ELECTRIC
VEHICLES

PERFORMANCE

Technology

SOCIAL SPHERE

SUPERVENING SOCIAL NECESSITY

The rising threat of climate change and urban air pollution created a strong social need for cleaner transportation. Governments and societies demanded solutions to reduce CO_2 emissions and reliance on fossil fuels. Economic pressures, such as oil price volatility, also pushed the adoption of EVs as a sustainable alternative. Policies like tax rebates, road tax exemptions, and charging infrastructure further proved that electric vehicles were not just an invention, but a necessity for modern society.

SUPRESSION OF RADICAL POTENTIAL

- Electric vehicles have radical potential to disrupt oil and gas companies and reduce vehicle maintenance needs due to less moving parts.
- Electric vehicle companies use a unique charging system which only works for specific branded cars limiting usability such as Tesla; however Tesla is looking to change that. [3]
- Slow infrastructure rollout also contribute to the suppression due to lack of charging infrastructures [2]

PROTOTYPES

- Early EV Cars - During the period of 1832 - 1839, a British inventor, named Robert Anderson created one of the first vehicle that relies on electric motor.
- Early EV 2000s - The first modern, purpose designed electric car was produced by General Motors Corporation. The prototype was named General Motors EV1 and unfortunately, it never goes into production due to the project being cancelled.
- Today EV Cars - Honda revealed their new prototype, Honda 0 Saloon, that they claim to be thin, light and wise. Some key features it has are advanced driver assistance and it will run with Honda new operating system.

INVENTION

- In the 1830s, Robert Anderson motorized the carriage with a galvanic cell that does not have the ability to recharge itself.
- In 1837, Robert Davidson of Aberdeen made a prototype model that can go 1.5 miles at 4 mph which can withstand the weight of 4 tons.
- As rechargeable battery were introduce in 1859 more ideas revolves around electric vehicles starting to rise. More and more prototypes were made and each are better than the previous version.
- Investors and partners in the early 1900s invested in Electric vehicle Company (EVC), more than 600 electric cabs were made.
- Eventually in 2008, Tesla made roadster 2.5 that beats every early aspects of early models. Until more and more inventions popularized electric vehicles where it can be seen everywhere on the road.

DIFFUSION

- Electric vehicles gain widespread usage due to the need to address rising oil costs, carbon emissions and air pollution. [1]
- EVs gain widespread adoption because of financial incentives by governments such as direct rebates and tax credits or tax exemption [2]
- EV's are widely used by those who can afford it (Europe, America); namely residents in richer countries such as Norway, Sweden and Netherlands. [2]

SPIN-OFFS

- Artificial intelligence has developed further especially in auto-driving features [1]
- Electric vehicles have boosted the development of long-lasting and power-efficient batteries that can be used in other industries such as smartphones.
- Electric bicycles were created in order to address climate change in line with EVs

IDEATION

Science

The first invention was build with galvanic cell battery on a carriage. which late on was improved to battery capacity to reducing the weight. which it was then improve to nickel-cadmium and lithium-ion battery so on which is now used in electric vehicles. The electric motor plays an important role to convert electrical energy to mechanical energy with efficiency. Early inventions most porotypes have low horsepower because of the limited power supply by the battery. Moreover, in 1997 a sport car (tzero) has a light body and it's design is able to reduce drag from the wind, which increases the speed of the vehicle even more.

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