.com/news/skoda-india-might-bring-in-an-all-new-7-seater-suv-388404>

19 http://articles.economictimes.indiatimes.com/2012-07-17/news/32714388_1_ford-figo-managing-director-michael-boneham-ford-india-president

20 http://articles.economictimes.indiatimes.com/2012-07-08/news/32578282_1_renault-india-len-curran-marc-nassif

21 <http://123.63.211.244/blogs/554195/mahindra-xuv500-launched-in-india-.htm>

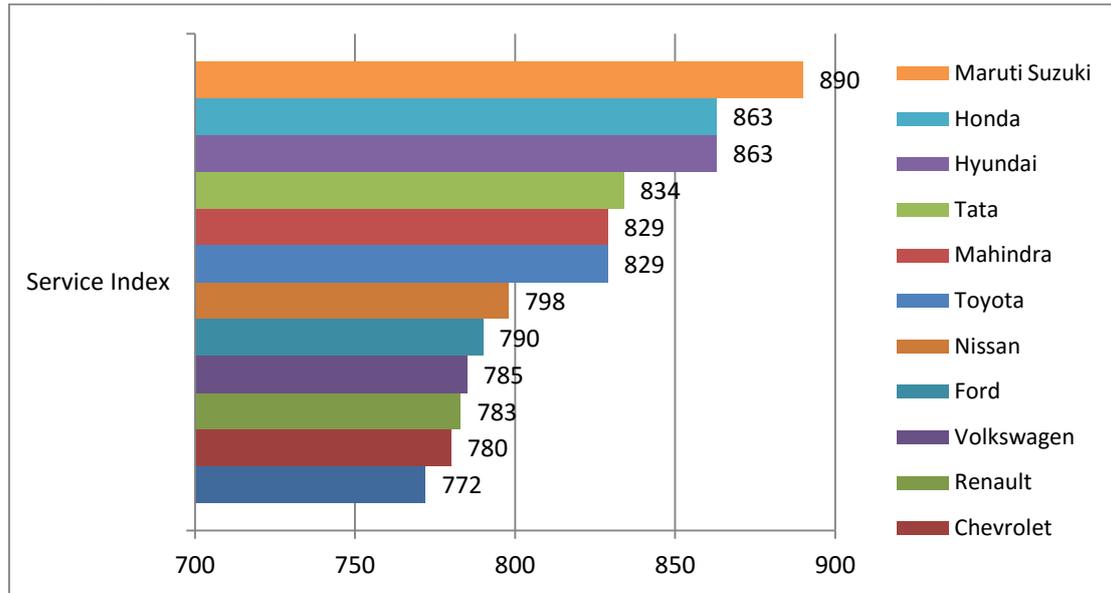
22 <http://www.autocarpro.in/interview/kenichiro-yomura-president-nissan-india-operations-md-ceo-nissan-motor-india-4348>

23 <http://autoportal.com/>

Analysis of Hypothesis 2

Car manufacturers who are rated high in quality of after sales service have a high degree of localization content in their cars

In a ranking released by JD Power on Customer Service Index, Maruti Suzuki, Honda, Hyundai are ranked 1, 2 and 3 respectively with respect to customer service. An interesting aspect to this observation is that these three car manufacturers produce cars with average localization content over 90%. The reason for the high ranking can be attributed to the ease of availability of spare parts, time taken for spares replacement, cost of spare parts and service. These factors are direct advantages yielded due to localization. Hence, we can see that localization also helps in ensuring that high degree of service quality is maintained which yields to greater customer satisfaction, customer loyalty and increased sales.



[Source: <http://india.jdpower.com/press-releases/2014-india-customer-service-index-csi-study>]

From the above analysis, it is evident that an OEM car manufacturer can create a better brand value by providing responsive after sales service at a reasonable price point to its customer.

Thus, we can see localization is extremely advantageous to boost the sales and achieve customer satisfaction. Car manufacturers like Suzuki, Hyundai have enabled their own Japanese and Korean Tier-1 suppliers to set up bases in India for implementing the Just-in-time systems and leveraging other localization advantages. However, with increasing market competition, car manufacturers should focus not only on their level of localization but also the localization of raw material sourced by their tier-1 suppliers. This process of localization can be termed end-to-end localization. For instance, the tier-1 suppliers like Bosch India are operating at an average localization of 20% to 30% whereas car manufacturers claim an average localization percentage to be around 80% to 90%. This mismatch in projects a potential for further improvement of localization which will benefit pre-sale and after-sale activities and contribute to cost benefits. Hence, it is highly important to analyse the constraints affecting the localization of tier-1 suppliers and solving them will help the car manufacturers to leverage the complete advantage from the entire value chain.

Factors affecting Localization of Tier-1 suppliers:

From the secondary analysis of localization process in India, we came across several factors which affect the process of end-to-end localisation of Tier-1 suppliers. These factors can be segregated into three categories which are as follows:

Quality constraints: It is commonly observed that the quality of material supplied by the Tier-2 suppliers in India is not on par with their western counterparts. This can be attributed to lack of technical expertise, workmanship skills, infrastructure, systems and non-adherence to industry best practices. The level of penetration of 6-sigma and quality control norms is very low in case of Tier-2 suppliers. Localization faces a

major hard stop due to this as these materials do not match the high level of quality standards fixed by Tier-1 suppliers like Bosch, Delphi etc. Due to this the Tier-1 suppliers are forced to import the required raw materials to fulfil quality conformity.

Technological and Economic constraints: It is commonly found that the technology used by Indian Tier-2 suppliers is not on par with their western and Japanese suppliers. This is because of lack of development of indigenous technology in terms of electronics, precision machining and machine building. With the current technology base available in India, precision machining in terms of microns is not possible and investment in terms of importing precision tools and machines require a heavy financial investment which is not affordable for many Indian Tier-2 suppliers. Furthermore, importing these machineries and tools adds to a high fixed cost which further translates into higher price of the component produced. Again, Electronics manufacturing in India is still at its nascent stage and therefore, import of electronic goods contributes to a large chunk of India's overall imports.

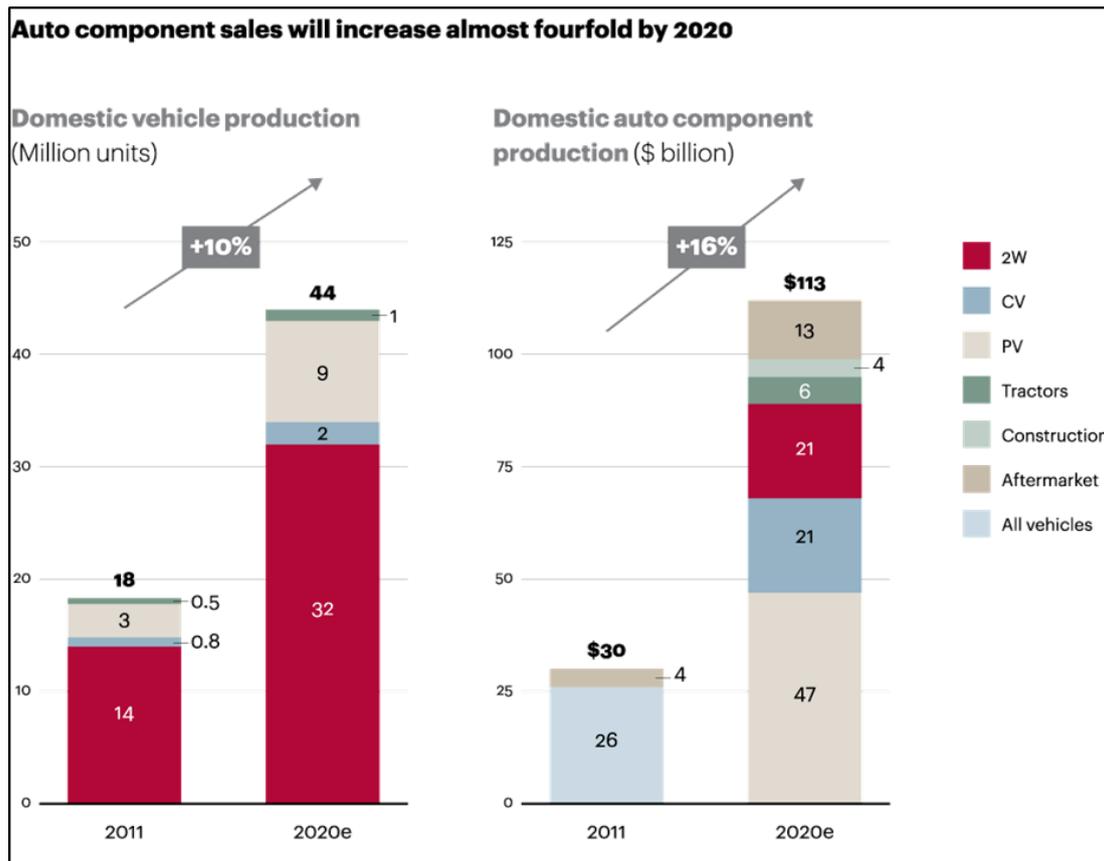
Learning curve & Economies of Scale constraints: In our analysis we also observed that technologies used by Indian suppliers were introduced decades earlier in the developed countries. Therefore, the suppliers in the developed economies have garnered learning curve advantages and have developed efficient methods of mass production. Due to this, they are able to produce components at a cheaper price which cannot be matched by the Indian suppliers. This acts as a major deterrent to localization as it becomes unattractive for companies like Bosch. As they lose the primary cost benefit advantage, they would rather prefer to use the cost effective imported parts rather than the expensive locally manufactured materials.

Economic & monetary impact of localization:

Indian auto component industry is one of the important parts of the Indian automobile industry. With the backing of Indian automobile industry which is the sixth largest market in the world, Indian auto component industry is also catching up the pace to become one of the strategic global sourcing hubs. This industry is estimated to attain a CAGR rate of 14%²⁴ in the financial period from 2013 to 2021. Currently Indian auto component industry is contributing around 7% towards the country's GDP. Apart from that, the industry registered an increase of 16.7% in terms of exported components as well. With a potential of 400% growth²⁵ (\$30 Billion in 2011 to \$113 Billion in 2020) in auto component segment, Indian auto component industry is attracting many global and Indian OEM manufacturers to invest in capacity and knowledge building activities and localization. Hence, many Indian auto component suppliers have also boarded this localization bandwagon to grab the long term benefits which can be segregated into two parts i.e. **Micro benefits** and **Macro benefits**.

²⁴ <http://indiatransportportal.com/auto-components-global-players-focus-on-india-27777>

²⁵ https://www.atkearney.com/automotive/ideas-insights/article/-/asset_publisher/LCcgOeS4t85g/content/india-s-auto-component-suppliers-new-frontiers-in-growth/10192



[Source: <https://www.atkearney.com/documents/10192/3da62f2b-99e0-4751-a6e3-91f46f114e76>]

MICRO IMPACTS:

Due to this new growth frontier in Indian auto component industry, component suppliers are deriving multitude of benefits, which can be termed as micro benefits. This has facilitated many suppliers to leverage the process of localization in order to grow across three dimensions, which are as follows:

- **New product development capabilities and diversification:** The financial constraint prevents the suppliers from acquiring advanced product development capabilities. Localization helps the component suppliers in leveraging the financial power of global and Indian OEM manufacturers to overcome the capital barrier. This not only boosts the suppliers to come up with new manufacturing capabilities but also pushes them to diversify into new product segments. This helps the supplier in acquiring new customers and in achieving a first mover competitive advantage over other new foreign as well as domestic entrants. Again, these capabilities help the suppliers in capturing future growth opportunities in the global market.
- **Augmentation of existing supply and service capabilities:** With the entry of many global OEM manufacturers, the demand for the implementation of global norms is also increasing. This is encouraging Indian automotive component suppliers to establish global supply networks. In turn, this is helping the Indian suppliers in becoming more competitive and agile in providing quality product and services to domestic and foreign OEM manufacturers. For instance, through the support from GM's supplier footprint team, 25% of GM's Indian supplier base has been developed to cater to its international operations. In this way, an Indian automotive supplier becomes an indispensable and strategic partner of a tier-1 supplier or OEM manufacturer.

MACRO IMPACTS:

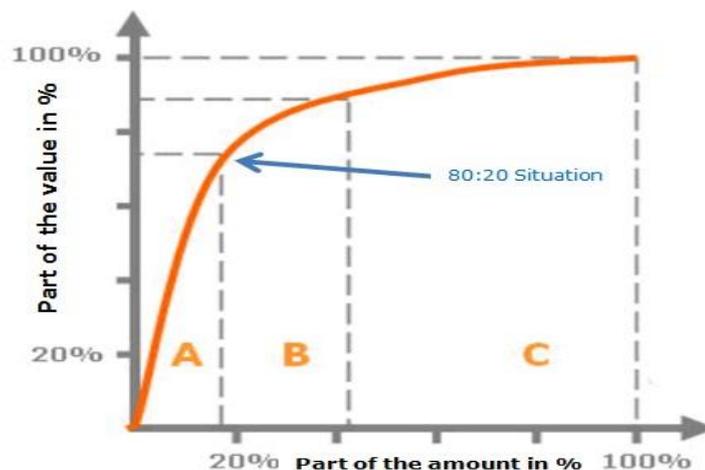
Localization has a bigger impact on the country as a whole compared to the impact on a micro level. Due to the ripple effects of investments made within the country, the economic and growth indicator of the country strengthens. We conducted an interview with former RBI chair Mr. Charan Singh to understand the macro-

economic impact in greater detail. Snippets of the interview is mentioned in the Annexure 1. These impacts are described as below:

- **Knowledge transfer and technological support:** Tie-ups with global OEM manufacturers have enabled Indian auto component suppliers in investing in knowledge development through R&D. Global tier-1 suppliers and OEM manufacturers facilitate many technological and financial supports in achieving a steep learning curve to match with the quality and pace of suppliers in developed countries like Germany and Japan. This in turn helps the Indian automotive component suppliers in avoiding the risk of falling behind in the game of advanced technology and support system. This can be backed by the Edel investment research report which talks about the 'accepted quality' standards of 80%²⁶ of total exported components to the USA and Europe.
- **Job creation and development of skilled workforce:** Localization attracts more foreign direct investment²⁷ which helps in creation of new technologies required for the capacity enhancement and efficient production. This in turn helps in creation of more job opportunities within a country. Government also provides provisional training to cater to the huge demand for skilled workforce. Again encouragement for Research and Development (R&D) culture and fortification of Information and Technology (IT) sector create more job options to augment the industrial production. With the development of skilled workforce, it becomes easier to manufacture quality products capable of competing with foreign made components and products.

Understanding Localization

Having understood the advantages of localization, we now have to basic question on how should the companies approach localization. What should the companies localize first? We took the approach of the classic ABC analysis curve to understand this. From the ABC curve below, we can infer that in most of the organizations 20% of the material contribute to 80% of the spend and the remaining 80% of the materials contribute to only 20% of the spend.



[Source: [emden-](http://www.emden-leer.de/index.php?id=2745)

<http://www.hs->

[leer.de/index.php?id=2745](http://www.hs-leer.de/index.php?id=2745)]

The A-class materials are considered the most important due to its maximum contribution to the total spend, B is considered relatively less important and C class materials are considered the least important. Extending this ABC framework to our localization study we found that companies like Bosch which set-up their factory in India will target to localize the C class material first. This helps them eliminate the unnecessary logistics costs incurred in transporting the C class materials. In some cases it is observed that the unit transportation cost of the C-class material exceeds the material cost itself. Packaging materials and fasteners are

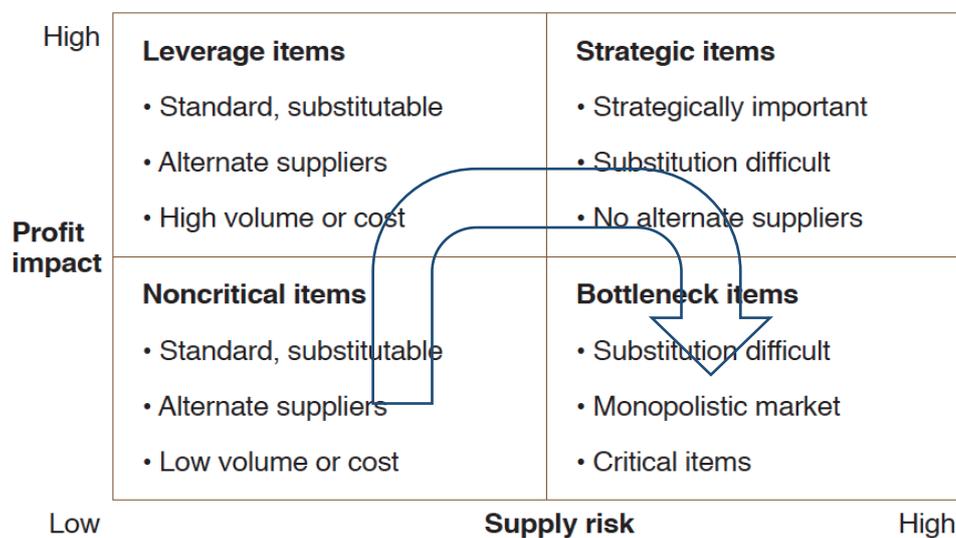
²⁶ <http://auto.economictimes.indiatimes.com/news/auto-components/indias-top-5-auto-component-suppliers-set-to-enter-the-global-top-100-list/46270043>

²⁷ <http://www.pakistantoday.com.pk/2014/05/28/business/local-manufacturing-benefits-to-industry-economy-and-recommendations/>

examples of materials families that are considered to be C class. After achieving significant levels of localization of their C-class materials, companies then move on to localization of B and A class materials respectively. This particular behavior of the companies is attributed to the fact that companies that establish their bases in India do not feel comfortable in sourcing critical A class material from the Indian suppliers. Typically the company wants to establish a trust and understanding of the market through localization of relatively less expensive items and then move on to the expensive materials.

Applying this theory to the Kraljic framework below, the ideal way that firms should approach localization is to start with the Non-critical items and then move on to leverage items for localization. After achieving a fair amount of success in these two categories, the focus should move on to the strategic items. MNCs like Bosch generally do not attempt to localize their bottleneck items but rather they develop an understanding with the supplier. Thus, the flow of localization in terms of materials would be as per the arrow flow.

KRALJIC'S PORTFOLIO MATRIX



[Source: <https://eugenialiusj.wordpress.com/2014/02/19/seminar-5-procure-to-pay/>]

Sample study of localization

In order to better understand the difficulties involved in localization we decided to take a material which Bosch has found as a bottleneck in terms of localization in India. Upon discussing with Bosch we identified this material to be High Speed Steel, a raw material used by Bosch to manufacture common rail injectors. This particular grade of HSS is procured by Bosch from France & China and they are currently facing difficulties in localizing the same. The usage of this HSS is approx. 10 tonnage/ month and represents 3% of their total steel purchase.

Due to confidentiality issues, the composition of these steel is not mentioned. However, in our market research we identified a few vendors who are involved in manufacturing and selling alloy steels. Bosch has already touched base with some of these suppliers and hence we were able to identify the difficulties faced by the suppliers as well in our detailed interviews. The snippets of these interviews are mentioned in Appendix 2. The major difficulties are listed below

- 1) Constraints in the manufacturing process. As the Indian players are relatively new entrants and adopters of these technologies, they are facing difficulties in the manufacturing process such as hot forming and rolling areas
- 2) Cost competitiveness. The Indian companies suffer from a scale disadvantage and hence they are unable to match the price of their Chinese counterparts.
- 3) They understand Bosch's quality expectations but are unclear on how to achieve the same within the expected price range of Bosch.

Summary

With our study, we were able to summarize the following findings

- Localization has gained significant importance in the recent years as firms are forced to leverage the local resources in order to cope-up with rising raw material prices and also to improve supply chain efficiency.
- By implementing localization, firms are able to implement the Just in Time systems which reduces the inventory cost and also significantly cut down on the logistics cost.
- Our hypothesis testing for major car models and car manufacturers yielded the following results
 1. For best selling cars in any price segment, the percentage of localization is higher compared to other cars
 2. Car manufacturers who are rated high in quality of after sales service have a high degree of localization content in their cars
- The localization content of OEM car manufactures in India are in a higher range with many models crossing more than 90%. However, analysing the localization of Tier-1 suppliers we could see that there is a significant drop. For eg :- Bosch has an overall localization content of only 30% which is much lesser than the car manufacturers.
- This brings us to the conclusion that OEMs (car manufacturers) should focus on end-to-end localization and must also focus on localizing the sources of raw materials of their Tier-1 suppliers as well.
- The major difficulties in localization of Tier-1 suppliers is the technological constraints, the cost competitiveness part. Cost competitiveness is majorly attributed to the scale and learning curve advantages which their Chinese or western counterparts possess
- Localization is highly important for any developing nation on the whole as it helps greater dissemination of knowledge, technology and creates a skilled labour force.
- To understand how firms like Bosch approach localization, we conducted detailed interviews with Bosch. Our findings match the frameworks of ABC analysis and the Kraljic matrix. Firms focus on localization of C class materials first and then move on to localize B and A class materials as well. In terms of Kraljic matrix, the localization flow moves from non-critical items to bottleneck items. This approach helps the companies to understand the Indian market in greater detail also helps them avoid supply failure risks
- Considering a specific case of localization of Bosch, they have a major difficulty in localizing a particular composition of High speed steel used in their common rail injectors. Upon conducting interviews with existing steel makers in India we identified that they face issues in catering to Bosch's high specification. Apart from that they also suffer from cost competitiveness due to the scale advantage possessed by their European and Chinese counterparts.
- The suppliers understand the quality expectation of Bosch but require Bosch's inputs on how to achieve the quality in the expected price range. This is a challenge as Bosch is not an expert in manufacturing of their raw materials. A middle level solution to this problem would be enabling of technological tie-ups by Bosch via which their European suppliers can visit the Indian suppliers and transfer knowledge. We believe, Bosch with their volumes and leverage over their suppliers in Europe can enable these tie-ups. Bosch can also open up their global market to these Indian supplier to help them achieve volume scale efficiency.
- In conclusion, we would like to put forth our view that in order to make initiatives like "Make in India" successful and sustainable, there should be significant investments in R&D and also a primary focus on the technology and skill development of the nation as a whole.

APPENDIX 1:

INTERVIEW SNIPPET: 1

Prof. Charan Singh

- Economics & Social Sciences, IIM Bangalore
- Former RBI chairperson

Q.1: What are the impacts of localization in Indian automotive industry?

A.1: Localization helps in achieving cost effectiveness in long run which brings down the cost of production by optimizing the processes starting from procuring to



manufacturing. Due to the reduction of cost without any degradation in quality, localization helps in acquiring a larger share of the local market.

Q.2: If localization helps in achieving cost effectiveness, then why government is establishing foreign trade relation with many other countries rather focusing on full scale localization?

A.2: Industrial development being the primary focus, it is very much necessary for the manufacturing industry to obtain some of the specialized equipment from outside the country. Lack of technological knowhow and implication of patent laws are forcing the government to establish trade relation with many foreign countries.

Q.3: What initiative has the government undertaken to promote localization in Indian automotive component sector?

A.3: The government has undertaken several initiatives to promote localization in the Indian automotive sector i.e. skill development, efficiency building and subsidization. Government is providing provisional training to enhance the tool handling skills critical to the production of high quality components within India. Government is investing heavily to create R&D friendly ecosystem in order to improve the efficiency of automotive sector. Government has established many SEZs to promote localization by providing subsidies and tax benefits.

Q.4: Why localization is important in Indian context?

A.4: The primary benefit of localization lies in technological transfer. This will help Indian automotive component manufacturing sector in matching the quality and expertise of German or Chinese manufacturers. Apart from that, knowledge transfer provides the means to balance capacity constraint of Indian automotive component manufacturers.

Q.5: How will the Indian automotive component suppliers build credibility among global and domestic OEM manufacturers in India?

A.5: Indian automotive component manufacturers can leverage the lacunas in the quality of the Chinese manufactured products. Apart from that, Indian tier-2 suppliers can derive advantage from vast unutilized land, ample natural resources and low cost human resource available to come up with low cost and high quality products. In this way these suppliers can build reputation in the market.

APPENDIX 2:

INTERVIEW SNIPPET: 2

Mr. Girish Sharma

Engine Valve Steels Department

Starwire India Limited



Q.1: Who are your current customers in different sectors?

Key customers are:

Federal Mogul, Eaton, Mahle, Shriram Pistons – Automotive

BHEL, NPCIL – Energy

VSSC/LPSC – Aerospace

Mazgaon Dockyard – Defense

Q.2: What is your perception about localization? Is it significant in the Indian automotive component sector?

In auto component sector Indian companies have been able to achieve globally competitive price and quality levels and as a result there is a high degree of localization.

Q.3: What is the current industry demand for high speed steel? What is your current capacity in relation to high speed steel demand?

According to our information the current demand is 300-400 tons/month. Our current production is ~20 tons/month.

Q.4: In terms of High speed steel, what kind of capacity or technological constraints are you facing currently?

We have constraints in hot forming and rolling areas.

Q.5: What kind of support do you expect from Tier-1 suppliers like Bosch?

We expect them to work with Indian suppliers on localization as well as giving Indian suppliers access to their global demand.

Q.6: What kind of support do you expect from Indian government to promote specialized manufacturing capabilities?

As special steel manufacturing is capital intensive, interest rates are a major factor and any relief on this front will help.

Q.7: According to you, what is competitiveness in manufacturing industry and what are some of the parameters to define competitiveness?

Competitiveness is the ability to deliver better value to customer than other suppliers on the parameters that customer values. The parameters that affect competitiveness in high speed steel market in addition to price are: quality, on time delivery and possibility to supply smaller batches helping customers reduce inventory cost.

Q.8: Many foreign components manufacturers from Germany and China have better technology and capacity to cater to the industry demand in a very cost effective way. How do you suppose to maintain the long-term competitiveness against suppliers?

We intend to invest in equipment that will help us improve our quality and productivity to the level of global competitors.

INTERVIEW SNIPPET: 3

Mr. B.M. Sivaraj

GKW Powmex

Founder Saatveeka Groups



Q.1: Who are your current customers in different sectors?

Key customers are:

Mico Bosch (Cutting Tools), Addition, ESGI, CMH, Mistubishi Steel, Miranda Tools

Q.2: What is your perception about localization? Is it significant in the Indian automotive component sector?

Localization is very much important to bridge the gap between the manufacturing capabilities of Indian tier-2 suppliers and the globally well-known component suppliers.

Q.3: What is the current industry demand for high speed steel? What is your current capacity in relation to high speed steel demand?

Saatveeka being an aggregator for steel business does not manufacture any particular steel grade. Rather Saatveeka deals with both alloy steel and high speed steel sourcing and supply. Currently 90% of the business comes from high speed steel whereas the rest 10% business is catered by alloy steel business. Saatveeka sources the different grade of steel primarily from Graphite India and some Brazil based steel manufacturers.

Q.4: In terms of High speed steel, what kind of capacity or technological constraints are you facing currently?

Saatveeka is one of the best grade high speed steel suppliers in India. But many primary Tier-1 suppliers are not sourcing from Saatveeka, rather they are importing from China or France. According to the industry analysis, the scale of production and the price of production create constraint for the Indian tier-2 suppliers.

Q.5: What kind of support do you expect from Tier-1 suppliers like Bosch?

If Bosch will provide more technical support and help in bridging the gap of knowledge curve, it will be easier for the Indian tier-2 suppliers to play volume game in this competitive market.

Q.6: What kind of support do you expect from Indian government to promote specialized manufacturing capabilities?

Currently Saatveeka is not exporting the High speed steel to any of the foreign countries. If the government will extend its helping hand in terms of export duties, companies like Saatveeka will be able to play at global level.

Q.7: According to you, what is competitiveness in manufacturing industry and what are some of the parameters to define competitiveness?

Competitiveness comes with volume and technology. As currently Saatveeka has the technology to supply the required amount of high speed steel, it requires the volume demand from the industry to compete with Chinese

manufacturers on the basis of the pricing of the product. Again agility to service the requirement also acts as one of the factors of long term competitiveness.

Q.8: *Many foreign components manufacturers from Germany and China have better technology and capacity to cater to the industry demand in a very cost effective way. How do you suppose to maintain the long-term competitiveness against suppliers?*

If Bosch will establish venture with the tier-2 suppliers, it will provide credibility to the suppliers. They will be able to leverage this to get international orders also. Once the product will obtain recognition for its quality and price in the global market, it will become very difficult for Chinese suppliers to create problem for Indian suppliers.