

Electrical cars: research paper sample

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Are they Competitive with Conventional Cars?

Electrical cars are vehicles that work on rechargeable electric power supply that runs the engine instead of gas. Scientists believe that electrical cars are environmentally clean vehicles that do not produce as much poisonous gasses and waste as conventional cars nowadays. There are many kinds of electrical vehicles; some types of electrical vehicles use the energy that is stored in Lithium batteries. Other kind of electric-power cars use a combination of electric power and gas to run their engines called hybrid cars.

In the 1800's there were many initiatives in making an electric motor.

Davinport made the first American electrical vehicle. In the 19th century, electrical vehicles were not very popular among people around the world (Davidson, " Three-Part I."). People thought that those cars were not useful and many companies believed that conducting a research or manufacturing electrical cars is a waste of time, money, and effort. The first few models of the electrical cars were small scale cars. Furthermore, those small scale electric cars were manufactured by certain companies that reflected those models into real cars on the roads in the present (Davidson, " Three-Part I).

Foremost, electrical cars are competitive with the conventional vehicles that people use in this century. There are many ways that the electrical car meet or beat the conventional car in, for example, energy efficiency, reliability, environmental friendliness, energy dependency, cost, and safety.

One of the major challenges that face the use of electrical cars is its use of battery. The question that many people ask is " what if the car ran out of battery in the middle of a high way?" This is an issue that nobody thinks about and considers as a major problem to solve. In addition, a writer once

said “ THE BATTERY that will power the Chevrolet Volt weighs approximately 400 pounds.” He also added, “ The \$10, 000-plus, T-shaped monolith contains 300 individual three-volt lithium ion cells” (Davidson, “ Three-Part II”). Imagine a person who is carrying a battery that is 400 pounds to run his car. If the battery runs off, it is difficult to carry the battery to a place that it can be recharged. Furthermore, when the vehicle stops in the middle of traffic jam, it can cause accidents or traffic jam. This limitation of electrical cars make people consider it less advantageous to people.

Another major limitation of using electric cars is that the mechanics that are in the field are much familiar with conventional cars. They have no experience and knowledge of repairing electric vehicles. Spare parts of electric vehicles are not common in many countries. This means that owners of electric vehicles will be required to import spare parts. This means means is that repair and maintenance of electric vehicles will be very high in the short run. This is a disadvantage to the users of these vehicles.

Jabr once said, “ Drivers could have three ways of recharging the semi-solid flow battery.” He also added, “ They could pump out spent slurry and pump in fresh; head to a recharge station where tanks of spent slurry would be replaced with fresh ones; or recharge the slurries with an electric current. In the first two cases, regaining full power should only take a matter of minutes (Jabr, 152). Davidson mentioned that the fueling process takes more than 9 hours to achieve full battery energy, but the fuel pump energy source produces enough energy to charge the electric-car in a shorter time without burning the supply adapter that the car is equipped with (“ Three-PartII”). From this, it can be seen that battery use can cause a lot of inconveniencies

to the drivers and passengers.

In the past few years, car manufacturers have developed and built their new line of electrical cars that are more energy efficient with consideration to speed, mileage, and power. Furthermore, these Companies' expectations were to reduce the dependence on gas fuel by automobile industry. This is all because of the fact that gas prices are going up and gas fuel was running out. According to Davidson, Nissan took the lead in producing fully electric-powered vehicles. Nissan's produced its first electrical hatchback car that can be occupied by five adults. The car can go for 100 miles without using gas (" Three-Part II"). Conventional cars need to be filled by fuel at gas stations, while the latest electrical cars can be filled with power at home, work places, and some public parking areas. This shows the flexibility of using electric cars since fuelling can take place in many places.

Woods Motor Vehicle Company in Chicago produced the first American electric car, which drove a distance of 18 miles and at a speed of 14 miles per hour in 1902 (Davidson, " Three-PartII"). People thought that these vehicles were too slow and could not be improved, but new electrical cars are built faster and stronger. The Tesla Motor Company built the 416 horse power engine in its Model S, which drives up to 130 miles per hour and goes from 0 to 60 mph in 4. 4 seconds, which is faster than most of the conventional cars that everybody drives on the roads. The sedan version travels up to 300 miles with a single charge (Davidson, 214).

The electrical cars pollute the environment less. Since most people are looking for an environmental clean vehicle, it is possible that the electric car is the best option for those people. The lack of Carbon emissions is a great

area where electrical cars take a lead when compared to conventional cars. This reflects what Fletcher wrote, “ It's inevitable. Rising oil prices, melting polar ice caps, petroleum-fueled geopolitical insecurity -- all send a pretty unambiguous message about fossil fuels.” He also added, “ We need to stop using them. Americans burn 390 million gallons of gasoline every day, each of which pumps 20 pounds of carbon dioxide into the air.”(Fletcher, 178).

From the above quote, if people are using electric cars, a cleaner environment can be witnessed. It should be realized that use of conventional vehicles increases carbon dioxide in the atmosphere that leads to enormous impact on the environment. Electric-powered vehicles do not even have an exhaust system, fuel tank, or a muffler.

Electric-powered vehicles hardly make an engine sound; in contrast, some conventional vehicles cause loud noises and vibrations that disturb the pedestrians and other drivers. The noise produced by conventional vehicles make it difficult to communicate. The loud noise can cause damage to eardrum of individuals. Considering that electric vehicles produce less noise, noise problem will be solved if electric vehicles replace conventional vehicles.

People always look for the most convenient method to own or lease a car that will not cost them much. Drivers will always hire a car that has fewer expenses as compared to that will lead to greater expenses. Drivers always put in consideration two factors when buying a car: gas consumption and car maintenance. The objective of the drivers in the process of hiring or buying a car is to minimize expenses. Electric-cars are the solution for this problem. Electric-powered cars can save drivers not hundreds but thousands of dollars

each year. When comparing the price of purchasing electrical cars against conventional cars, prices are almost the same. Exactly like any other conventional car electrical car's price range from mid 20 thousands like the Nissan's hatchback and the most expensive electric vehicle Tesla Model S that reaches up to \$107, 000 (Ulrich, 118). When considering the cost of operations, the average Canadian driver drives 12, 000 miles per year counting the average gas consumption, which is 20 miles per gallon. The total average to run a conventional vehicle at a gas price of \$3. 2 per gallon will cost the average Canadian driver 1, 920(USD) per year. Comparing the cost of an average of an Canadian driver driving a conventional car to the same driver driving a Zenn electrical car the cost will be 307. 2 USD per year; that is 1. 6 cents per mile(Ulrich, 159). This is calculated by converting kilometers to miles, then dividing the average annual mileage that a Canadian driver drives by the price of the mile per gallon; although, in the electrical car case the average mileage is divided by the kilowatts.

The media has a great impact on people in modern days. As Fletcher said, “ We seem to be in a world of ‘ marketing hype’.” (“ Three-PartIII”). Media can make anything reach the peak of the demand curve. Commercials nowadays have begun to advertise for electric cars and show them as the perfect vehicles that every person must own. Although, people are questioning companies about batteries efficiency and the time it takes to charge a car. Actually the time it takes to charge the battery has a bad ratio with the time the cars runs on roads and operates properly. In fact, a writer said: “ Rechargeable batteries are the heaviest and most expensive components of electric cars by a large margin.”(Fletcher, 173). Furthermore, scientist

succeeded to conduct a new technology that helps a person to charge his or her electric car. A person said, “ It works in exactly the same way as an electric toothbrush.”(Fletcher, 217). In fact, a person can stop his or her car and let it charge wirelessly from the pad that is placed on the garage floor (Fletcher, 203).

Comparing the compatibility in safety, electric-power cars overtake conventional cars in many aspects. For example, in case of an accident it is safer to be in an electrical car than to be in a fuel filled conventional car. Conventional cars have a tank full of fuel to operate. Oil is a highly flammable material that can make a car to catch fire and cause injuries, damage, and even death to the driver or any other person who is involved in an accident. Causes of fire may. For example, fire could originate from static energy from a person who is filling a car with gas. Another main source of these fires is a person who smokes in a gas station. Even though smoking is prohibited by law, people tend to break this law. On the other hand, an electrical car contains no fuel. This means that there is no inflammable substance that can cause fire, which can be dangerous to the lives of passengers and drivers. Whenever there is electrical shock that is caused by the electrical current in the power supply, electric cars shut off the power source automatically to prevent any fire. It is true that fluids inside batteries are dangerous. They can harm passengers and the driver in a vehicle. However, Batteries are safer than fuel-powered engines.

In conclusion, since the initiative of building of electrical motor in 1800's, new models of electrical-powered vehicles are being adopted, manufactured and improved by big and small automotive manufacturers. Electrical cars are

cars that every person must own because of its aspects that benefit both the consumer and the environment. The electric-powered vehicles went from small toy models that were made of wood to real cars that gained popularity over time among people. In addition, consumers are now more aware that our planet is running out of oil and it is necessary to look for an alternative source of energy. The competition between electrical cars and conventional cars is getting closer and closer over time. In fact, electric cars can have variable speeds, which satisfy a huge amount of people depending on what a certain person likes to drive. In addition, electric vehicles are built as strong as conventional cars so there are no concerns about the safety of the vehicle itself. It is obvious that conventional cars have overcome the electrical cars in some areas like maintenance; on the other hand, the electrical car took the lead in the energy efficiency, reliability, environmental friendliness, energy dependency, cost, and safety. In general, there are many advantages associated with the use of electric cars. Even though there are some limitations, the advantages outweigh the disadvantages.

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