Name

Professor name

Subject

Date

Argumentative essay

1. Introduction of the problem

Electric vehicles provide an efficient alternative to the conventional vehicles in the auto industry. The use of electric vehicles increased in the world due to the efficiency and technological advancements. The technology offered in hybrid cars is capable of replacing the conventional gas vehicles. Diverse sets of electric vehicles are available in America that offers a range of benefits to the consumers. The significant advantage associated with the Electric Vehicles (EV’s) is reduced costs and carbon emission. Hajderi and Paco (2017) define EV as, “engine that works with conventional or alternative fuels and an electric motor that uses energy stored in a battery. Extra power provided by the electric motor creates the possibility of a smaller engine, resulting in better economy of fuel without sacrificing performance” (Hajderi & Paco, 2017). They improve fuel efficiency and performance of the vehicle. Regarding usability, the electric vehicle is a better choice compared to the conventional vehicles that consume massive fuels. As the society will be unable to fulfill their energy requirements due to oil depletion. Forecasts state that the sales and use of EVs will increase after 2020 due to the cheaper batteries and more extended range. Environment sustainability has become one of the prominent issues of the twenty-first century due to rising temperate and generation of greenhouse gases to threatening level. Gas vehicles contribute to the generation of carbon dioxide that leads to global warming. To address this issue it is important to switch to modern vehicles that will increase world’s capacity of controlling global warming (Liao, Molin and Wee). Significant researches are done to examine the relationship of gas emission and global warming. As electric vehicles are eco-friendly and they allow drivers to save money, they can replace the convectional gas vehicles.

1. Reason and evidence
2. Datum# 1

Fuel saving remains the visible advantage of the electric vehicles as it consumes only 38% fuel in the city and 20% in the highway when compared to the fuel consumption of the conventional vehicle (Liao, Molin and Wee). The in-built design of the engine makes electric vehicles cars more fuel efficient resulting in high utility. The electric vehicle is a better choice compared to the conventional vehicle regarding performance and efficiency. Fuel efficiency makes electric vehicle more reliable and suitable for the vehicle industry as it eliminates the issues of energy waste or consumption of fossil fuels (Weiss, Zerfas and Helmers). Due to efficiency the sales of EV’s have increased massively. The sales of hybrid vehicles increased massively in the United States in the last few years. The sales of electric vehicles reflected an increase of 37% in 2016. Total cars sold in the year were 159,139. The popular models of hybrid cars sold in America include Telsa Model S, Telsa Model X, Nissan Leaf, Ford Fusion and Chevrolet Volt. California sets the target of selling 1.5 million hybrid cars by the year 2025 (Buckeridge, Glazier and Harvey). The sales reflected the growth of 32% in 2016, depicting the increase in market share compared to the previous years. The global sales describe the increase of 42% with the selling of 777,497 vehicles (Liao, Molin and Wee).

1. Datum# 2

Consumption of less fuel makes hybrid cars more efficient as they eliminate environmental pollution. The perceived benefits depend on the technical and ecological aspects. Low consumption of fuels in electric cars means low generation of carbon emission. Facts reveals that 24 pounds of carbon dioxide are generated by the trucks and cars that are running on gas. Facts depicts that, “about five pounds comes from the extraction, production, and delivery of the fuel, while the great bulk of heat-trapping emissions more than 19 pounds per gallon comes right out of a car’s tailpipe” (UCS). The statistics confirms that gas vehicles generate tons of carbon dioxide that has deteriorating impacts on thee environment.

Global warming also has deteriorating implications on the health of people because it leads to the development of many respiratory diseases including asthma, chronic obstructive pulmonary disease and Rhinosinusitis. Exposure to gas vehicles leads to the respiratory issues including asthma. Research findings states that “admission for some respiratory conditions, such as asthma, may be associated with suboptimal ambulatory care, which may in turn be associated with low SES and exposure to motor vehicles” (Buckeridge, Glazier and Harvey). The findings suggests that people belonging to low socio-economic status are more likely to encounter motor vehicles that will in turn increase the risks of respirator disease.

1. Datum# 3

Electric vehicle provide the cost-effective solution that saves your money. Tax breaks also offer advantages to the purchasers of hybrid cars. The international policy of environment protection allows people to buy electric vehicle. Incentives for the buyers include savings, discounts and tax rebates. Lighter weight and the smaller gas engine provides a more efficient solution to the consumers (Buckeridge, Glazier and Harvey). Improved equipment and reliability involved in hybrid cars makes it a better alternative to conventional vehicles. The costs faced by the driver of the electric vehicle is two times smaller compared to the conventional vehicle. The cost of fuel per mile is 0.05 to 0.07 dollars. While in case of the traditional vehicle the cost per mile is recorded as 0.10 to 0.15 dollars (Weiss, Zerfas and Helmers). Research studies have confirmed that electric vehicles are more effective in saving money. Statistics reveals that “the net energy savings for the electric vehicle will be $413 per year. Over the 10-year life of the vehicle, this will result in a cumulative savings of $4130 on energy costs” (Malmgren). The data states that switching to electric vehicles allow people to save money.

III. Warrants

1. Warrant# 1

The data is supported by the claim that electric vehicles gives huge boost to energy efficiency. The essential function that provides leverage to the electric vehicle is the technology enhancement allowing it to store energy in battery compared to the conventional vehicle’s storage of fuel (Liao, Molin and Wee). Combining efficient combustion engines with the batteries enhances the performance of these cars. Batteries also provide supplementary engine power that allows speed recovery. Regenerative braking is an additional feature that provides an edge to the electric vehicle technology compared to the conventional vehicles. Braking in stop-and-go traffic leads to enhance efficiency. Improved energy storage adds to more efficiency of electric vehicle in comparison to the conventional vehicles. Regenerative braking accelerates the performance leading to high-energy capacity and efficient release of energy. They rely on batteries that are made up of nickel-metal-hydride that is relatively heavy (Buckeridge, Glazier and Harvey). Lithium batteries offer lighter batteries that are more efficient in energy saving. Due the technology used in the electric vehicles they can capable of using low fuels. The data supports the claim that electric vehicles can replace the gas vehicles because low fuel consumption with generation of maximum output leads to the advantage of the users.

1. Warrant# 2

The data supports the claim that electric vehicles are better than traditional gas vehicles because they helps in resolving the problem of global warming. The central advantage of the vehicle as the transformation from single source energy to multiple sources. Sophisticated mechanical and electrical systems offered by hybrid car provide environment friendly option to the consumers (Karim and Shahid). Electric vehicle dispense effective solution to control pollution resulting from carbon emission. The comparison of engine performance and mileage coverage depicts that these cars can cover more distance with fewer fuel consumption. People of society are more likely to adopt them due to their proactive role in the society. It allows society to cut fossil fuels consumption, the source of carbon and nitrogen emission. Fossil fuels have constantly deteriorated the environment through the release of toxic gases thus contributing to global warming (Reynolds and Kandlikar). Electric vehicles rely on batteries that mean fuel conservation and reduced carbon emission. It is a practical way out for attaining environmental sustainability.

1. Warrant# 3
2. Backing
3. Backing for warrant# 1

When it comes to consumer products, the most important thing that appeal customers is the level of efficiency offered by the product. This supports the warrant because modern consumer is concerned to buy car that offer high efficiency. The plug in hybrids offers a new technology that is more likely to convince people to purchase electric cars. Efficiency is also linked to the performance of the electric vehicles. Because EVs perform better than the conventional gas vehicles, customers choose to buy electric cars. Consumers are also expecting improvements in technology with time and they get annoyed with the old vehicles (Chanaron and Teske). Old technology become obsolete and customers are aiming at findings something that better fit their modern expectations. Electric vehicles that will convince consumers to buy it offer new features. EVs don’t require refueling that allow drivers to save time and again depicts high efficiency and improved performance.

1. Backing for warrant# 2

One of the biggest concerns of current consumer is about environment protection. Due to climate change many awareness campaigns are launched and initiatives are taken to explain the deteriorating impacts of the gas and oil consumption. Almost everyone is aware about the association of carbon emission with greenhouse gases generation and global warming. Electric vehicle manufacturers like Tesla are also using aggressive marketing by focusing on environmental concerns (Liao, Molin and Wee). These ads have also convinced a larger population that the need for taking action is urgent. They have built adequate knowledge about environmental degradation and the role of fossil fuels in the generation of toxic gases. These factors play significant role in persuading the buyers to switch to the modern electric vehicles. Realism also states that climate protection campaigns had made many people environmentally responsible. This reflects that they will act responsibly by purchasing car that will minimize the risks of carbon emission and global warming. People concerned about the future generations will also choose to buy electric vehicles for providing safe environment. Facts reveal that electric vehicles don’t emit pollutants directly that means reduced carbon emission. EV’s are also more acceptable because it convinces the users to focus on their health.

1. Backing for warrant# 3

The claims are valid because electric vehicles offer huge potential of saving money. The first thing that a person considers in making a purchase is the purchasing power. A customer is inclined to buy a car that is affordable and offer maximum utility. As EVs are cheaper than convectional gas cars, people can save cost. The prominent factors that allow individuals to save cost are the fact that these cars don’t require refueling. This means users will only have to purchase the car and not pay for the fuel depending on the miles covered (Buckeridge, Glazier and Harvey). Compared to that gas cars demand more refilling depending on the distance covered. This means that people have to stop at gas stations for refills. Customers relying on gas cars have to pay more money compared to the electric car owners. Realism states that customers who are rational take a decision based on the cost-benefit analysis. As electric cars require only initial costs and not the fuel costs, that will lead to maximum utility. The best possibilities of saving money is by relying on the charging. The cost-saving aspect is visible because a person can drive 150 km without recharging (Karim and Shahid). It is also stated that the maintenance cost of EV’s is also low compared to the gas vehicle. As electric vehicles offer huge potential of saving money customers will buy more electric vehicles in future.

1. Rebuttal
2. Counter-argument#1

No significant evidence is available that could prove that EV’s will control the issues of climate change because purchase of this modern technology has remained very low. There will be no significant market for electric vehicles because people are inclined to use gas vehicle. The counter-argument claims that investing in EV’s is not a rational decision because the demand remains significantly low. The argument claims that it is not possible to examine the practical role of EV’s in reduction of carbon emission because all evidence available is limited. People have not accepted electric vehicle as a better replacement from gas cars, which makes it difficult to understand how it will practically contribute to environment sustainability. This also makes EV a less preferable choice because of the old consumption patterns.

1. Rebuttal to counter-argument #1

Counter-argument can be refuted on the basis of the fact that EV’s don’t use fuels. Because these modern cars are relying on batteries this means the consumption of fuels or gas is zero, which is identified as a significant contributor of global warming. Cars running without gas or fuel will be eliminating no carbon that means they will be eco-friendly and help in attaining the goal of protecting climate (Liao, Molin and Wee).

The counter-argument can also be rejected on the claims that the demand for EV’s increased in the regions that have launched them in the markets. Efficiency is one of the prominent reason for the people to switch to electric cars because they perform better than the gas cars. The evaluation of markets for hybrid car depicts its growth in the US vehicle industry (Buckeridge, Glazier and Harvey). The states of America that allow hybrid vehicle registration including Florida, California, Texas and New York. The market share of hybrid cars is prominent in the developed countries. The share of the hybrid cars shrinks in the developing countries. The market shares of hybrid cars will improve in the developed countries like the US in the next few years (Karim and Shahid). Rising fuel prices in the vehicle industry depict the possibilities of increased hybrid cars demand in future. Growing environmental concerns due to global warming and carbon emission make HEV more feasible for the industry.

1. Counter-argument# 2

Electric vehicles costs more due to the maintenance and technical faults. The counter-argument claims that EV’s exhibit high probability of technical faults that means customers will face high costs of maintenance. These vehicles will not allow users to save money but will in fact increase cost burden (Malmgren). Compared to the EV’s gas vehicles don’t posits the challenges of technical faults so customers will save more money. Electric vehicles are more vulnerable to technical faults that will discourage people from buying them. The technical defects of Tesla electric cars was due to the inefficiency of the technical team. There were many technical errors that confirm that companies are still struggling to bring a fully developed vehicle to the market. There are also possibilities of more accidents due to the sudden technical failure. Therefore, gas vehicles are more beneficial compared to the electrical vehicles.

1. Rebuttal to counter-argument # 2

Counter-argument can be refuted on the facts that with the enhancement of technology and launch of fully developed models there challenges of technical failures will be resolved. The companies have taken the responsibility of performing tests before releasing these vehicles. Such tests will highlight technical faults and will allow technicians to resolve the problems. This will lead to the creation of bets vehicles that are free from technical faults (Malmgren). The claims that EV’s require more maintenance is wrong because facts have revealed that the structure is highly efficient that will demand minimum maintenance. The counter-argument can also bee rejected by using the case of Tesla when the company had accepted the responsibility of technical failure and called back the defeated cars. This reflects that companies are more determined to take actions for resolving technical faults and present a fully tested model because technical defects will ruin their reputation (Buckeridge, Glazier and Harvey). The maintenance cost of these vehicles is also low. Behavioral economics explains the main incentive during purchase decision remains the price of purchase. The consumer theory of preferences states that the consumers choose from an available set of alternatives. Consumer preference theory suggests that the comparison of the cost associated with electric vehicles will increase the chances of consumers purchase. Reduces fuel consumption and saving due to low energy consumption acts as a primary incentive. electric vehicle offer reduced operating cost due to one-time battery purchase thus allowing consumers to save money. Increased costs have a negative impact on consumer decision-making (Chanaron and Teske). Battery range also has a positive influence on the purchase decisions of individuals in the vehicle industry. The driving range is high in case of hybrid technology compared to the conventional cars that influence the consumer preferences.

1. Conclusion

The analysis of the facts and evidence depicts that electric vehicles are more practical for replacing the conventional gas vehicles. The man argument defends the uses of EV’s on the basis of cost effectiveness and environment sustainability. Electric vehicles are capable of replacing the conventional vehicles due to the range of benefits that it offers. Replacing traditional vehicles with the hybrid cars as it helps in reducing fuel consumption thus eliminating the problem of oil depletion. The modern combustion technology for the engine offered by electric vehicle relies on high precision gasoline injection resulting in reduced fuel consumption. The vehicle industry of United States reveals that the consumption of oil is significantly elevated in the transportation department. The total consumption of oil in the transport department is 70%. Increased reliance on the country on fossil fuels depicts the need for curtailing oil consumption. The electric vehicle provides an advantage to the industry as it reduces the consumption of oils. It is also efficient in attaining economic development. Reduced energy spending and decline in oil imports creates economic opportunities for the country. The counter-argument makes weak claims that are not supported by evidence. Hence, it is possible to refute counter-argument.

Work Cited

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