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INDIGENIZATION:

**THE ONLY SOLUTION FOR SUSTAINABLE DEVELOPMENT
OF INDIA: EVIDENCES FROM AUTOMOTIVE INDUSTRY**

AROUND THE WORLD: FIRST

©Author: DR. ASHISH MANOHAR URKUDE

(Based on his Ph.D. Thesis Extract, Nagpur University, India)



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INDIGENISATION





Aim: Totally indigenous car and all higher end technologies



=> Made In India = Customer Delight.

Aims and Objectives:

To make each and every car technology according to the latest and future internal and external customers' demand. To keep upgrading present technology to cope up with future, through continuous R & D. All the technology will be developed in India using all Indian resources. This will make India self-reliant on the technological field. It'll achieve the ultimate goals on total Techno-Socio-Economic Standards. It'll delight the customers till they reach the self-actualisation level in the field of car technology. As Car stands at the middle of the basic technology to the space age future technology once this is achieved India can achieve the indigenisation of space and future technologies as well.





ACKNOWLEDGEMENT

Dearest Almighty God,

Words are inadequate to express what I feel.

My Sadguru Swami Madhavnath (Late Mr. Madhav Vishnu Wakade, Pune), my father Mr. Manohar Govind Urkude, mother, Mrs. Prerna Manohar Urkude, sisters Ms. Ashwini and Dr. Amita, my wife Mrs. Surekha, my daughters Ms. Ayushi and Ms. Arya, my Ph.D. Guides Late Dr. Madhukar Rode and Dr. Arun Ramchandra Bapat, His Excellency Honourable President of India Dr. A. P. J. Abdul Kalam. Many Scientists, Economists, Military personnel, Engineers, Managers and Roadside Mechanics, many true Gandhian Thought leaders, Sarasanghchalak Rajju Bhaiyya and many swayansewaks, and many Swadesi movement leaders like Mr. Rajiv Dixit, many industrialists most prominently Mr. Rahul Bajaj, even experts in many other fields and of course good friends of mine have requested to keep their name secret as they feel getting work done devotedly for the sake of the humanity or for the sake of the nation, is more important than name, fame and vote of thanks.

Thanks really to you o Almighty, who at every moment helped me at every moment, for this almost nil plagiarism book, when was written since 1992, till 2002, except for the published data taken from the surveys, and from the authentic organisational data from SIAM, or JD Power or PCRA, AMA, FADA, ACMA, FICCI, SEBI, etc.





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Though Author is working on this project since 1992, many felt that the complicated statistics and research methodology be kept away in case this book has to be read by all, hence, this book has simple hypothesis testing been kept, with some cases, live examples those happened before 2002 A.D.

What is applicable to India is true for every other nation too, and hence with due respect, I tried to kept myself away from blame game, it also proves that, more the indigenisation more will be the new ways to think about similar as well as different things, and implement too, and thus, every nation should be self reliant in the coming era to let human society achieve the Millennium Development Goals (MDG) of UNO, hence this small effort, otherwise as my other book suggest it would be a Million Year Development Goals (MYDG).

Devotedly Yours,

Dr. Ashish Manohar Urkude.



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INDIGENISATION





CONTENTS

CHAPT	TITLE	PAGES
0.	Preface	7 to 9
1.	Introduction	10 to 11
2.	Opinion of the Indian car experts.	12 to 14
3.	Expectations of the car experts.	15 to 16
4.	Disadvantages of buying foreign made cars, spares and other goods.	17 to 18
5.	Reasons, Advantages and Benefits of this project to India.	19 to 20
6.	Market Trends since 1930's.	21 to 23
7.	Reasons of world's the best car giants entered into Indian market.	24
8.	Analysis of buying behaviour and status associated with higher vehicle syndrome	25 to 27
9.	Present car market in India.	28 to 30
10.	Manufacturing components required for the E-Techniques in the car segment	31 to 33
11.	S-W-O-T Analysis of India in the present world car market:	34 to 44





12.	Policy recommendations.	46 to 49
13.	Result of implementing this project	50 to 49
14.	It has become need of the hour	52 to 53
15.	Priorities of the project.	54 to 55
16.	Some more reasons of indigenisation of each and every car component.	56 to 58
17.	Indigenisation is a proven technique everywhere in the world.	59
18.	Creating and fulfilling the demands of Indigenisation of car technologies in India	60 to 62
19.	Conclusions and References	63
20.	Appendix 1: Request Letter acknowledged by H.E. Dr. A.P. J. Abdul Kalam.	64 to 85
21	About Author	86 to 88





PREFACE

Though Indian Economy has shown strength in the present worldwide Economic crises since 1998, it may not be the same case in the next coming similar phase of the Economy after few years or decades from now. The reason being mastery over the situation mainly depends on how much self-reliant India is on Socio-Techno-Economic front. Present world Economics has experienced the Mexican crisis, the Japanese crisis, the American crisis, and still to follow are the Brazilian economic crisis. The major reasons observed were the hegemonies of the technologically advanced hence developed countries over the developing countries and underdeveloped countries. The technologically advanced countries have all the resources to remain at the top of technological development. Besides skilled personnel, these countries are backed by financial powers, and supporting resources. These countries always keep the edge over the other countries by enforcing the laws in their favour, which can be clearly observed from the implemented draft of the GATT agreement. Above all technologically backward countries always remain dependant on the technologically advanced countries thus losing financial dependency as well.

In one survey it is observed that India is losing almost five billion dollars every year since last





two decades due to above mentioned technological dependencies.

In the car manufacturing case India even does not have its own indigenous robotics technology for the mass production of the cars. Also, Indian organisations do not stress much on Technological Research and Development. Hence giant carmakers like Ford and General Motors, Daimler-Chrysler, Hyundai, Suzuki and others are entering in the Indian market with all their might. These organisations have all the qualities to capture Indian market.

Infact sales figure of few thousand sales of cars can predict the amount of loss India is suffering on the technological and financial level. It is in the range of few billion dollars.

Besides that, in today's market organisations are concentrating mainly on customer satisfaction of the product. At present the Indian market is flooded with various foreign made cars and different goods. Thus a huge amount of foreign exchange is spent on this.

It is therefore thought to develop these technologies indigenously. India must manufacture each and every component of all the brands of cars indigenously in India using all possible Indian resources suitable for the Indian conditions to delight the Indian customers. This will definitely stall the domination of the giant carmakers of the world in India and also can make India self reliant on the technological front.





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I'm thankful to Dr. Madhukar Rode, Pro-Vice Chancellor of Nagpur University, and Dr. Arun R. Bapat, former H.O.D. of Mechanical Engineering department of P. C. of Engineering and Architecture, Nagpur for making valuable suggestions for the study.

I must mention here, this booklet is the extract of Ph.D. Thesis submitted to Nagpur University in the month of October 2002, under the guidance of these stalwarts, and it's the same extract that was send to, and, which is been agreed upon by H.E. Dr. A.P. J. Abdul Kalam, the President of India. He has wished all the best for these efforts, and I take this opportunity to thank to him, besides my Parents, Mr. Manohar Govind Urkude and Mrs. Prerana Manohar Urkude, and my Sadguru Mr. M. V. Wakade (Swami Madhavnath alias Balasaheb Wakade, of Sadashivpeth, Pune, India).



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1. INTRODUCTION

There are three kinds of technologies recognised by the experts in the world:

- i.** Basic/ Zero technologies required for developing small components like pins, nuts, bolts, screws, etc.
- ii.** Middleware technologies required for developing small cars, printing machine, two wheelers, etc. and
- iii.** Higher end technologies, required for the development of space age technologies, the CAT scan kinds of medical equipments and machines, super computers, luxury cars and alike.

Thus, small car stands at the middleware and the luxury cars stands at the higher end of the technologies.

Mainly higher middle class people use the comforts of the small cars where as the customers above the upper middle class use the comforts, status and esteems associated with the finest luxury cars.

That is why, every expert believes that acquiring the technologies required to develop each and every components of luxury cars which is rated as the higher end technology, can make every





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nation self reliant on the technological front. As the same technological base with minor changes in the manufacturing and design arena can be used to develop more complicated and advanced technologies like the super computer, the advanced jet planes, the navigation system, etc.



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2. OPINION OF THE INDIAN CAR EXPERTS

Car experts claim that every conventional car is composed of more than thirty thousand distinct parts. To assemble these car components to manufacture one car, Indian industries take more than half an hour in their respective plants. Where as Suzuki Company of Japan, takes merely fifty three seconds to assemble whole car and roll it out of the plant.

Anyhow, out of these thirty thousand odd parts nearly half the components are made in India.

It proves that India is still importing maximum number of car components from foreign countries. Another worth mentioning thing here is the assembling technology in the manufacturing plant includes automated robotics machineries, computers, and other advanced technologies, which also India imports, from foreign countries.

Thus, it is clear that Indians have not mastered themselves in the following critical factors:

- i. The advanced technologies of car-manufacturing set-up, which includes the robotics and intricate parts manufacturing machineries, and other important technologies,
- ii. The advanced metallic and non-metallic components processing technology and their manufacturing set up,
- iii. Various advanced quality testing facilities,





iv. The research and development labs for the development of advanced technological latest car parts,

v. The super specialised research scientists in every aspects of cars,

vi. The work culture to dominate the world car market,

vii. The futuristic preparations for the forth-coming technologies.

viii. There is no free trade and the industry self-regulatory body that can bring quality goods and services along with responsible behaviour of the personnel associated with this industry.

Hence, a questionnaire was prepared and a unanimous experts' opinion was taken. Unanimously experts stressed more on the following aspects:

a. India must stress more on R & D in every industry,

b. Indigenously India must design, develop, and manufacture its own car using its own resources and generate more employment,

c. Indian industries can grow and develop at faster rate, if India starts producing 100% indigenous car,

d. Car industry forms the basic set up of higher end technologies,

e. Continuous improvement in quality can upgrade not only the car industry but also the whole





industrial set up of the country.

f. Growing number of car sells show the economic growth,

g. Every impact tests of cars must be made compulsory in India,

h. If India starts early, India can have at least one giant car organisation like GM, Ford, Toyota in coming 20 years,

i. Even Public Sector Industries having reputations like BHEL can develop the better cars in India,

j. Foreign MNC be allowed to manufacture cars in India only if they transfer their technologies,

k. Motor Vehicle Act-1988, and R.T.O. Rules must be revised for the latest car technologies,

l. Buying goods including cars from foreign MNC bring the borrowed dependency.





3. EXPECTATIONS OF THE INDIAN CAR EXPERTS

a. Unanimously experts believe that if India can manufacture every car part indigenously then Indian Economy can grow faster and the same set up of the industries can also help in building future technologies. The reason being, the latest version of car is always fitted with all kinds of latest possible technologies like the LCD screen computer terminal with all kinds of displays, computer controlled auto-pilot cars, burglar alarms, puncture proof tyres, mini office and entertainments set up, video conferencing facilities, multi-fuel driving option, and a lot.

b. So, if India has to indigenise this car segment it has to revamp and modernise its basic/zero and middle ware technologies. It requires radical changes in the production mix of the small-scale industries. If it gets on a good track then it can pull good name in the global market. King consumer located all around the globe can give boost to this sector if quality products are produced. Car, its services, its spare-parts is a USD one trillion industry in the world. If India can pull even ten percent businesses, it can bring India into the developed nation category.

c. It requires up gradation and homogenisation of the various kinds of industries like electronic, mechanical, chemical, and also in the other supporting industries. It also requires adequate measures to build the system that can facilitate progress in these industries.





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d. Since last few years the foreign MNC having capabilities to shake the mighty economies of the world have started manufacturing and marketing their products in/from India. So the various aspects need to be thought by the indigenous Indian population time and again to avoid the exploitation of the Indian resources.

For few Indians it is a matter of national interest, for others it's a challenge and a golden opportunity.



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4. DISADVANTAGES OF BUYING FOREIGN MADE CARS, SPARES AND OTHER GOODS

Look at it from this perspective. By making car and other goods indigenously, India can avoid the negative effects presently it is facing on the following aspects:

- a. It is a fact that many rich class people of India have become addict to the MNC products. So, they fall pray to the lucrative or tempting offers.
- b. The people belonging to middle class and above are highly influential people in their respective fields. Many follow their footsteps so untested products can bring compulsory hazards to the nation. Many a time a whole generation suffers the bad impact of buying the foreign goods. That is why in 1960's Japanese people stopped buying foreign made goods.
- c. Buying foreign-made goods brings borrowed dependency for the maintenances and spare parts as well.
- d. Less technical know how is acquired if technology is not transferred.
- e. Esteem associated with the car can influence to follow the same path by other buyers, thus India loses faith of a big share of its premium class people on these foreign made products.
- f. Every foreign car company along with it brings conglomerates of supporting companies from





its base nation. Thus, even free gifts on these products also bring addiction to the foreign made products.

g. Sales and services of foreign car companies and the supporting conglomerates of companies use all possible tactics to attract all the Indian high class customers towards them.

h. The foreign MNC earn huge profits, which is of no use to Indian people.

i. All the foreign MNC mainly use automated technology in their manufacturing, sales and services thus providing lesser job potential at all the level. Thus, the nation like India gets totally exploited.

j. All of the above that is a constant source of money is siphoned out of India.

k. The time tested products and systems loose their grip over the indigenous people's mindset.

l. Thus directly or indirectly the cultured and civilised people have to suffer the bad impacts of even a casual buying of foreign made goods in long run.





5. REASONS, ADVANTAGES AND BENEFITS OF THIS PROJECT TO INDIA

The most important reason is India cannot afford making its middle class and high-class society addicted to the foreign made MNC goods. Here cars forms one of the highest paid foreign made goods so more stress is given on its indigenisation.

- a. Employment Generations are in millions as to every car part almost 50 jobs are associated. Job can be in roadside garage or may it be in the factory or may it be in any other form.
- b. More Revenue Generation due to repeat orders and timely availability of services.
- c. Earning and saving of foreign exchange can be utilised for further development of India.
- d. India can become self reliant at the Technology Front, due to the development and faster communication of locally developed intricate technologies like Robotics, LCD screens, carburettors, fuel injection system, computer chips, computers, etc.
- e. Relatively cheaper car and spares due to supply of products just in time with least wastage.
- f. R & D labs and set ups, will improve Industries and Education Institution interaction which can become mutually beneficial in long run,
- g. Better management of internal and the external customers can manage the market forces at the micro and macro levels of the economy,





- h.** The technologies thus developed always satisfy the customers from the aesthetics, ergonomics and performance point of view.
- i.** ‘Benchmarking’ will uplift all kinds of Industries at all the levels due to adoption of ‘the best proven practices from the world’.
- j.** This will definitely avoid entire dependencies on the foreign entities.
- k.** Each component requires its unique design, material, manufacturing processes. Thus it will improve the entire Industrial know how in India.
- l.** Bringing even ten percent of one trillion dollar car business will boost Indian economy geometrically.





6. CAR MARKET TRENDS SINCE 1930'S

These are the research findings and not personal opinion of mine or anything against the MNCs and anything against their business as they believe in survival of the fittest where as indigenisation always works on survival of the last soul, i.e. survival of the weakest in the economy can only sustain the economy.

Various local and multinational companies (MNC) use the media for advertising their products and market hegemonies. By the way multi-billion dollar MNC use these media with ferocious might. It includes automobile giants like General Motors, and Ford Motors.

- i. Car according to Mr. Henry Ford is 'the best creation of human being'. Ford Company was the first to manufacture its Ford-T car model indigenously in U.S.A. using the assembly line method in 1930's.
- ii. After few more decades, there were almost a couple of dozen car manufacturers in the world. India was one among them. Premier Padmini car by Premier Auto Limited (PAL) and Ambassador car by the Hindustan Motors (HM) were the two manufacturers from India. Till late 1980's these two companies with their monotonous product and services dominated the Indian car market.





- iii. By this time western car manufacturers had reached their professional peak. Infact, record four million Beetles car were sold. Mercedes, General Motors, Ford, Toyota, Mitsubishi, Suzuki, Renaults, Fiat, had started revolutionary measures to increase their base in the world car market by, the money power, and experienced international class of managers. The dependant businesses also made a good impact on the economies of the countries that owned these companies.
- iv. On the other hand the countries faced the reverse impact where these companies made their base for sales or sub base for the manufacturing.
- v. India lost the golden opportunity by not capitalising on these trends.
- vi. By the time India realised its backlogs, these MNC have already attracted Indian customers as well.
- vii. So, in 1980's it was Maruti-Suzuki, a collaborative efforts of Japanese giant Suzuki and Maruti India Limited, with its well-planned result oriented marketing and servicing approach gave a severe jolt to PAL and HM. In and around MUL almost every factory has something to offer to the Maruti cars since its inception in the market.
- viii. After 1994, when India opened the floodgates for the foreign companies, many MNC





entered into this arena and the result was worst for the Indian players. Infact, PAL had to close few of its plants in Mumbai. HM suffered the decline in its sell.

ix. It happened with other fields in the industry as well.

It was the unambiguous indication that mighty MNC have entered India to capture the lucrative car market.





7. REASONS OF WORLD'S BEST CAR GIANTS ENTERED INTO INDIAN MARKET

Look at the growth in the supreme middle class culture and population in India. Also find what the Market Research of various organisations indicate.

- a.** SIAM research findings in February 2002 predicted that if Indian Economy grows at the rate of 6% of its Gross Domestic Product (GDP), by 2010, India would have turn over of almost one million cars per year.
- b.** The Week, Survey predicts the rise in the supreme middle class culture in India to whopping 600 million in 2007, from 300 million in the 2001. Out of these at least half a million will be using cars in 2010. Hence, Indian market is the second biggest and one of the most growing market in the world, after China.
- c.** There is more than USD 5 billion turnover in the cars spares and industrial tools in India since 2000.
- d.** More than eighty percent industries listed in CII directory are based on the vehicle sector in India.

Thus all the surveys indicate to have an 'Ample Scope in the Indian Market'.





8. ANALYSIS OF BUYING BEHAVIOUR AND STATUS ASSOCIATED WITH HIGHER VEHICLE SYNDROME

Study the hierarchy of financial status of an individual person. Private owned luxury car stands at the peak of the economic growth of an individual.

At this level, every individual expects an instant and timely comfort. Unless this need is satisfied the person does not feel he has attained self-actualisation. If the need is fulfilled the person gets delighted. Thus, special care must be taken to develop indigenous car according to every such customers' need. Every little aspect of the car can influence the acceptance or the rejection of the product. This may affect the car business in long run. Though this segment has the least number of car sell, it cannot be forgotten that the product has the highest price tag attach to it. The turn over of USD two billion in this segment comparatively has least importance. The reason being there are highest-class of people involved in this segment. The business tycoons, highest paid salaried persons, highest placed individuals in their own field. These people have almost ninety percent say in almost every financial matter of their organisation or in the different important matter, which directly or indirectly affects sells and maintenances of this car segment in India.

If this syndrome continues for more than five consecutive years then the vehicle sell gets





doubled. Thus the benevolent roots of the economy grow in every corner of the country. It improves the performances of people and helps development and sells of these indigenised cars. The premium car segment people are the multimillionaire professionals. Where as the most significant small car segment has the middle class people of India that is expecting promising growth in near future. Both premium and small car owners are also expecting the kinds of services, which luxury car owners expect.

The esteem and the social status associated with owing a car has to make Indians to think over developing the cars indigenously.

Table 1: Showing shifting to higher vehicle syndrome in India:

SN	Earlier mode of transport	Shifting to next in hierarchy	% Up	Vehicle sell in 2000
I	Cycle to	Luna	5	100000
II	Luna to	Scooterette/ Scooter	15	500000
III	Scooterette/ Scooter to	Motor cycle	12	100000
IV	Motor cycle to	Small car	5	500000
V	Small car to	Mid size car	2	20000





VI	Mid size car to	Luxury Car	0.0005	5000
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The maximum shift is observed in the Luna kind of vehicle to the Scooter/ Scooterette, in which India is becoming self-reliant.

Next stands the motorcycle to the small car shift. So, India has to capitalise on this aspect. As 500,000 cars of any kind at the rate of at least Rs. 250000/= can make it at least Rs. 1,25,000,000,000/= or USD Three Billion, which a very big sum for any country. Every car organisation is targeting this sector in India.





9. PRESENT CAR MARKET IN INDIA

I. Just, watch the television advertisement of Toyota-Qualis, Ford-Ikon, Mercedes-Benz, Hyundai-Sonata, Hyundai-Accent, Ford-Mondeo, Opel-Astra, Mitsubishi-Lancer, and others: ‘Live the Qualis life’, for Toyota-Qualis, ‘Smooth as raw silk’ attached to Hyundai-Sonata, Mercedes-Benz in an ‘E-class of its own’, ‘Josh machines from Ford’ the Ford-Ikon. Thus, this, attachment of the status and esteem is always going to the foreign MNC made premium class cars.

II. In 2000-2001 the sells of only Hyundai-Accent cars was more than 8000 cars. It means per year $8000 \times \text{Rs.}1000000 = \text{Rs.}8,000,000,000/=$. Excluding taxes, almost USD 150 million is directly siphoned out of India; leave aside other equally competitive sells. Also, it is estimated that every year almost 1000 luxury cars like Mercedes-Benz are sold in India. Which also shows that $1000 \times \text{Rs.}4,000,000 = \text{Rs.}4,000,000,000/=$ i.e. excluding taxes, almost USD 100 million is directly siphoned out of India. Then, maintenances, spare parts, and work culture can make the figure fearful to the Indian economy. It proves that India is losing its upper class society to the MNC.

III. A lion’s share of premium car markets is captured by MNC through the following





appealing aspects:

- a. Fast spreading information about company and product through heavy advertising budget. May it be 16 BIT computer controlled systems, may it be hybrid car, may it be MPFI, may it be any other new development in the car it is projected with so much force that consumers have at least a look at it or may even have at least a test drive.
- b. Even prospective customers are requested to get free literature and free drive of the car whenever they wish. Indian companies cannot afford such lavish tactics.
- c. In all the MNC, every aspect of the technology and the business set up has been computerized. It may be product design, development, suggestions, training of customers and employees, organisation transactions, sales and bidding, posting of order by customers, customer grievances, etc. It helps the organisations to implement decisions at higher pace through synchronised computer and information technology network.
- d. These foreign MNC manufacture product assemblies, sub assemblies, with perpetual increase in productivity with consistent quality improvement using Robotics with minimum human operation, total quality control, total production control, Kaizen, just in time, waste reduction, doing things right at the first time, reducing rework and rejection, reducing





inventories, improved and frequent operator training, immediate and collective quality problem-solving in quality circles or similar teams. These things are also highlighted while they sell the cars and make the customers believe their company and thus improving stock market position as well.

e. American companies always try to keep the competitive edge over the world standards. So that at any moment these companies can enter into the competition at world level. Hence they perform well.

IV. Small cars sell in India has crossed 600,000 mark, which stands at $600,000 \times \text{Rs.}300,000$ (average price) = Rs. 180,000,000,000/= i.e. almost USD 4 billion.

That is why experts are of the firm decision that it a time to start on this project before India loses its financial dependency on the foreign entities.

Experts also believe that once the small car set up is implemented successfully, then immediately or simultaneously Indians can shift to the premium and luxury car segment. This can lead to further development of still higher end technologies, with relatively minor changes in the same plant set up.





10. MANUFACTURING COMPONENTS REQUIRED FOR THE E-TECHNIQUES IN THE CAR SEGMENT

In the car segment what matters most is the comfort, luxury; time bound services, esteem and status associated with it. It is expected that inside the car the high valued customers can use E-governance and E-commerce i.e. E-Technique. As majority of the car users are dealing with multimillion transactions very often. These people are major decision makers in their respective fields.

a. The crux is, Indians must indigenously design, develop and manufacture the following gadgets, equipments, subassemblies and assemblies to be fitted in the cars having human remote control over it. E.g. television cum computers having LCD display screen, mobile phones, noiseless ultra safe suspension system like what Mercedes have, auto pilot car in case of emergency taking the riders to proper place, accident warning and global positioning system gadgets to avoid accident. The list is very long.

b. This will improve the faster services, faster decision power, improved quality, improved productivity of various organisations, improved work culture, improved cohesive atmosphere in the organisations involved in the indigenisation. Customer satisfaction will reach its peak to be





even called customer delight. Thus, the socio-techno-economic condition of the nation will be uplifted certainly. As for this it requires coordinated efforts of individuals at every hierarchy in the organisation and also multi organisational efforts in the market.

c. Also, experts expect that R & D section of every Institute and every organisation in India will be connected to each other for the knowledge updating and benchmarking. Patent and all the other legal documentation will be taken care.

d. In the event of growing cars by sheer numbers the management of traffic and Regional Transportation Offices will have greater role to play in India. This also can become an easier issue after using above techniques. SIAM also has suggested the strict traffic disciplines at end of 2010, to ensure safety of the car drivers and avoid accidents to passengers and pedestrians on the Indian road. By that time, there must be some established pragmatic norms for the road safety. While driving and lane discipline, parking and stopping discipline, signal and stop line discipline, speed restrictions, synchronising signal for particular speed, safer overtaking, U-Turn and intersection discipline, and for the use of the modern technology for any discrepancy even theft.

e. Thus, the complex growth of the modern business dynamics and emergence of corporate





giants necessitates and require professionals approach in E-governance to maintain good internal and external customer relationships of car segment. It is also required for the management of the organisation. The changing global corporate scenario also emphasise that good management owes effective organisation culture but to great extent to the mission, vision and pro-active approach of the top management, middle management, the workers for the total customers satisfaction. This complexity can be made simple using Information Technology with modern communication skills used for the E-Commerce in the office as well as in the cars in which the decision makers travel.

f. So, prerequisite of this project can be the establishment of service institutions for building consulting companies network and systematic networking of these institutions to realise an overall cooperation marketplace. Otherwise the list is unending. Anyhow, this task of car indigenisation with respect to customer behaviour is certainly achievable. It becomes easier if it is supported by the fast services provided by above method in almost every organisation and if the indigenous human resource is well groomed for the above task.





11. S-W-O-T ANALYSIS OF INDIA IN THE PRESENT WORLD CAR MARKET

As we know S-W-O-T stands for Strength, Weakness, Opportunities and Threats.

The following analysis will show that India is the sleeping giant in this field.

S= Strengths:

I. General strengths:

- India has one of the strongest technical and commercial workforces in the world.
- It has the umpteen number of Untapped consumer behaviour of growing upper middle class. These consumers can be easily tempted by the ads to buy the cars with the easy availability of low interest finances, loans and credit facilities.
- Stable and experienced market forces.
- Survival instinct of the Indian people and positive growth of the market forces and availability of natural resources required for indigenisation of any kind of technology,
- Diversity of taste among vast population.
- Capacity to absorb good and tenacity to perceive bad happening is one of the highest in the world among the Indians.





II. Strengths of Indian Market:

- * Indian market is perhaps the oldest market in the world trade, which has experienced umpteen numbers of ups and downs since ages. In recent times, the car market, which is almost fifty odd years old, has experienced almost all the kinds of phases in the Car technology and the working culture.
- * Thus the analysis shows that overall market is stable and matured enough to take the burdens from these foreign MNC invasions.
- * Indian car market has a skilled workforce that is still supposed to be one of the best in the world. Which is skilled enough to tackle any kind of the situations.
- * Even in the worldwide crisis mighty Indian Economy was one among the only stable Economies.
- * In the car and the two wheelers segment, Indian businessmen have already accepted this challenge as an opportunity and are searching for the counterbalancing threats to the MNC. As a result, many dealers for example, the Aditya Daewoo Motors of Nagpur has stopped selling Daewoo's Matiz and Cielo cars due to falling demand. Many plants of this MNC are closed due to these measures.





III. Specific Strengths of India's indigenous car market forces:

a. Many MNC found the Indian workforce to be the fast learners who percolated the information in the market, which strengthen the countermeasures to compete superbly. Thus a confidence of competing with the world has developed amongst the skilled and unskilled members in the market.

b. A patriotic feeling has started developing among the middle class citizens of India. Indian bourgeois demand, low priced bigger small car, its services, having latest but acceptable car technologies suitable for the Indian conditions.

c. Customers demand indigenous people to be appointed at all the levels of Management, which only makes them feel that the organisation is fully transparent in its working. These all things are possible only if the car is manufactured totally on the Indian soil.

d. Tata Engineering manufactures Tata Indica-small car, using maximum indigenous resources including the manpower, the material, the machines, and the management. Hence Indica is the most indigenised Indian car. During inception, in 1998, 10000 Indica were sold. It increased to 53239 in 2001. Where as in May 2002, the company is manufacturing more than 7000 cars per month i.e. almost one lac cars per year, to meet customers' demand. Same





thing is possible with the premium and car segment.

e. There is positive feeling of depression of not making the cars in India, among the rich business class of India. There is also a growing concern in the rich class society who mainly drives the luxury cars about the profits MNC carmakers are sucking out of India.

f. Similarly Suzuki, Daewoo, Hyundai, Ford, and other MNC have started their few manufacturing attempts in India. Earlier cars manufactured on the foreign soil were brought in India in completely knock down (CKD) that is in dismantled state. These were later assembled in India and sold.

For Example: On 1st October 2002, Ford has started manufacturing maximum parts of its Indian version of Ford- Ikon from Indian ancillary units. However, *what Indian customers demand are the hundred percent Indian built cars.* This is the power of the customers. They can force the mighty market forces to buckle under their pressure of demands. *Therefore, India must not fear any foreign entity.* Hence there is no possibility of extinction of businesses of Indians in the world market.

W= Weaknesses:

- A significant thought for R&D and implementations of new researches should be given





- more stress, which is not done at present,
- Less spending capacity of the consumers or Typical Indian bourgeois are more interested in securing future by saving the same amount at proper place than spending it for buying the cars,
 - In many houses commodity once bought becomes a life long asset for the consumers unlike the average Americans who change their car after every three years.
 - Indians are interested in permanent kinds of job with pension and gratuity after the job span. MNC never promise such kinds of job hence can pose a problem in future.
 - Car vendors in India are really suffering from a perpetuating colonial hang-up of when local enterprises were confined largely to trade and commerce in and around industrial areas of big cities, without any vision for the future can never really see the sector flourishing.
 - Huge taxes levied on the products,
 - In India there is no regulatory authority that is specially meant for the open economy. As, in an open economy, authorities cannot exercise much control over the quality goods that the industry produces. Also in the new world economy, protectionism is frowned upon





and reservations, subsidies are gradually being abolished.

- Industrialisation in India has suffered the severe jolt due to few chronic issues like lack of commitment and quality consciousness, disregard for the employees, high-level corruption, lack of demand, over capacity build-up.
- Few more chronic and major issues of concern include declining credit flow to vendors and ancillary units of various vehicle giants in India and non-existence of separate sub-targets, high cost of credit, banks' insistence on collateral security, need for encouraging composite loans, and fears of the small scale sector relating to Securitisation Act and sickness in the in this sector.

O= Opportunities and Challenges:

Thus to compete with these kinds of market forces it has become a challenge and an opportunity on the following aspects:

- a. To meet the uncompromising level of quality, time bound delivery of sales and services of manufacturing car parts,
- b. To become an indigenous manufacturer of the latest car components independently.
- c. To develop local resources and testing facilities using indigenous equipments of the





world standards.

- d. New entrepreneurs can bring new R & D units, which can act as a heart and brain for not only for the car organisations but also for the other industries as well.
- e. Small-scale industries can use their own designing, developing and manufacturing high tech products. SSI and MSI have an important role to play in this venture. As they will bring employment generation, technological innovation, promoting inter-sectoral linkages, raising exports and developing entrepreneurial skills.
- f. To lead the nation towards prosperity at all the levels of economy.
- g. To provide the affordable interest rates for the indigenously built car.
- h. To tap million strong upcoming upper middle class income group of India.

Worth mentioning here would be the comparative analysis of the Pros and Cons of India for success in this well planned futuristic project.

T= Threats:

Since few years some mighty MNC car marketers are threatening existence of Indian businesses.

A review of the comparative pros and cons that threats the survival of Indian companies was





taken. The aspects, which are prominent from the indigenisation perspective, are stated below:

I. Positive aspects of MNC:

It has been observed from the history of the MNC culture that:

- a. Every MNC entering in any country including India brings its supporting conglomerates of companies from their own nation to India. MNC try to boost their sells in every country.
- b. Many a times these companies even pose a fake war among themselves but ultimately they know money is going to their nation and will boost their profit in long run and under their tug of war no other companies will survive. E.g. Ford and General Motors, Hyundai and Daewoo, Toyota and Suzuki, and alike.

Many nations could not compete with the mighty MNC in every business they enter.

II. MNC organisation move on the foolproof proven success plan:

While studying MNC notice the following facts:

- * MNC never act suddenly they have a well-planned strategy to capture the market,
- * By the end of 1990, MNC have faced almost every kind of situation in and around the world, so MNC are having a tore house of solutions over every kind of problem. Otherwise





MNC have the money power, human resources and the skills to tackle every kind of situations.

In the Indian car market MNC have the following well-proven five-phase success plan:

First Phase of success plan: Pre-market Survey and R and D:

It is carried out at every level of the business in every department with result-oriented approach.

Second Phase of success plan: Planning with the healthy budget:

Many of the car manufacturing and marketing MNC entering Indian market have strong budgets. Their yearly turn over is more than one third of the Gross National Product (GNP) of India. India's GNP in the year 2000 in American Dollar is \$427 Billion which is almost Rs.20, 49,600 Crores.

Now, look at the turnover of the top five world's biggest MNC, which are also working in India:

- * General Motors (GM) of the USA, USD 135 Billion, i.e. Rs. 648,000 Crores.
- * Ford Motors of USA, USD 130 Billion, i.e. Rs. 624,000 Crores.
- * Toyota corporation Japan, USD 98 Billion, i.e. Rs.474, 000 Crores.





* Mitsubishi Japan, USD 95 Billion, i.e. Rs. 456,000 Crores.

* Mercedes Benz of Germany, USD 80 Billion i.e. Rs. 384,000 Crores.

It is worth mentioning here that in the business world it is assumed that there are three kinds of companies:

- The companies which dictate their terms in the market as the market leaders,
- There are companies that follow the above mentioned categories of leader companies,
- Then, there are companies, which get burdened below the above-mentioned companies.

Thus, around the world GM, Ford kinds of companies make the things happen. Infact the results of these companies shows that the huge budgets can even shake mighty economies of the world. Above all these, even once it was thought that what is good for these companies are also good for the economies of the countries they belong, and vice a versa.

Third Phase of success plan: Attracting Internals and External Customers: With the heavy remunerations, packages and perquisites and other facilities these MNC attract the local high-class technocrats and the executives from all over the world, forming a formidable internal customers (employees).





Where as, the external customers are those who buy the car as a product and its services for their satisfactions. They are kept constantly under demand and supply of satisfactory services.





Fourth Phase of success plan: Maintaining the array of the customer:

Thus these MNC maintain a huge array of the customers. The customers become brand loyal after years of good product and twenty-four hours highest class of after sales services provided to them by these companies.

Fifth Phase: Trying for total customer satisfaction:

All the efforts of all the business organisations in the world are directed towards only one thing - customer delight not less than that. Lot of companies are trying for it. Few of them have achieved it, e.g. Rolls Rice, Mercedes- Benz, BMW; have reached this pinnacle after years of good services and satisfactory car products.





12. POLICY RECOMMENDATIONS FOR INDIANS AT VARIOUS LEVELS

Thus, S-W-O-T analysis shows that, Indian Government and the incorporations have to undergo a sea change and have to adopt the following policies to upgrade themselves to the modern times.

1. First and foremost suggestion is that Indians must give due importance to Research and Development in every field in every organisation including Planning Commission of India.
2. Instead of short-term goals of earning only profit, Indians must also strive for the developing new technologies.
3. Government must have a plan of at least twenty-five years and must move on that predetermined path of action. In the present five year plan Government must allocate substantial amount to the technology development of the cars.
4. Instead of borrowing technology from technologically advanced countries India must have its own laboratories and human expertise to develop still more advanced technologies. May be it is huge investment at first glance, i.e. in the range of fifty thousand crores but it is sure that after five years it will give reach dividends.
5. At services front Indians have long way to go before they can reach the likes of Roll-Royce





and the Daimler-Chrysler. So, Indians must develop themselves to avoid losing this market segment.

6. Premium Luxury cars by 2008 should be the plan. Otherwise India may totally lose this segment to the foreign brands like Mercedes-Benz, Hyundai- Sonata, Ford-Ikon- Nxt, etc.

7. Indian must set a trend of good salary and perquisite package to the result oriented graduate people, postgraduate people, experienced personnel, etc. As most of the cream is going towards the greener pasture. Even government of India should force the organisation to have transparent salary structure in every organisation.

8. Education Institutes and the Industry interaction is very less in India as compared any developed nation. All the small-scale industries and even big industries can be benefited if this interaction is made compulsory.

9. Compulsory one-year internship should be given to all the professional courses like M.B.A., B.E., etc. in the car organisation, keeping in view the results earned from the M.B.B.S. course.

10. Infact Engineering and Management courses must be so developed that the students are devoting six months to academics and next six months to the hardcore industrial experience based on the course.





11. Employee development programmes must be made compulsory from external organisational sources if the organisation show any sign of loss may it be S.S.I. or the car giants like Tata Engineering.

12. To develop the industrial areas like M.I.D.C. Nagpur should be the whole and sole priority of the nearby Engineering Colleges, Management Colleges and other institutions. Otherwise what is the use of setting up colleges in that locality?

13. More number of research journals for students and faculties is encouraged/ set up.

14. Priority may be given to actual implementation of final year projects of Engineering and Management courses.

15. Minimum Ph.D. in Science, Management, Commerce, Economics, and Engineering, Agriculture, Political Sciences, etc. must be the Qualification in their respective specialised fields of the top ten thousand persons in the Government. This only can give the government the strategic outlook to this project.

16. Age more than thirty years and Experience more than eight years and Qualification of Ph.D. should be the criteria introduced to the Civil Services and State Services examination. Then only these people can understand the importance of this project. This will also add vigour in the





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career of the personnel passing these exams and will benefit India in future.

17. Value based education, politics and commerce be given high priority. Along with Policy of Result oriented approach should be the key in the Indian Government and in every organisation.



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INDIGENISATION





13. RESULT OF IMPLEMENTING THIS PROJECT IN INDIA

Observe the following results, which can be achieved by this project:

- a.** Please remember that the engine, the automatic transmission system, fuel injection system or carburettor forms the major components of the car. To manufacture these goods require a very important set up of the industries that ultimately can manufacture more than ninety percent basic and advanced components of the machineries existing on the earth. India has never manufactured these parts totally indigenously.
- b.** A car has almost thirty thousand components right from the small screw to the body and axles. Every distinct part needs its unique kind of industrial set up. Thus if implemented this can become a revolutionary effort in the Indian history of car market as there will be as many as parts as number of small scale industries, vendors, and ancillary units. Also increase in dealers, service stations, garages, and supporting services. Thus there will be generation of at least one million jobs.
- c.** Since 2001, the cars sale has crossed six lacs mark per year. If India loses fifty percent of it, the sum stands at Rs. Two forty Billion i.e. USD Five Billion including the petroleum required to be imported for the same cars to run. Hence indigenisation will save at least half of this





foreign exchange every year. With this same revenue India can build the set up of industry that can make India self-reliant on the technology front.

d. Though cars sells is almost forty thousand, in luxury car segment, still its loss is almost USD two billion including running cost on the road, spare parts, cost of imported fuel, and due to imported technologies to built or even assembling the Completely Knock Down (CKD) cars, and spending on the transport.

e. Thus huge amount of loss is saved if Indians use Indian resources to manufacture complete car on Indian soil.

f. Apart from that if imported will earn substantial amount of foreign currency.

g. More than million people will get job.

f. Technologically India will not only become self-reliant but also social stability and economic stability will be achieved in due time.

h. The biggest advantage is the human resource development at various levels in various organisations will be achieved. This can become the biggest asset for the nation for the future.

i. Simultaneously benchmarking will boost the other businesses.





14. IT HAS BECOME NEED OF THE HOUR FOR INDIA

In the advent of the following developments it has become need of the hour for the Indians:

a. Instead of spending much foreign exchange on the car and its technologies, Indians must plan for developing same technologies in India. Instead of spending much on petroleum Indians must encourage themselves to develop alternative fuel option and developing technologies for that. Otherwise within a decade India will get trapped into a debt trap.

b. European Environmental norms for manufacturing the car are modified in the following format:

- By the end of the 2002 the concept of Recycled cars will be advised to move on the road.
- By 2005, 85% parts of every car will be manufactured which can be completely recycled.
- By the end of the 2007, Manufacturers will 'have to develop' the cars, which are 100 % recyclable.

So if Indians do not manufacture the indigenous cars in India, it will become the dumping ground for the old foreign technologies, which may be or may not be of biodegradable quality.

c. Indian consumers are demanding indigenous cars which can be recycled, reconditioned, which allow refurbishing, which can allow multiple replacements, which are environmental friendly.





- d.** Indian consumers though in small numbers are demanding a concept of direct selling to customer without being crushed between the Financers, the Dealers and the Manufacturers.
- e.** During 1950 to 1994, the service industry has grown more than 8% per annum. However, after that it has grown by more than 17% per annum largely due to the arrival of the many brands of the cars.
- f.** One Survey has shown 2466 million kilometres Indian road networks next only to U.S.A. at the end of 2004. Thus, more number of customers will show interest in the car maintenances.
- g.** India has the second biggest technical and commercial workforce on earth. If this force is well channelised through this project it can reap rich dividends in future for India.
- h.** In the global competition, it has become a necessity to keep up with increasing market dynamics. Hence, all the indigenous enterprises must speed up their reactions to changes and current trends such as reengineering, single sourcing, just in time, zero defects, total quality management, value addition, and various quality norms. This is possible only if these organizations cooperate more closely with suppliers and customers.
- i.** Also, extinction of the petroleum as a fuel has forced to develop indigenous alternative fuels technologies.





15. PRIORITIES OF THE PROJECT

Following are the priorities of the indigenisation of car technologies project:

- a.** Developing practical and result oriented education system, with more industries and institutions interactions, for mutual benefits,
- b.** Building personnel for the small-scale industries to manufacture each and every component used in small car technologies indigenously. It will motivate and groom the men for R & D, designing, development and maintenances of the latest machineries, processing of various material, for intricate market set up, and to tackle huge but minute financial aspects in the vast projects. It will avoid the exploitation of the indigenous resources and develop Indian industries for the future technological development, making perfect base to develop futuristic cars and other higher end technologies.
- c.** Special attention be given to the time bound master plan, and coordinated planning of the supporting network and industries, and perpetual improvements by R & D in every field related to the cars.
- d.** Indigenous flexible car manufacturing plant machinery and robotics for the future versions.





e. Priority must be given to develop upcoming technologies, like alternative fuel driven cars, including fuel cell, solar cell, and a like; indigenously in India.

f. India must prepare for the versions of cars that are built according to individual customer's needs. Only Rolls-royce is doing such cars at present. It makes every individual customer feel that he is the king.





16. SOME MORE REASONS OF INDIGENISATION OF EACH AND EVERY CAR COMPONENT

There are several other influential factors to force the indigenisation of car according to the customers' demands:

- I.** Main demands in every car are comfort; safety and time bound quality services. Otherwise the esteemed customers have a wide range of choices.
- II.** Indigenisation is the best way for the import substitution and is a positive move towards Self Reliance. It is been conceived that the technologies having least foreign dependency should be indigenously developed in India. It will take care of the following:
 - a. High cost of import due to falling value of rupee.
 - b. India's restricted and inadequate shipping and cargo capacity, in variable demands.
 - c. Long transport time for the latest vehicle in demand.
 - d. Different commercial practices in different countries.
 - e. Inefficiency in practicing different quality standards.
 - f. It can avoid any kind of sanction from any country in the world.





g. In recent times versioning of cars becomes the problem if their spare becomes outdated by the end of three odd years, as it happens with the computers.

III. Notice the relationship of the Impact of the car technology on the customer behaviour and vice versa. Experience shows that customers throughout the world always demand better than the best. It can be in any form of the following:

a. Services: The better the services more satisfied the customers and more they become brand loyal.

b. Technology used for the services: Advanced communication and servicing technologies used to satisfy customers' preventive or break down maintenances needs.

c. Technology of the cars: It will never remain the same after the liberalisation and globalisation of the world market comprising of the multinational economies and MNC dominated economies.

d. Other dependant or independent resources like various governmental and non-governmental organisations. These organisations either make the rules and patterns or follow the pattern or the set regulations. Even individual researcher can make the big impact on the car market worldwide. Sometimes a unique demand of the unique customer can make a big





impact on the world market.

e. *The consumer is the King and he can enforce the technologist to develop* certain kind of technology. Even, customers can give positive or negative response to the developed technologies. Thus, coming century belongs to them who follow the customer appeals and try to satisfy them.

f. *Customers feel satisfied if they get what they want in time.* Infact, look at the following equations:

* “Depth of customer Relationship = Value of your company”.

* According to Mr. Doug Howardell, “Customer Satisfaction= Customer’s Expectations / Organisation’s actual Performance”.

This is the reason why; the Mercedes car owners and the Rolls Royce car customers are the most brands loyal in the world. *This is the impact of technology on the customers. Whereas,*

Let us take an example of the car engine. When customers demand car engine, which gives more power, having high fuel efficiency, having lesser maintenances cost, having lower price, and having multiple technological advantages. Then, the R and D team has to develop such a car engine, which has all these features suitable for the conditions in that part of the world. *This is*





the impact of customers on the technology development. These factors ultimately lead to the customer satisfaction. Which keeps the recurring demand for the innovations in every car components and the indigenous car technologies.

IV. Thus it keeps the economy of the country vibrant due to continuous improvement in the supporting industries.

V. Most importantly this project will groom indigenous human resources for the perpetual success in the global competition.





17. INDIGENISATION IS A PROVEN TECHNIQUE EVERYWHERE IN THE WORLD

This is a *proven technique in many other fields of the technology, even in India itself.*

Take the example of indigenously built cycles, scooters and motorcycles. Around the world India has become one of the topmost manufacturer in these fields.

Also this is the proven technique with special features in the following countries:

- a.** General Motors of USA started a pilot ‘Saturn’ car project to counter the threats posed by the Japanese cars in 1992. As Saturn cars were manufactured at lowest possible prices with highest quality norms USA again gained the lead in the car market in 1996.
- b.** Hyundai Motors and Daewoo Motors of Korea manufactured indigenised cars. Infact these cars are in competition with all the Japanese and American cars. It proved the world that no marketing force in the world is unconquerable.
- c.** Chinese have put threats to Indian made cars, trucks, buses, and two wheelers market in neighbouring Nepal. Chinese adopt the lowest possible prices in the world that can never be matched.





18. CREATING AND FULFILLING THE DEMANDS OF INDIGENISATION

This can be the first and the last but very important question. It has two distinct sides i.e. creating the demands and fulfilling them. For this purpose following clauses need to be focussed:

a. Recent survey shows that the high import content of the Skoda-Octavia has resulted in piquant problems of Skoda Auto India limited. Same thing happened with more or less vigour with Ford-Mondeo, and other foreign made premium and cars running in India. So the prices of the spares, particularly crucial body parts and their availability has been a constant problem for the customers. These cars have limited network so the inventory levels are also limited. On the other hand, dealers and authorised service stations handle large number of customer base. So, even in the premium and luxury or super-premium car segment customers are demanding indigenously built cars with supporting networks.

b. From the other angle, Daewoo sold Cielo version of the cars in India. Due to better and the latest technology lot of cars were sold in India. However, turmoil in the parent country Korea gave severe jolt to the customers. Thus, foreign dependency, foreign management, uncertainty in world business dynamics, severe competitions and instant availability of other products, has posed serious problems to the owners of this version of car customers. So, since few months not





a single customer has bought this version of car. Though it can happen to Indian car organisations, but local system failed to take any concrete decision due to problems in parent company. Every customer who owned Daewoo- Cielo has demanded the total indigenisation of this segment of the cars.

c. Recently Honda, General Motors, Ford Motors and Toyota have developed Solar cell driven cars and Hydrogen fuel or Fuel Cell driven cars. Looking at it, a class of consumers have started demanding the same product made in India and sold at an affordable Indian price. It requires huge indigenous R & D and plant set-ups to design, develop each and every component of such kinds of cars. It will also groom the human resources for the future projects.

d. There is naturally created kindle of demand in the car fields for indigenisation. When put together and triggered a big firing demand can be created making an opportunity for the Indian techno-business world.

e. The highly influential people among the car users also can capitalise more from this project. Only thing they have to do is to become an integral part of this very important futuristic project by manufacturing at least one latest version among various components of the car in India using Indian technologies and resources.





CONCLUSION

Thus, it is clear that India has got all the potentials required for the management and development of the indigenous advanced and latest car technologies, which it never developed, and which could be the foundation for the space age technologies and sciences. Also, it has become essential to develop the indigenous technologies and adapt to the new changing requirements, for the customer delight. This will help India to be a self-reliant nation on the techno-socio-economic front in the coming future. Only thing needed to achieve this is the knowledgeable human resources and will of Indians to reach at the top of the world.

REFERENCES

All references have only one source Ph.D. Thesis of Er. Ashish Manohar Urkude, submitted to Nagpur University, pursued under the most able guidance of Late Dr. Madhukar Rode, Former Pro-Vice Chancellor of Nagpur University, and under the co-supervision of Dr. Arun R. Bapat, Former Principal, Vincent Palloti College of Engineering, Nagpur.





Appendix 1:

Request Letter for effort to indigenise complete technology i.e. all technologies and services in India, by Indian Companies, to Honourable President of India Dr. A. P. J. Abdul Kalam -

From:

Ashish Manohar Urkude,
(Research Student of PhD in Management
- Nagpur University),
5/24, Radha Damodar Apartments,
Congress Nagar, Nagpur.
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Residential Phone: 0712-540775.
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To,
Honourable Devotee of the Indian Motherland,
Honourable President of India,
Bharat Ratna Dr. A. P. J. Abdul Kalamji,
Government of India,





Author: Dr. Ashish Manohar Urkude,



Publisher: Mrs. Surekha, CEO, IJORD



Rashtrapati Bhavan,
New Delhi,
Pin: 110001.

Subject: *Research findings for making India a developed Nation by 2020.*

1. In the current Socio-Financial crisis and for long term benefits of India, Indigenisation of Automobile Field and hence Heavy Machineries and Industries, and Military Systems, Agricultural systems & Machineries, and giving upsurge to the local products, are the best possible solution to develop our great nation.
2. It is also the best solution for generating the huge employment potentials and overcoming other socio-economic problems, presently what India is facing. These are but the research findings.
3. Further, researcher hereupon is trying to request you to highlight importance of R & D and needs of indigenisation in your every possible meeting with the Indian technocrats, bureaucrats and other important persons from important institutions and organisations.

Reference:

Wide range of Data collected from various sources including IAF, DRDO, and the thorough analysis for the PhD-Research in Management of indigenously built small car market in India with special reference to customer behaviour, under the most able guidance of the Honourable Provisional Vice Chancellor of the Nagpur University, Dr. Mr. Madhukar Rode and under co guidance of Dr. Arun Bapat.





Honourable Sir,

Warm Greetings.

Accept Ram Ram and Salaam from a simple ordinary citizen of India.

Sir, this is Ashish Manohar Urkude perusing his all-important Research studies for the Ph.D. thesis in Management.

Researcher is writing this letter to inform you but the world known fact of the research findings.

Just to inform you researcher is a Bachelor of Engineering Graduate in Automobiles, AMIE (Mechanical), MBA in Marketing and Finance, having almost twelve years experience in the field of Automobiles, Mechanical and Computer Industries. Please don't get confused I'm only 30 years of age.

Following are the Details of the Research for PhD: -

The Topic of research for the PhD:

Management of *indigenously built small car* market in India with special reference to customer behaviour.





Author: Dr. Ashish Manohar Urkude,



Publisher: Mrs. Surekha, CEO, IJORD



The Researcher for the PhD:

Shri. Ashish Manohar Urkude, Nagpur.

The Guide for the research for the PhD:

Dr. Madhukar Rode, Honourable ProVice Chancellor of Nagpur University.

Co guide for the research for the PhD:

Dr. Arun Ramchandra Bapat, Former HOD of Mechanical Engineering Department, Priyadarshini College of Engineering and Architecture, Nagpur.

Place of research and submission for the PhD:

Nagpur University

The Hypothesis put forth by the Researcher for the PhD:



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INDIGENISATION





The Param Super Computer, which Indians have developed, forms the most complicated technology in the field of Electronics and Computers.

Comparatively, also it is the latest branch of Science than the Automobile, which is an older Technology that Indian people have digested and assimilated since last fifty years. So, if India can make breakthrough in the latest branch of Science, which utilized limited resources, why cannot it do same thing happening in the basic and important old form of science? Here researcher firmly believes they can, they should, and they will. Indian can make a Research, they can Design, Develop and Manufacture the car and other Automobiles right from the Engine, Gear Box to the Tyres and also manufacture them at the equal standard the Americans and Japanese can.

Please remember, this form of Automotive Technology also forms the basics of many other technologies right from manufacturing Heavy Machineries and Space Shuttles kind of Vehicles to the most advanced Medical Technologies. Henceforth, India can enter successfully into every other possible field of Higher End Technologies.

Again, Researcher firmly believes that the small car can become a smaller part of this giant Indian project of technological advances and self-reliance of India and Indian.





Why the researcher has selected this topic?

Researcher has passed his Automobile Engineering in Second Merit Rank from Nagpur University in the year 1994; he is also AMIE in Mechanical Engineering and has passed MBA from Nagpur University in 1998. While pursuing CDAC-ACTS diploma in IT this 'indigenisation' idea got a tremendous boost and already informed for guidance Professor Dr. Madhukar Rode, the then Principal of A. Gundawar College of Commerce, Nagpur, was contacted for the final decision. Please remember in the year 1995, Dr. Madhukar Rode was contacted for the first time for this kind of PhD the time when researcher was pursuing his P.G. At that time, Professor Dr. Madhukar Rodeji, advised researcher to get professional experience of five years in the field of Automobiles and other allied industries to understand the whole marketing and industrial basics.

Since his student age, researcher is interested in developing and manufacturing indigenous Indian cars with using all Indian Resources. Researcher firmly believes that Indian Scientists, Engineers and Managers, Businessmen and Consumers can develop their own technologies using their own resources any time if they wish and if they come together.

Now, researcher feels from heart and soul that this is the write time to start this venture.





The Problem targeted by the researcher:

Let us review in nutshell, the technical, and marketing side of the Indian Car Industries:

- a. Until Nineteen Eighties, there were only few cars in the Indian Market the Ambassador by Hindustan Motors and Fiat or Premier Padmini from PAL.
- b. Since Maruti-Suzuki cars entered with well-planned set up of service stations and supporting network, the car market has totally changed for the first time in India.
- c. Next time not only Indian Car Industry but also the whole Industrial world changed a lot, at the time when GATT got its final 'yea' for implementation from Indian in India and 'yea' from many more countries around the world, as well.
- d. The results of 'these kinds of implementations of open economy have shown the whole world the Mexican crisis'. Mexican Economy totally collapsed due to the heavier losses in the industrial sector may be mounting to whopping \$56 Billion.
- e. This was the same time when many more MNC added woes to this factor and destabilized the grandfathers of Indian Auto Industry. Infact, Premier Auto Ltd. (PAL) had to close few of its plants in Mumbai, as they could not compete the professional and result oriented approach of the Maruti-Suzuki and later on from many more MNC.

Few of the major Reasons detected during the research:





- a. Through R & D at all the fronts and at all the possible levels: may it be product, process, resources, technologies, and consumer in the car market; these companies always try to improve all their resources at every possible moment.
- b. Later on, these MNC try to dominate the market by highlighting their products and services through all the possible sources of heavier advertisement doses to the public. Researcher must mention here but the known fact that many of the MNC have yearly turnover more than the GDP of many countries, even more than one third of the GDP of what India (India) has.
- c. Where as the companies, in India, for example PAL, tried to rely on the age-old product and substandard services for more than few decades with absolutely no R & D and nothing new in their cars and services.

Solutions suggested in the PhD thesis by the Researcher for PhD along with his Honourable Guides over the problems India facing at the present moment:

1. As early as possible a strict Indigenisation of the Car Industry, Supporting Services and the Car Market as whole; through using all the indigenous resources, which are abundant in India,
2. It means, local production of the product (here car) for the whole world with local perfectly developed methods and means. – Mr. M.K. Gandhiji.
As, it is highly perceived thing now a days that, whoever controls the volume of money in





any country is master of all its legislation and commerce, so all the controls must be also indigenously developed should be in the hands of the indigenous citizen of India. – Mr. James Garfield – TOI-11th July 2002.

3. Simultaneously, higher end technologies can also be made self reliant in India through indigenisation after starting with this project – Ashish himself and Rajeev Dixit, of Azadi Bachao Andolan, Wardha.

Warning: *If these measures are not taken as early as possible then India will lose its self-reliance stats in the technological and socio-economic front.*

How Researcher is pursuing this exercise?

Researcher carried out survey of the Indian Car Market and the conclusions are drawn after the detailed survey and heavy discussions with the people who are bosses in their field. Researcher took five thousand odd samples commenting on this topic. The research sample range is quite huge and varied having interest in this field. The samples taken are from Masters in the Research Associated Field of this topic, may them be the Scientists to the roadside Mechanics, and of





course, Housewives who go in the grocery shops through the small cars. Samples are Engineers in the plant, from the service stations, or from the big garages. Samples are Managers of MNC Cars Manufacturer. Samples are Future Customers, other Consumers, and Dealers in the Car Market. Lastly but not the least, the names not to be mentioned as they wished while interviewing the managers from the PAL and then the consumers of the PAL and the manufacturer themselves are also specially targeted samples of the PhD Research studies.

The conclusion drawn every time was but the indigenisation. Researcher firmly believes that it is high time that all Indian people must come together and start the exercise of building their own cars higher end technologies and military vehicles and systems relying on it, as if they are on the war front.

Please remember, if this Remedy suggested is not implemented, very soon the consequences will be very harsh. The consequences can be like; at present, few Indian giants have closed their businesses and may be more will also follow the same path. Similarly, there may be a case on the Military front especially with Indian Air force. IAF will have the Fighter planes but devoid of spare part to fly them due to lack of indigenisation efforts.

Why Researcher is pursuing this exercise?





It is becoming clearer everyday of research that Car Industry forms the very basics in the Technology Sector to build Higher-end Technologies. To make idea crystal clear, researcher must mention here that, may it be anything like Space Technology, may it be Military Warfare or technology to develop FMCG or Medical Technologies, the Car Technology forms the very basics of all these.

Only One Example will be sufficient to clear this idea. Let us take an example of the Automobile Engine to manufacture that it requires knowledge of more than many branches of Science, Arts, and Commerce.

To develop Automobile Engine knowledge of Basic Kinematics, Dynamics, Rotational motions, Translation motions, Reciprocal motions, Fluid Mechanics, Fluid Dynamics, Theory of Machines, Engineering Cost Management, Foundry Engineering, Castings, Forging, Metallurgical Engineering, Machine Design, Engineering Drawing, Materials Management, Artistic Skills, Artistic Drafting, Financial Management, Various Languages in which previous designs are made and procedures are written, etc. and the list is unending. Please remember India has all the kind of skilled people in abundance.

Let us also see why the researcher feels that **if Indian develops the advanced Automobile**





Engine and the Gear Box or Automatic Transmission then India can take a giant step towards indigenisation and self-reliance.

Let us see an example of Car Engine and see why it forms the major component of all the basic technology and **helps in manufacturing the following cases:**

- a. The Engine of the car also forms the basis of the power generation from the **Generators**, which manufacture the alternating current of Electricity that is used in every household devices and devices of the industrial houses,
- b. **The Dynamos** for the direct current,
- c. The **Compressor** for the air conditionings and cold storage devices,
- d. **Hydraulic devices** used in power lifting or braking,
- e. **Pneumatic devices** used for the lifting, elevating, and braking,
- f. The **Elevator Technology** also based on few techniques used in the Automobile Engines,
- g. **X Ray machines** use this technology,
- h. All the Electricity manufacturing **Power plants, Atomic Reactors**, and all Vehicles,
- i. **Medical Devices** like artificial hearts and Anaesthesia Doctors use the kind of devices, which use this technique,
- j. The technique in the **Gas Cylinder, Mixer Grinder**, and such all-household devices also use some or the other similar kind of technique or kinematics as used in the Automobile Engines,
- k. Part time Generators and Dynamos used in the **houses, machineries** and the big industries,
- l. The **pollution control measure** taken for the exhaust fumes from the Automobile Engine also





forms the basic of **Environmental Technologies** used in varied fields of the Industries such as Powerhouses, etc.

So there is no end to this list.

Places of the research samples:

For this, the researcher carried out a thorough survey and consulted Doctorates, Military Scientists, Indian Air force Pilots, Indian Navy Engineers, and Captains. He consulted DRDO Scientists, BARC Scientists, ARAI Engineers and Scientists, PCRI Engineers and Scientists. He wrote letters to Rahul Bajaj the CEO of the Indian Auto Giant Bajaj Auto Ltd. and got a reply too in different context. He wrote letters to Mr. Ratan Tata, MD of Tata Industry, Mr. Keshub Mahindra, MD of Mahindra and Mahindra. He has established a contact with all Auto giants of the Indian Industry. He interviewed Mr. Ashok Morey the MD of Mahindra & Mahindra, Few IAS officers, Few Scientists from Physics; The Senior Engineers form Telco, Senior Mechanics from Telco and Mahindra & Mahindra. On marketing side, he interviewed Territory Managers of MNC cars Dealers, Consumers of all Indian cars, Service Station Engineers and Owners of Garages of all the cars present in India.

The places and cities of studies vary from Nagpur, Pune, Mumbai, Chennai, Bhandara, Jaipur, Delhi, Kolkata, Nasik, Khopoli, and Thane. There are small service stations and garages from remote Indian places like roadside garage at the National Highways and State Highways even⁷⁶





to the villages where our expert Indian Mechanics are working and consumers like farmers are enjoying the ride of an automobile, these also form the important samples.

Thus, you can say researcher has tried to find the root cause of this phenomenon by discussing and contacting the masters at the strategic level in the Automobile industry then the middle level management and the always in contact with technology scientists to the road side mechanics.

Analysis of ‘What to do and how to do?’

India has more than one million strong force of Engineers and one million skilled workers in the field of Mechanical and Automobile field. India also has ungrounded **unemployed youth who can become a strong force to reckon with**, if they are trained for the particular job of indigenisation.

Revolutionary planning and implementations is needed for this job. Please remember, India and Indians already have:

1. Skilled workforce as mentioned earlier,
2. Materials required is as abundant as US, Russia, or what China has.
3. Industrial Mentality of the people.
4. Set up of the machinery.
5. Infrastructure set up.
6. Will to succeed in any kind of work using all possible efforts and resources.

Only thing needed is triggering by the Government for this kind of projects. First making it an issue in the parliament, and at a broader spectrum, then, Awarding to the person for making the





best kind of suggestion will be an added advantage. Researcher feels here it can start from your department first and in the Industrial sector, ARAI, Engineering Institutes, and other higher Institutes.

What will be the result?

For this we shall consider only three main units in the car, which India is not manufacturing, and the amount of loss India is suffering at financial front and losses to other resources.





S N	Machine unit of the Car	No. of Parts in it	Present Situatio n	If India starts Manufacturi ng it	Result of the Implementation of this Indigenisation Project
1	Engine Unit and whole Assembly	1000+ (Thousand plus)	India not manufac turing more than five thousan d parts required in Indian and MNC cars.	There will be as many as parts as number of SSI, Vendors, Ancillary Units, Dealers, Service Stations, Garages, and Supporting Services.	<p><i>1. There will be mobilization of resources.</i></p> <p><i>2. Direct Employment generation per part is around two hundred, i.e. overall, generation of around two million at least.</i></p> <p><i>3. Supporting services will generate around eight million jobs.</i></p> <p><i>4. Revenue loss of Rs. Fifty Billion i.e. \$1Billion, as Foreign exchange will be saved every year.</i></p> <p><i>5. India will be self-reliant in every field of technological base. As manufacturing, an engine means manufacturing a whole power manufacturing unit and so on.</i></p>





2	Gear Box Unit and Whole Assembly	500+ (Five Hundred Plus)	India not manufacturing even half of the parts required for the gear box in many of the MNC cars	There will be as many as parts as number of SSI, Vendors, Ancillary Units, Dealers, Service Stations, Garages, and Supporting Services will be developed	<ol style="list-style-type: none"> 1. There will be mobilization of resources. 2. Direct Employment generation per part is around one hundred, i.e. overall, generation of at least one million jobs. 3. Supporting Services will generate around eight million jobs. 4. Revenue loss of Rs. Twenty Five Billion i.e. \$500 million as Foreign exchange will be saved every year. 5. India will be self reliant in the automobile technology.
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3	Driving Axle Unit and Whole Assembly	100+ (One Hundred Plus)	India not manufacturing even half of the parts required for the MNC cars	There will be as many as parts as number of SSI, Vendors, Ancillary Units, Dealers, Service Stations, Garages, and Supporting Services will be developed	<ol style="list-style-type: none"> 1. There will be mobilization of resources. 2. Direct Employment generation per part is around one hundred, i.e. overall, generation of at least one million jobs. 3. Supporting Services will generate around eight million jobs. 4. Revenue loss of \$200 million as Foreign exchange will be saved every year. 5. India will be self reliant in the automobile technology.
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Please Note:

1. Please remember that the Engine, the Gear Box, and the Driving Axles are the major components of the Car or any other Automobile. They together need a set up of the industries that ultimately can manufacture ninety percent of the basic parts of the machineries existing on the earth. May it be a small screw, a nut or may it be complicated parts like carburettor and fuel injectors and their sub parts.

2. Every distinct part needs distinct and unique kind of industrial set up.

3. A car has almost thirty thousand components right from the small screw to the body and axles.





4. Any nation manufacturing its own small car has to have this major kind of set up of industries. This set-up of industries is sufficient to develop many of the heavy industrial machineries. Many types of machinery need only few major or minor intricate unique sets up for few parts other than the small car. Otherwise, the equipments and the infrastructure are always remaining to be as same as that of the small car. Ex. Korea can manufacture small car totally indigenously and hence other advanced machineries too, other than Few European, Japanese, and US companies. Thus, only car technology is enough to develop many of the major mechanical, medical, and electrical industrial and military machineries, as their manufacturing, designing, and development are almost similar.

What are the other efforts needed?

1. In India for taking any giant step like this, it has to become a major issue. May it be political issue, socio-economic issue, and the ethical issue! Therefore, it is expected from honourable members of the society who know the seriousness of this problem that they must take this issue to the every citizen of this country.
2. All businesspersons must be convinced that R & D at all levels is need of the day. At every stage and every step R & D with respect to product, procedure, design, marketing, after sell services, is must. Then feedback and Kaizen in this field will bring improvements in this field. In coming future this knowledge bank will be useful in other industrial sectors as well.
3. The efforts from the Education Institutes, The Business Organizations, The Political will, The Banking Sector, The Industrial Development Corporations and Institutes like MIDC, CII. One more step taken can be the new and old Entrepreneurs are to be made more





aware about the advantages of the indigenisation.

4. Few more steps can be as follows:
 - a. Provisions must be made that Management, Commerce, Arts, Home Science, Architecture, Engineering students and all the other students is given compulsory contributing internship towards nation as a practical project as part of curriculum. If Doctors have one-year compulsory internship of one year, then why can't these students also?
 - b. The Government can give concession to SSI for manufacturing the above-mentioned parts of Automobile and the higher end machineries.
 - c. MIDC, GIDC, CII, IE, FICCI, IDBI, ICICI, SBI etc. should make special provision for this and must conduct lot of seminars & meets and awareness drives.
 - d. The politicians must realize the need of indigenisation as in India this forms the very important factor to mobilize the resources to such very good and giant projects.
 - e. Students to the Consumers all must realize that indigenisation means using our own resources for our own development for our own cause and thus helping your own nation and helping yourself as well. If all these people survive then only nation will survive.
 - f. Remember USA, Japan has biggest carmakers and more than half of the resources in USA and Japan are directly or indirectly related to the Automobile and Car Market.
 - g. Though India our country is not manufacturing the complete car now, still half of the businesses and industry in India listed in CII directory are some way or the other, are based on the Automobiles and Car market. So, if we'll make our indigenous cars we'll be able to make more advanced machines very soon and thus will encourage the other businesses as well.





Expectations from your side:

Sir, the main aim of the PhD thesis is making India and Indians the self-reliant individuals and the self-reliant nation through the indigenisation and that too as faster as we can.

The very first thing needed in indigenisation efforts in every sector is just a triggering by the Government for this kind of projects. First making it an issue in a broader spectrum. Awarding to every possible person for making the best kind of suggestion will be an added advantage. Researcher feels Dr. A.P.J. Abdul Kalam can be the name enough to trigger this process as he himself has ignited mind to work for the national cause.

Sir, so it is requested from your sides that please highlight few of the major points from this project. It is the only expectation from this younger Indian brother.

Sir, make sure that R & D for Indigenisation be given the highest priority too more than any other issue.

Long live our nation, our culture, our civilization, and our spirituality and of course, the devoted people like you.

Sir, please do send at least “one sentence reply” with your most able signature and seal on it to promote such kinds of activities in the young generation. Especially to me as I'm a case of ignited mind.





With high regards to everyone and lot of support for a huge task and selfless service, you have taken, from a simple devotee of the Mother land. Jai Hind.

Thanking you.

Yours sincerely,

Ashish Manohar Urkude.
25th July 2002.

N.B.: Sir, you are requested to send few invaluable suggestions for this project, which will be welcomed as if it is a need of the hour.

Please note: Dr. A. P. J. Abdul Kalam had wished “All the best for Ph.D.” in reply to this email and hard copy letter instantly. Author is grateful to him

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Bharat Mata Ki Jai!

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||SOham Hansah|| || Hari AUM Tat Sat|| ||Aum Tat Sat Brahmarnpanmastu||

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ABOUT AUTHOR

Dr. Ashish Manohar Urkude is basically a merit ranked Automobile Engineer of the batch of 1994, RSTM Nagpur University and holds MBA and PhD in Business Management 2004. In 2006, he is confirmed Bharat Jyoti Award and Glory of India Gold Medal and in 2007, he is confirmed International Gold Star Award and Jewel of India Award, for his extraordinary idea of developing cheaper technologies indigenously in India. Till date he has collected 2 International and 4 National Awards. The projects include the world famous Rs. 100, 000/= or \$2000/= indigenously developed car in India, Rs. 5000/= or \$100/= personal computer and television, Rs. 5000/= or \$100/= Two Wheeler, Rs. 100/= or \$2/= Cell phone and cheaper energy and technology for the Rural India, and other under developed countries in Africa, and Latin America.

His Research in the field of Advancement in Engineering, Medical and Surgical Technologies and Management Education towards the space age has been accepted twice by UNESCO, once by World Federation of Engineering Organisation (WFEO) and next by UNESCO's International Centre for Engineering Education (UICEE).

The world level bodies like the World Bank (WB), the International Monetary Fund (IMF), World Economic Forum (WEF) and UNESCO's WFEO and UICEE, always invite him on the internet through official email, to participate in their live discussions as these world's top organisation finds that Dr. Ashish always thinks positive and better for the welfare of whole humankind.

He has to his credit almost 50 Research Papers at national and international level. Due to crisis in grasping the impact of technology explosion at national level he has touched every faculty of engineering, medical, management, law, education, corporate, economy and agriculture field





and has published world class publications accepted by Engineering organisations, Management bodies, Government of India and topmost World organisations like UNESCO, WB, IMF, and WEF.

His model for developing rural infrastructure using alternative source of energy and local human resources and project implementations is appreciated by the Institution of Engineers (India) and the Ministry of Alternative Energy Sources.

He has invented new concept in Engineering and Science and Technology called the Quark Based Technology.

He has authored 3 books in 2004 in the field of Information Technology and Management. Earlier he co-authored 9 books/ courseware for the organisation he worked during the peak hours of Information Technology boom.

He has over 14 years global level work experience in the core industry, research, consultancy and the teaching experience at under graduate, graduate, post graduate, PhD and Post-PhD level in the field of Engineering and Management.

He is life the member of the Institution of Engineers (India).

He is closely associated with many SHG and NGOs involved in Social Activities. One of them is Indradhanu the organisation working for the physically handicapped of which he and his family is life member.

He believes in holistic education in the Institute and likes to see his organisation follows the path of corporate social responsibility while its all-round growth.

He is appreciated by his colleagues, friends, at home and organisations for his 'perform or perish' approach.

He believes that education, business and life are for continuous improvement towards excellence, perfection and divinity.





Finally, he is thorough gentleman and believes in humanity and Indian traditional values and enlightenment and delighting every entity in the universe and beyond.

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Bharat Mata Ki Jai!

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||SOham Hansah|| || Hari AUM Tat Sat|| ||Aum Tat Sat Brahmarpanmastu||

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