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DRIVING THE ELECTRIC VEHICLE REVOLUTION IN INDIA: CASE STUDY OF TATA NEXON

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ABSTRACT

Over the years, the exploitation and pollution of natural resources have created the need for renewable and environment-friendly products. One such product is electric vehicles which are a replacement for petroleum-based vehicles as they help in reducing pollution and are profitable to consumers. To mark this change multiple Indian automobile companies are launching electric vehicles and one of them is Tata Nexon by the Tata group. The adoption of innovative and new technology standards coupled with customer trust that Tata Motors commands will provide with an opportunity to enter a new emerging market. Also, the company can work on its elaborate product range with eco-friendly technology. Price rises in the international economy could be an obstacle for Tata motors limited on a few fronts. Steel and aluminum prices rise puts pressure on production cost and also the company exposes itself to the international competition in green technology.

1. Introduction

Over the years, the exploitation and pollution of natural resources have created the need for renewable and environment-friendly products. One such product is electric vehicles which are a replacement for petroleum-based vehicles. The migration to EV is essential for an Indian automotive industry to retain its foothold and gain additional ground towards the axis of the electric vehicle.

While the market for electric vehicles is at an early stage of development, it is ready to reshape enterprises and networks everywhere throughout the world. The global electric car fleet has seen a surge of 5.1 million, up from 2 million and the sales of the new electric car is nearly doubling in number. The People's Republic of China is currently holding the position of the world's largest electric car market and is closely followed by Europe and the United States of America. Factors such as generous subsidies and tight regulations are driving factors for the increasing sales. Also, the exemption from license-plate lotteries and auctions in some Chinese cities are playing an instrumental role in promoting EVs. One of the Scandinavian countries, Norway is the worldwide pioneer for the present electric car market share. Approaches are crucial to guarantee that electric versatility has positive effects for adaptability in power frameworks. [1]

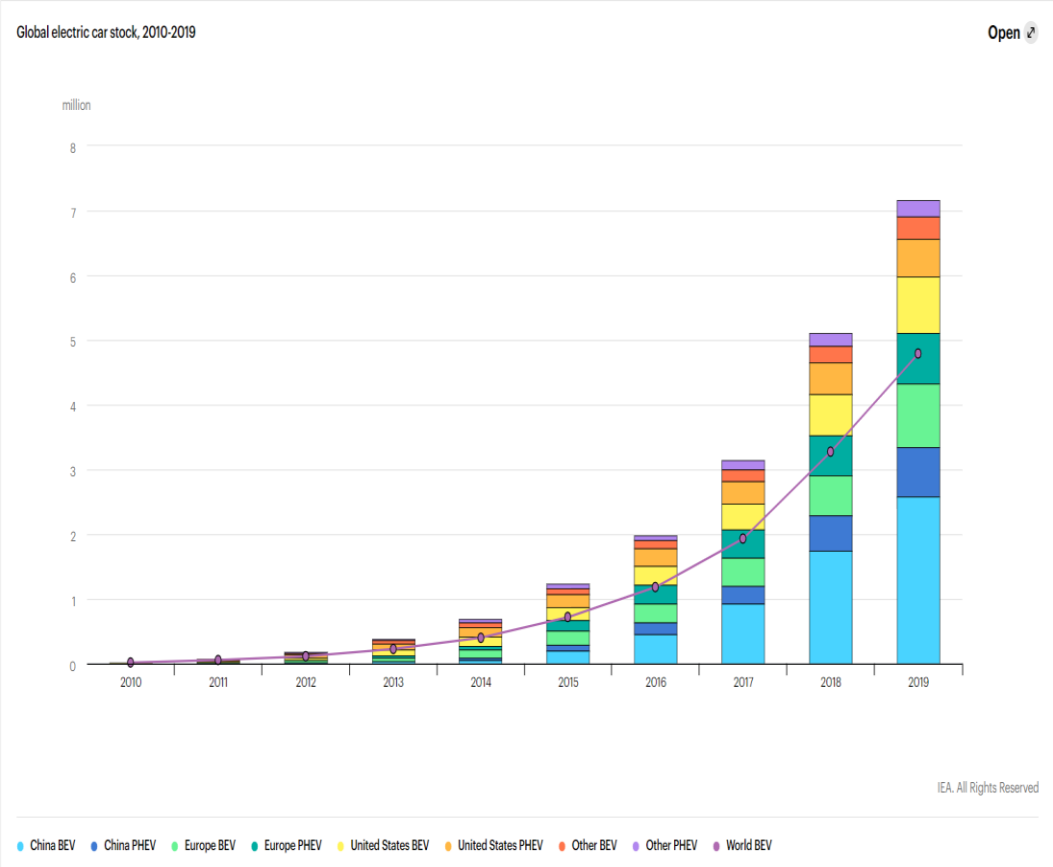

Figure 1: Electric car deployment in selected countries

2. Objective

The Tata Nexon is subjected to a quickly developing regulatory landscape with related laws, policies & regulations which impact the vehicles produced by the company and its manufacturing facilities (such as fuel economy, CO2 emissions, and poisonous/air quality emissions). There is a ceaseless negative open view of the diesel-fueled vehicles, to a great extent driven by the media and government strategy, bringing about declining deals. [13]

The other situation faced by the company is with brand positioning. With the rapidly changing dynamics of the automotive market (like electrification, digital connectivity and automated driving) there is huge competitive pressure from already established automotive manufacturers and the new technologically innovative and disruptive entrants of the market.

The quick pace of innovative technological advancement along with the shortage of expert assets bring about a noteworthy change in the car business and simultaneously builds the risk of supplying superior predominant products requested by present and future clients.

3. Literature Review

Dynamic improvements in policy execution, technology advancement and innovation progresses are prompting the proactive interest of the private sector, encouraging innovation propels and worldwide commitment in EV policy support. The Electric Vehicles Initiative (EVI) EV30@30 Campaign redefines the ambition of clean energy ministerials (CEMs) and has set an objective to accomplish a 30% market share by 2030 for EVs in all modes. [1] India is rapidly moving in the direction of electrifying mobility with the plan to catalyze the increasing demand for electric vehicles (EVs). A booming electric vehicle market for India will obviously introduce various economic growth for the automotive sector and at the same time will be generating ample opportunities for the jobs in the process. Investments in Indian electric vehicles start-ups by venture capital, corporate, funding and private value firms has seen a development of 170% with an aggregate of $376 million being put into resources in 2019, when compared with $147 million out of 2018. [2] Huddle and GrowX ventures recently have announced India's first acceleration programme for EV start-ups to strengthen the electric vehicle ecosystem in India under which the firm will be offering various benefits such as seed investment led by GrowX ventures, mentorship from industry specialists, and pilot opportunities from top tier companies. By setting out a solid establishment of help, improving on different plans of action and making the financial aspects of charging framework work, India is making an extremely favorable and vigorous condition for the appropriation of EVs to accomplish its manageability objectives of providing a green future.

As indicated by information delivered by the Department for Promotion of Industry and Internal Trade (DPIIT), industries all over the country have pulled a total investment of US$ 23.89 billion in Foreign Direct Investment (FDI) during the period from April 2000 to December 2019. [3] With the introduction of the FAME scheme (Faster Adoption and Manufacturing of Hybrid and Electric vehicles) by Indian government, it provided a platform to promote and boost the sale of electric vehicles in the Indian market and at the same time also to provide certain incentives to lower the purchasing cost of electric vehicles, which was a part of the National Electric Mobility Mission Plan 2020. In this plan there are four fundamental areas which are covered are Pilot Projects, Demand Creation, Technology Development, and Charging Infrastructure.[4]

Battery is the most significant component of an electric vehicle and typically constitutes up to about half of the vehicle weight and cost. Ongoing

technological innovation for battery storage in general has been augmented by the increasing demand for batteries in consumer electronics. It is quite normal that by 2025 batteries will progressively utilize cathode sciences which are subjected to less cobalt, for example, NMC 622, NMC 811 or NMC 532 cathodes in the NMC family or progressed NCA batteries. [5] With this there will certainly be a decrease in the battery cost and an increase in energy density. In a recent development, there is a widespread acceptance for the batteries using combinations of lithium-ion and its variations as they possess various benefits such as reduced weight, better efficiency, better power output, lower charging time, reduced environmental implications from battery disposal and longer lifetime. There are four sorts of batteries being used today in EVs are Nickel Metal Hydride (NiMH), Lead Acid, Nickel Cadmium (NiCd) and Lithium-ion (Li-ion). As compared to other battery types Lithium-ion batteries have higher specific energy. In the future, various technological innovations with Li-ion and other battery technologies are relied upon to bring about batteries with lower cost and relatively higher specific energy. [6]

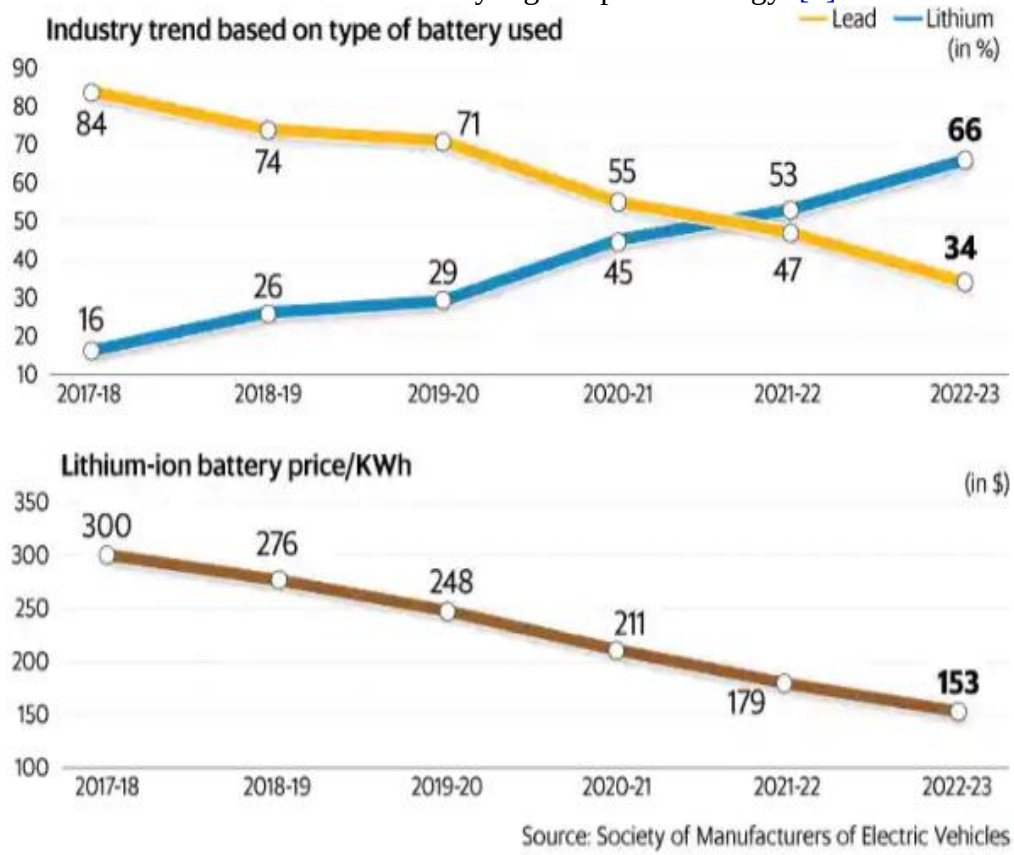

Figure 2: Industry Trends for battery usage in India

Toyota Motor Corp. and Panasonic Corp. established a joint venture for supplying lithium-ion (Li-ion) batteries for the EVs which are being manufactured. [7] A subsidy of Tata group namely Tata AutoComp Systems, which is the auto-component arm of the parent company recently entered a joint venture with Beijing-based Prestolite Electric in January 2020 to mark its entry into the electric vehicle (EV) components market. The affordability of

making electric vehicles are increasing with a continuous drop in the prices of controllers, motors, thermal management systems, electric vehicle supply equipment (EVSE), vehicle interface control modules (VCIMs), power distribution modules (PDMs), DC–DC converters, and high-voltage cables. [1] Presently, the market percentage of electric cars is extremely low in India as compared to other countries. There is a deep dichotomy in the Indian EV market as the government has to tackle the slowdown and investment in future-ready technology at the same time. The key challenges are the lack of adequate infrastructure and unaffordable price of EVs. In addition to that inadequate charging infrastructure, long charging time, reliance on battery and other components imports, and lack of quality maintenance and repair options are the restraint factors. The lack of governments drafting a complete EV framework is a key challenge.

4. Electric Vehicle Scenario In India

To make India a complete electric vehicles market by 2040 requires assistance in incentives for the development of EVs similar to the Faster Adoption & Manufacturing of Electric Vehicles (FAME) Scheme in 2015 which incentivized manufacturing of Eco-friendly vehicles including Hybrid Electric Vehicles (HEV). The electric vehicle market of India is in its early stage with only 2 electric car manufacturers, 3-4 OEM's in Electric buses and about 10+ players in 2 Wheelers. Most other auto OEMs are presently taking a gander at presenting EV models in India. The Government intends to move in the direction of making an interest for EVs by purchasing in mass, which could accommodate enormous requests for automakers. [4]

5. Role Of Regulations

1. Vehicle Segment: The vehicles must be compatible with ICE registration caps and mass retrofit policy.
2. Charging Infrastructure: There should be a mandate for fuel stations to install charging stations. Promote and Incentivized the R & D department. Can allow private parties to set up charging stations.
3. Supply Chain: Encourage the investments for battery manufacturing units, microcontrollers, and semiconductors for Electrical Vehicles. Set up a framework to reuse batteries.
4. Data Management: There should be a proper framework for data collection and set up data centers.[8]

Various investments are being done in the Indian market such as, introduction of the electric version of compact SUV Nexon by Tata motors as they want to establish themselves as the leader in the Indian market. Also, Ather Energy, a Bengaluru-based EV startup which is involved in manufacturing and developing its own e-scooters, also offers charging infrastructure through its 'Ather Grid' and provides consumer services which include cloud software upgrades and has recently came up with a new ownership model of leasing and subscription. [2] Pune-based Tork Motors, which holds in excess of 40 unique IPs regarding their design, technology and trademarks will before long be offering new possession models, for example, renting alternatives and is as of now building necessary infrastructure for quick charging foundation in Pune.

[2] A Gurugram based EV logistics startup, DOT, which is supplying EVs to food-tech players and major e-commerce companies such as Amazon, Walmart, Blue Dart, Grofers, DHL, Swiggy, Lenskart and McDonald's. Yulu is a technology-innovation driven startup which is taking care of the issue of first and last-mile availability. Yulu Miracle is a savvy, smart dockless e-bicycle and is intended for urban-based traffic conditions. Among all LetsVenture, a web-based subsidizing stage for new businesses has additionally propelled LetsAccelerate's EV Innovation Labs which will be helping the new EV companies in India for their initial setup and market-prepared for future growth and development. [2]

The electric vehicle market in India has gained a considerable momentum after the implementation of the FAME India scheme and as a result the sales of the vehicles are anticipated to grow at a CAGR of 36% by the year 2026. Also, the present EV battery market in India is approximately estimated to be US$ 520 Million till 2018 and is anticipated to grow at a CAGR of 30% till 2026. Also, the total MWh addition in 2018 was somewhere at 4.75 GWh which is forecasted to grow up to 28.0 GWh by 2026. [9]

Indian automotive industry is anticipated to reach Rs 16.16-18.18 trillion (US$ 251.4-282.8 billion) by year 2026. Various automakers as well as the government bodies are taking initiatives to fulfill the growing demand. The Indian government is encouraging foreign investment in the automobile sector and to strengthen this they are allowing 100 per cent FDI under the automatic route. In terms of investments various international giants are collaborating and investing with the Indian car makers as they see a very bright future of the EV market in Indian subcontinent. [10]

6. Research methodology

I. We have used the case study approach as the methodology. It is based on the review of regulatory documents, interviews of industry experts, research papers and reports, annual reports, and news reports.

7. Company Background

Tata group was founded in 1868 by Jamshedji Tata. Tata motors group formerly known as TELCO is a USD 45 billion organization founded in 1945, headquartered in Mumbai and is India's largest OEMs which offers a substantial range of smart, integrated and e-mobility solutions. The diverse portfolio of Tata Motor limited includes a boundless range of cars, buses, trucks, defence vehicles and sports utility vehicles. [11] The tagline "Connecting Aspirations" means offering innovative mobility solutions which is completely in line with the aspirations of the customers. The mission of the company is to passionately anticipate and provide the optimum vehicles and experiences which excite the global customers. The organization continues beginning to stand out in shaping the Indian business vehicle scene, with the introduction of driving edge powertrains and electric arrangement plans packaged for power exhibitions and customer comfort at the most insignificant life-cycle costs. The six key mobility drivers which are going to lead the company in the future are complexity reduction in manufacturing, modular

architecture, clean drivelines, connected & autonomous vehicles, low total cost of ownership and shared mobility. [11]

Tata Motors provides mobility solutions to more than 175 countries globally and has a robust worldwide network of 134 subsidiaries, joint ventures, and associate companies which includes the Jaguar Land Rover (JLR) in the UK and the Tata Daewoo in South Korea. Tata motor limited (TML) possess the pioneer position in India's commercial vehicle market with a market percentage share of 45.1% in FY 2018-19 and has significantly captured market share in the Intermediate Light Commercial Vehicle (ILCV), Medium and Heavy Commercial Vehicle (MHCV), and Small Commercial Vehicle (SCV) segments. [11] It is the primary organization in the designing division from India's engineering sector to be listed in the New York Stock Exchange (NYSE) and furthermore have developed as a global automobile company. Till date, TML is the 17th largest motor vehicle production company in the world, 2nd biggest bus manufacturer and 4th biggest truck producer. With a push towards the adoption of electric vehicles in India the company launched the new Tata Nexon EV in SUV range with 3 variants. [12] [13]

8. Leveraging The Strengths

Tata Motors Limited is one of the paramount firms in the vehicle segment and has various strengths which enable them to flourish in the market place and also help in penetrating new markets. Tata is a well-known brand in the home country and has established itself as the recognized brand and developed a trust among consumers with their highest customer satisfaction level. The organization with its devoted client relationship the executive's office has had the option to accomplish a significant level of consumer loyalty among present clients and great brand value among the possible clients. The JD Power India Customer Service Index for the year 2019 has placed Tata Motors second by scoring 870 on a 1000-point scale and crossing the average score of the industry as a whole for the fourth time. [14] Tata Motors functions on basis of a great support from the reliable suppliers of the raw material which help the Tata Motors to get the better of any supply chain bottlenecks. The company has successfully built a culture among dealers and distributors where along with promoting the products they also put considerable efforts and investment in training the sales team on how to explain to the customer and how to leverage out the maximum benefits from the products and because of this strong dealer network, it is able to extract maximum profit. [15] The organization's dealership, services, sales and spare parts network contains more than 3500 touch points. Tata Motors Limited is largely investing in development and training of its employees. This creates an environment to boost morale, motivate and to achieve more. It has been successful at entering various new markets and making it a success. The diversification of the organization has supported to develop a new revenue source and expand the risks in these new markets where it functions. Tata Motors is very much confident about their management policies and hence they partner with companies having similar management systems and as a result they are able to build a reliable supply chain by successfully integrating with a number of innovative technological

enterprises in recent years to evaluate and manage its workflow. [15] "Nexon has been awarded a 5-star adult safety rating by Global NCAP, which makes it a better proposition in terms of safety and premium quotient. Secondly, foraying with an electric Nexon is a calculated opportunity. Acceptance for an expensive hatchback is less than that for a compact SUV in the domestic market," quoted by Gaurav Vangaal, country lead for the department of light vehicle production forecasting at IHS Markit.

Since we know that automobile companies are a very competitive industry and most of the automobile companies are old and experienced in this business and offer new models and tech-savvy cars. Since Tata motors is not a premium car manufacturer so it is indifferent to changes. The company mainly caters to the economic class customers and hence has developed a notion that it does not target the luxury class and the car manufactured by them is not luxurious. Because of this, the enterprise is missing the base of an influence in the high-end product sector/business. [16]

Tata Motors and its EV Nexon are equipped with the requisite financial muscle, R & D capability and trust amongst customers. However, they face some unique challenges. Tata Motors Limited has somewhat failed to give a tough competition to the industry leading players in terms of innovation even though on R&D, Tata Motors has been spending more than average as compared to the industry. "The balance sheet improvement remains on course, which is one of the key underpinnings of our 'buy' rating," according to the Edelweiss Securities, who pointed out that the tough situation between an extremely competitive external environment and the company's focus on driving efficiencies. It is considered as one of the mature firms which is always focusing on bringing out the products based on features that have been tried in the markets already. Global presence of the company is limited as it has not penetrated in many international markets until now whereas for electric vehicles various foreign companies like Tesla are more trusted among consumers. Hence there is a need for the company to increase its global presence in order to gain more trust and exposure in the global market. Tata motors also lacks in possessing strong marketing policies to promote its product world-wide. Given the size of development and various topographies Tata Motors is planning to expand into, Tata Motors Limited requires higher cash inflow in innovation to accommodate the functions. Today, the interest in advances and the organization's vision aren't really aligned. The rate of missed opportunities is higher as compared to its competitors due to improper product demand forecasting and is one of the reasons for high inventory compared to its competitors. [15]

Today, the company faces exceptional rivalry from the Indian as well as foreign competitors such as Honda, General Motors, Maruti, Mitsubishi Motors, Fiat, Ford etc. [17] Since the automobile manufacturers in India have a better idea and facilities towards debt and equity financing in the international capital markets or are able to access the upcoming technologies, there is an expectation for intense competition. Recently, entities manufacturing vehicles and components in India manufacturing vehicles and components in India, the

government of India authorized automatic approvals for foreign equity ownership of up to 100%. Over years the organization has built up various items yet those are regularly reactions for advancement by different parties. The supply of recent products is irregular which leads to fluctuations in the sales figure from time to time. Another threat for any organization could be that since the organization is working in various nations it exposes itself to fluctuations in currency values mainly because of the fluctuating socio economic atmosphere in various parts of the world. Laws related to risks in different nations are unique and Tata Motors Limited might be presented to different obligation claims given change in arrangements in those business sectors.

Price hikes in the economies globally can be a challenge to TML. V.V. Kamath, Managing Director at Fronius India, quoted, “It won’t be long before major automakers in India choose to electrify their line-ups to meet the 2030 deadline. Currently, there are very few EV manufacturers in India. This draws the conclusion that the industry has not yet created enough demand to manufacture everything due to the very basic idea of ‘price for an ideal car by the Indian customer that is around 10L’ in which an ideal electric car will fit in.” [18] The cost of steel and aluminum is pressing the expense of creation. The same number of Tata's items are turning out to be costly internationally and inside its customary home market. Low safety standard is one of the major threats which hamper the public trust and results in decreasing sales. There is a huge gap in the investments made by India and China for the batteries as the latter is making massive investments at massive scale. “This (lack of battery manufacturing in India) is a real problem. India is not able to get its act together quickly enough to get into the manufacturing of all these new sunrise industries," quoted by ReNew Power Ventures Private Ltd’s CEO and Chairman, Mr. Sumant Sinha. [19]

The world has been becoming modernized and dependency on transportation facilities is increasing which results in an increase in sales of motor vehicles and thus opportunities for the electric vehicle manufacturers. The economic growth globally at an emerging yet developed market, possesses enormous possibility to have sales number hike. Worldwide development and hiking wages make openings in both recently emerged and present geological markets just as recent and developing fragments. “Our analysis suggests that four-wheeler passenger and commercial vehicles consumed 21.3 million tonnes of petrol and diesel in 2017-18. If the distance travelled by these vehicles are covered by equivalent EV-km, we estimate that nearly 50 billion units of electricity would have been required to charge the EVs” said the Manager, CEEW, Centre for Energy Finance, Mr. Rishabh Jain.

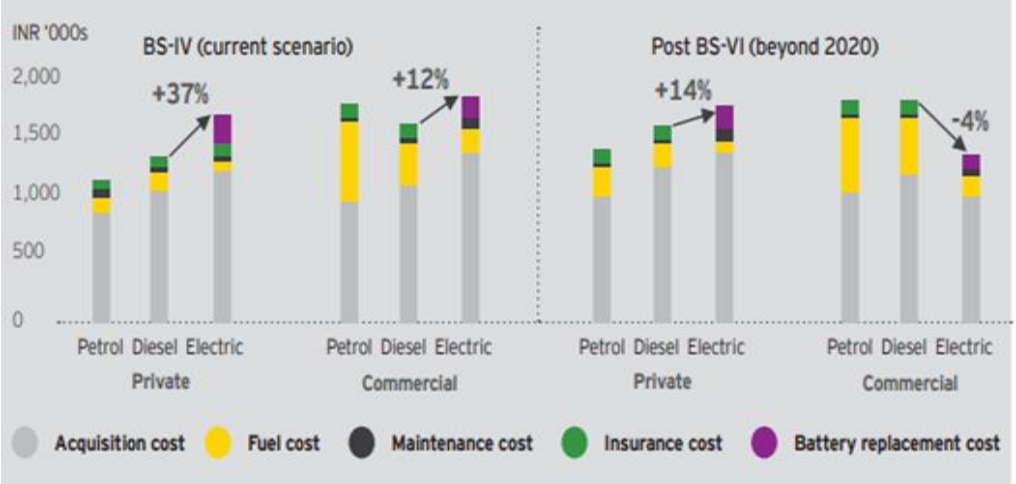

Figure 3: Price Differential – EV vs ICE in India

The differential price between EV and ICE is less during the BS-IV stage and it reduces dramatically further after implementing the BS-VI. So, adoption EV could be a viable option for retail customers as well. The acquisition cost of EV can be recovered in a very less time since the operational cost and fuel cost is comparatively low. [8] To make India an electric vehicle hub the government is shifting gears in setting up the required infrastructure which will change the face of the automotive industry and transform India into the leading electric vehicle market across the globe. The selection of new technological innovation guidelines and trade deals which are free of government intervention has given Tata Motors Ltd. a
chance to emerge in another developing business sector. [20] "There are several opportunities for power and battery players. Even EV charging stations provide small-scale entrepreneurial opportunities," quoted by the previous head of Nissan's India business, Mr. Arun Malhotra who is also working as an auto consultant. The new tax assessment strategy can altogether affect the method of working together and can open new open doors for built up players, for example, Tata Motors Limited to expand its productivity and increase the profitability. In a recent news, Energy Efficiency Services (EESL), the government's electric vehicles acquisition arm, has disqualified a subsidiary of China's Shanghai Automotive (SAIC), from their upcoming e-vehicles tender in the absence of an official clearance by a board involving authorities from the DPIIT. EESL MD Saurabh Kumar quoted that "There is a specific requirement recently spelt out by the government that any company which has an ownership from China has to follow a registration process. They need a clearance from the DPIIT. This is part of the tender process,". The upcoming trending technology is providing an opportunity to Tata Motors Limited to practice differentiated pricing strategy in the new market and it will empower the organization to keep up its dedicated clients with incredible assistance as well as bait on new clients through various other worth situated suggestions. Tata motors is spearheading the EV transition in India and driving the shift towards economic and sustainable mobility solutions by taking advantage of the subsidies provided by the government to drive the initial EV push, at the same time focusing on

building other strong ecosystem pillars. JLR was the primary premium producer to bring a battery EV into standard creation with the Jaguar I-Pace and has presented the Range Rover along with Range Rover Sport PHEV models too. "JLR is the only driver of its valuation. We believe future equity infusions are also likely to be utilized for loss funding and hence we do not attribute any equity value to its India business." analyst Amyn Pirani wrote in a report. Also, Tim Urquhart, a senior analyst at IHS quoted that "If you look at Land Rover and Jaguar now, they probably have the strongest product line in their recent history if not ever". In the coming year, JLR will be offering an electric choice with each and every coming model. Both the variants of JLR namely diesel and petrol motors are perfect altogether as they offer decreased CO2 and NOx emanations in certifiable use and 20 to 30% better fuel utilization and CO2 outflows. The company is making a considerable change in its market (like ACES) which helps them to focus on launching industry-defining products as well as services ahead of its competition and also to strengthen their partnership with worldwide innovative technological organizations. Based on the report by NITI Ayog, Ministry of Power has just attempted a few leads in pushing the EV Infrastructure activities through its different public sector organizations. Recently, Tata power came up with their first electric vehicle charging office at Vikhroli in Mumbai and are further planning to turn out about 50 charging stations in Delhi and Mumbai. Also, a MOU has been finalized among ISRO and BHEL for developing indigenously electric vehicles battery. [4] Apart from that ISRO is providing the necessary R&D technology to BHEL for making efficient, effective and low-cost lithium - ion batteries. BHEL has formed an internal committee to comprehend the changing market and interest for batteries and has started the production of electric motors for Ashok Leyland and Tata Motors. In a recent news development, the Delhi government came up with a new electric vehicle policy under which it aims at giving incentives up to 1.5 lakh rupees for road tax, registration fees for new cars and also pledged to set up around 200 charging stations to boost the use of EVs. "We have notified the Electric Vehicle Policy today. With this policy, we aim to generate employment to give a boost to Delhi's economy and reduce pollution levels in the national capital," Said by CM Arvind Kejriwal. [21] So as to advance clean vitality transportation NTPC wandered into EV-Charging business and came up with its first charging stations at its workplaces in Noida and Delhi. Presently, they are searching for a country-wise authorization and on the off chance that occurs, at that point they will have the option to set up the charging stations rapidly.

9. Recommendations

Charging Station

Tata has clearly manifested that the company is trying to retain its foothold by having a plan to invest in R&D for batteries and supercharging stations infrastructure. There has been a significant increase in sales in EV to 1,50,000 units EV, previous year, it sold only 1,35,000 units. Since there has been a tiff between China and India along with the ongoing Pandemic, Tata has all the possibilities to become self-reliant by investing more in the R&D on batteries.

Tata is already frisking to expand the number of charging stations in our country. Once the right framework is in place, Tata will play a vital role in migrating to clean energy.

Customer Relationship Management

Tata has a motive to change the large-scale migration to clean transportation across all segments by working closely in EV industries. With the high-level customer relationship management team, it will be able to achieve more potential customers by spearheading the EV in our country. That will result in increasing the trust among the people in India. Tata has already signed MoU for setting up commercial EV charging stations at fuel outlets owned and operated by Hindustan Petroleum and various others to provide them with an entire charging station for the EV of the customers. At the same time, the company is also trying to rope in municipal corporations and Metrorail authorities for setting up EV charging stations across the country. Tata's biggest strength is launching a product in low and medium budget cars where they can easily capture the market post-pandemic. The opinion of people towards EVs is still unsatisfactory as most of the population in our society is still unaware of the various alternative technologies used in automobiles. The Indian consumer will prefer EVs only if they are comparable with current vehicles on road when it comes to the price and mileage, two factors that an average Indian looks for in any vehicle so a change in perception is important which results in becoming more conscious about the use of cleaner technologies.

Battery

The ongoing pandemic along with a tiff with China will result in manufacturing the products to be self-reliant. The lithium resources of India are not that great and therefore needs to establish a reliable supply-chain for the same. The collection and recycling of batteries also requires a special facility. This will be the ideal time for Tata to invest more money in R&D for batteries and supercharging stations.

India Based Manufacturing

Tata Motors Limited is a good brand, and over the years through mergers and acquisition have earned a good market share. The company should focus on higher market share of electric vehicles in the domestic market by increasing the development of new products and covering new markets. Tata motors should try to promote electric vehicles as a part of their CSR activity. The company should not ever feel settled with their innovation but continue as competition is always there. Through various mass marketing and environmental education programs people should be made to feel goaded and spurred to drive an electric- powered vehicle. By laying down a strong foundation of support, defining the regulatory framework, innovation and new business models, incentives, subsidies, and diversifying the economics of charging infrastructure work, Indians have a capacity to create a friendly and

healthy environment to adopt electric vehicles and help them achieve its sustainability goals for a greener future.

10. Conclusion

Tata motors limited known for its trust and quality is a strong company that has been supported through its parent organization Tata group, thanks to the various acquisitions and mergers. The fact that the company invests a good amount of money in R&D speaks volumes about the skilled workforce the company has. In times when much focus is given on reducing the carbon footprint all over the world, it is an appropriate direction for the company by launching the electric version of Nexon. The market potential for electric vehicles in India is quite huge considering the enormous population of the country, and the increase in income level of the country which might prove to be a game changer for the newly launched Tata Nexon. But the company also has its fair share of challenges. The major challenge is lack of innovation in the electric vehicle segment. Major competitors such as General Motor, Mitsubishi Motor, Ford, Fiat, and so on have been quite innovative as of late, and hence Tata must try to be more innovative in the approach. One more challenge that the company might face is the high cost of the electric vehicle. Although, the market potential is huge, India is a lower middle-income nation according to the World Bank, and hence the majority of the population cannot afford to have an electric vehicle. The exorbitant price of Tata Nexon is due to the battery which is required to run the vehicle. Since the battery is manufactured in limited countries, there is a dearth of supply of the battery which makes the price quite high. The shortage of charging stations in India, is also a challenge which the company and the government must look into. The success of any industry depends on the people and there is a dire need to educate people for the betterment of mankind.

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