



# JOURNAL OF MANAGEMENT AND SCIENCE

## Special Issue on Recent Trends in Commerce and Technology

Issue No.1

October'2017



Department of Commerce & Commerce CA  
Gandhi Arts & Science College  
(Co-Education)  
Sathy to Covai NH road, Vinnapalli,  
Sathyamangalam-2, Tamil Nadu, India.

Published by  
*Non Olympic Times*

Guest Editor : **Ms.R.Thangamani & Mr.P.Venkataraman**

**DOAJ** DIRECTORY OF  
OPEN ACCESS  
JOURNALS



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*Journal of Management and Science, Special Issue 1, October 2017*  
*ISSN 2250-1819 / EISSN 2249-1260*

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# **JOURNAL OF MANAGEMENT AND SCIENCE**

**A International Level Quarterly Journal  
on Journal of Management and Science**

**Published by  
Non Olympic Times**

## Special Issue 1(October 2017)

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## CHALLENGES IN MARKETING THE GREEN (ELECTRICAL VEHICLES) TO MOVE PEOPLE IN INDIA AND SOLUTIONS

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**ABSTRACT:** Every Government in the world is worrying a lot about the Environment especially after the Earth crossed Fourth Planetary Boundary. All Government met in COP21 to take a new pledge to save Earth. As the third largest polluter India is not an exception to this. One major way is Green Marketing. Marketing the Green (Electric Vehicles, Bicycles etc.) to move the people is the agenda ahead of Government and the issues faced today and its simple yet innovative solutions are this paper. India being a developing country has to face more complex problems. Indian Government is keen on its pledge to COP21 and making policies to push complete Electric Vehicles and to ban Diesel in 2030 in an era where the country's more than 50% of its road is congested, Cities are cramped, not self-sustained in power generation, huge inequality gap to access the services, not have achieved universal health and education and much more is talked in this paper with solutions to it. Government taken its pledge to move people instead of moving vehicles, Metro projects in many places, Bullet train projects and more recent moving to completely electrical vehicles and ban the Diesel vehicles in 2030. Being a Tropical country India has to face huge threat to its electrical vehicles pledge. This paper is a detailed study of that pledge and proposes innovative solution to the issues to achieve success in both supply side and demand side solutions.

*Key words:* COP 21- conference on party, Electrical vehicles, power generationions.

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### INTRODUCTION:

Automobiles industries are boosting Indian economy in every way like employment creating environment for over millions in front and back end of the supply chain, productivity improvement in terms of GDP and making people convenient in travelling from one place to other and other day to day activities. Since India is not well in fossil fuel reserves and government interfere in Dynamic Daily Pricing policy of petrol and diesel prices made people to switch from petrol to diesel . The problem now stands being more than 50% of vehicles in 2020 will be the diesel ones based on one study. India being a developing country with 2<sup>nd</sup> most populous is standing world's third most polluted and among the world's 20 most polluted cities in the world, 13 are from India. With its major cities air pollution is at alarming rate . A significant study found particles from coal and diesel is more harmful than wind-blown dust. These increase ischemic heart disease related deaths. There are almost 140 million vehicles in India and vehicular pollution alone contributes to the 30 to 35% of the total pollution. To mitigate India planned to skip BS-V standards and leap frogged to BS-VI in 2020. But recently India is looking to have all-electric car fleet by 2030. Idea is to no petrol or diesel car is sold. India going to introduce electric vehicles in a very big way. In the 2020

target of 6-7 million hybrid and electric vehicles looks like wishful thinking at the moment, given the paucity of economically viable EVs and the lack of charging infrastructure. This paper begins with the challenges and its solutions to reach the target which would benefit Ecology and People.

#### RECENT TRENDS OF ELECTRICAL VEHICLES:

The government has announced National Electric Mobility Mission Plan (NEMMP) 2020, which will provide incentives up to Rs.14000 crore, for electric vehicle technology promotion in recent times. Three lakh electric vehicles on the roads by 2020 will reduce 16 lakh metric tons of pollution and saving of over Rs.3700 crore, according to government officials. To attain a sustainable energy position India needs to advance with considerable support from government active industry participation and extensive research and development. Electric Vehicles (EVs) are propelled by one or more electric motors, using stored electric energy in rechargeable batteries or similar sources. Even though the prices of crude oil have plummeted dramatically in the last couple of years, the future of electric vehicles still seems bright. The continuous technological advancements and signs of maturing battery technology are contributing the growth of EVs.

#### CHALLENGES IN ELECTRICAL VEHICLES IN INDIA:

- **Battery life is less:** When the world is went behind solar cells, fuel cells, Lithium-ion battery and other class leading advancement, India on the other side stuck up with Lead acid batteries which are two decade old and not able to produce much power and also occupies more space.
- **Frequent recharging of battery:** Batteries need to be charged. That to in the environment of two ironical stages. On the one side government is pushing for the EVs but India's rural is still starving for basic necessities of power. India's coal dependent power plants on an average capacity utilization is still less than 65% makes the battery charging environment more cumbersome
- **Recharging time high (6-8hours):** Existing electric vehicle should be kept 6-8hr for complete recharging and once the charge is complete they are able to run up to 100 miles (160 km approx.). This is one of the conventional disadvantage over traditional vehicles. It may work well for city commuters but for long and highway journeys, which occupies maximum of today's vehicle it is a major setback.
- **Condition of Indian Roads:** Indian roads are patchy and bumps and holes are the welcome signs to passengers. This makes the EVs or any vehicle manufacturer to invest more on shock absorbing technologies and other such technologies to make the passenger comfortable. This is a bane to EVs because the cheaper alternative to traditional vehicle is not possible.
- **Indian Climatic Conditions:** Being a sub-continent, India has a variety of climatic conditions on all sides. The people in North-East, Himalayan States and hilly states looks for Petrol vehicles instead of diesel, based on their power and torque requirements. EVs face their disadvantage there too.
- **Changing mindset of People:** Everything in an economy was nothing if it doesn't get the support of market. India being a third largest population provides a huge market nut at the same time the subcontinent has a variety of customer base. Convincing them from conventional vehicle to EV has the great cumbersome process.

- You are faced with increasing pressure to reduce carbon footprint while maintain operational efficiency in an intense competitive landscape.
- Lack of skills: India being the world's youngest nation but they are lack in traditional skills. India's lack of industrial growth is majorly due to lack of skills.
- Government policy overlaps: Government is skipping the BS-V norms and making the automobile sector to push for BS-VI standards. Pushing a standard and pushing EVs at a time will burden the industry and its R&D cost. This obviously will result in lack of availability of skill set, huge pressure, delayed achievement of targets, unable to get the required materials for different standards at a time and other such compliances.

#### **SOLUTION:**

- For this challenges the battery should be designed so that the battery will work effectively, efficiently and any environment. To manufacture the global average level of battery time (3-4.5) in India, Indian government Make In India campaign have to boot up.
- India need to focus on power development and have to increase the capacity of power plants. For the effective utilization of charging the global standard of placing charging station for every 20 miles (approx. 32 km) seems to be work fine. But at the same time we need to make the green lane to charge the vehicle on the go. Recent NHAI's plan to add an additional lane on the cost of around 80000 crore has to be work on this.
- EVs have to be in different variants one to combat the petrol and other to combat the diesel with few tweaking.
- For convincing people India can utilize commercial advertisement by saying the goods of EVs using the famed personalities. From Government side awareness campaigns like Science Express [11], educating and other such facilities.
- Government need to cater the children minds to the benefits of EVs by making value education, upgrading the syllables, project contest to get innovative ideas etc.
- Ministry of Skill Development need to improve the skill for people. We need a two pronged strategy. One to upgrade the skills of existing labor force to the level required of EVs manufacturing and two, to upgrade the skill level of remaining labor force by skill training institutions like ITIs, Private training certificate courses etc.,
- India needs to avoid its policy overlaps and provide adequate time for technological shifting of companies.

#### **CURRENT PRODUCERS OF EVs IN INDIA:**

Presently there are many hybrid models in India, But Mahindra automobiles (Mahindra e2oplus, Mahindra e-Verito) is the only manufacturer producing the EVs. Without the competition from segment leading brands the EVs industry not able to perform very well so the other industries need to step up the concentration in EVs.

That is happening in Indian industry after the Government interference in the sector. The recent announcement from FRANCO (Partnership of Renault, Nissan and Mitsubishi), world's leading EVs manufacturer set their six year target for India [12].

But still the innovative Tesla motors are not stepped into India. Tesla walls provide huge relief to charging infrastructure.

### CONCLUSION:

EVs not alone provide us the opportunity to keep the environment cleaner but also provide us the opportunity in humongous level for employment. From manufacturing nuts and bolts to the level of innovative battery research and who knows may be self-autonomous vehicles. With India world's youngest nation demands the technological solutions to the high working age population. To cater it EVs provide a good hope. It can revive the mediocre sector to the world class leader. India has all the necessary requirements for the industry with huge population now it is time to prove the world that we are capable of doing. India has time and again proved the world that its capacity to fulfilling the pledge, with caution and proper planning it had to be done.

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