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Ethical Dilemma in Tesla Vehicles

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Abstract

More insights concerning the technology of tesla self-driving cars are required. It is a suite of developed driver assistance schemes, introduced by Tesla that helps in lane centering, control, parking, and changing lanes, among others. ⁴ According to the National Highway Transportation Safety Administration (NHTSA), Tesla cars would reduce the number of accidents in the nation, as human errors would be eliminated. However, in March 2018, it was reported that an Apple engineer died while using Tesla's Model X crossover. Reports show that the driver was playing phone games, which could have resulted in a fatal accident. Therefore, it is worth assessing whether Tesla's self-driving cars are reliable in controlling accidents in the nation. The literature analysis method is used in this research to determine what is already known about cars and also identify gaps. Besides, the analysis shows that while some scholars have faith in this technology, as distractions on roads are reduced, others insist that the cars increase accidents, especially when systems are hacked. The results collected after the analysis indicates the need for further research regarding the technology, to help provide a reliable conclusion. Addressing this topic is necessary for guiding electrical engineers and potential buyers while making decisions on whether the cars are safe for use by the public. In the end, more tangible insights will be offered in bridging the identified gaps, later using the known information to note the gaps which should be filled in guiding lawmakers, electrical engineers as well as potential customers.

Ethical Dilemma in Tesla Vehicles

Technology has developed fast in the recent past, making many industries see the need to apply the tools in making work easy and efficient. In the transport industry, the Tesla vehicle has been developed meant to help in lane centering, control, and parking, among other activities. Information given by the National Highway Transportation Safety Administration (NHTSA) is that the cars are expected to lower the number of accidents in the nation, as the human error factor would be eliminated. The stand has attracted various debates after Apple engineer lost his life in 2018 while using Tesla's Model X crossover (Hicks, 2018). The ethical dilemma noted regarding the issue is safety, on whether the cars would benefit the users or cause harm. The literature describes the ethical safety dilemma, ways it was solved as well as how I would handle the issue as an electrical engineer.

The controversy regarding Tesla's vehicle safety is an ethical dilemma involving the electric engineering career. The motors were developed in 2003 by several engineers who believed that electric cars would be better than the gasoline-powered vehicles (Hicks, 2018). They planned to come up with vehicles that would not need tradeoffs in power and also offer comfort than those of the past. The engineers also reported that the cars would have reasonable prices in the journey to implement the company's mission of ensuring affordable and sustainable transport means. The design and luxury evident in the vehicles were due to the application of technologies that would provide a substantial competitive benefit. Even though the company intended to ensure more comfort, cars have been involved in accidents, raising related ethical issues. The leading question concerns how the Tesla Company provides social responsibility.

One of the safety ethical dilemmas concerning the Tesla vehicles is on trolley problem. It happens when action would cause harm to both the people in the car and the others; let us say, pedestrians. In this case, the driver has to decide on the party to suffer

instead of the two. For example, while in a crossroads, the driver would have the brakes to save the pedestrians' lives and put those in the car at risk. The circumstances are different, needing the drivers to make moral decisions. On the other hand, rules are different in countries wherein some; the driver is allowed to kick the pedestrians who cross the roads the wrong time. Various scholars claim that Tesla vehicles cannot make these moral decisions and, thus, the principle of non-maleficence, which states that actions taken should not because harm is not implemented. The cars cannot make the decisions, as the situations are different, and there is, therefore, no way to program the robots to act universally.

The debate came up after the assessment of the accidents caused by Tesla and other self-driving cars. According to research, self-driving vehicles cause about nine accidents, but only four of them are fatal. Despite the small number, scholars have addressed the issue, considering that in the next few years, the number of cars in the market shall increase. In 2018, Tesla Model X was involved in an accident where the driver died after the vehicle hit a barrier on the highway. The company blamed the barrier as it interfered with the driving system of the car. Notably, the wall had been put to lower the effects of a concrete land divider, which had been altered by previous accidents. Writers have addressed the issue as a moral decision that should have made if the car was driven. The vehicle could not prevent the accident as they cannot make decisions. On the other hand, if a human driver was involved, there would have been the realization that changes had been made and thus navigate carefully. Based on this idea, Tesla should have cars with the capability to make moral decisions; otherwise, the no-harm principle is not respected.

The other issue involved concerning the safety of the vehicles concerns the results of mistakes. Today, when a driver is responsible for an accident, fines are incurred. The mistakes are human errors, and while punishing the individual human dignity is ensured. With the Tesla vehicles, confusion has been evident on how to handle the errors. Some

scholars insist that more laws would be enacted to describe ways to name the mistakes as using the words human error would disrespect human dignity. Apart from that, allowing the vehicles in the market would bring differences in how humans understand road signs. For example, the cars would not need light, as they are automated, meaning that pedestrians would rarely know when to cross the roads. The actions would cause harm to the people walking along the streets, as their actions would be determined by the vehicles other than the road signs. Thus, the Tesla cars would alter human functioning along the roads leading to confusion that would cause harm.

The Tesla Company handled the issue by describing how the cars are set to respond, especially in unusual situations. The vehicles have the Automatic Emergency Braking (AEB) systems, which do not operate when the drivers press the accelerator pedal (Sparrow & Howard, 2017). The company insisted that the system and the driver cannot take action at the same time as confusion would result. The company also said that the system enables the computer to foresee via a camera as well as the radar system to determine any barriers along the way. In case the collision is not preventable, the cars would automatically apply the brakes to lower the impacts. However, in case of instructions are given from the accelerator, the machines would not take any actions to prevent confusion. The company said that these actions would prevent instances where barriers on the way cause accidents, such as the one recorded in 2018.

The company also responded to the issue by explaining the laws governing robotics, while interacting with people. One is that the machines should not harm humans or put them in a condition where being damaged is possible. Also, the robots must adhere to the commands given by people unless in unique situations where implementing the controls would cause harm. Apart from that, the robot has to protect its existence, but in case the protection would disregard the first and the second laws, it should forego its safety. Based on

these ethical considerations, Tesla defended its operations, where the emergency braking does not operate when commands from the accelerator are put. It is thus the driver's role to ensure that whenever mistakes happen, the commands given protect them and the robots as much as possible.

As an electrical engineer, I would take several actions regarding the safety issue in using the Tesla vehicles. One, I would ensure that the drivers have enough information on how the vehicles operate and their roles in using them. When this is done, the drivers would determine the actions to take and thus prevent accidents. For example, the Apple driver should not have played games while in the car, as concentration is needed in the case, things go wrong. The other thing I would do is to include a system in the vehicle that would signal the driver on possible accidents. For example, the emergency braking should not respond but ought to alert the driver of a potential collision early enough for changes to be made. I would ensure this because the computers used can see miles ahead, more than humans would do. It is, therefore, an opportunity to ensure that accidents are reduced by the computers sending signals to the drivers.

I would also develop a system allowing the interaction between humans and the machines for ethics to adhere. Notably, the robots cannot get creative, and thus the decisions made are unreliable. On the other hand, humans reason and apply logic in deciding. If the two parties cooperate, the accidents would be controlled. In implementing this, I would utilize software allowing humans to make adjustments, and the machines comply. For example, when the computer detects a possible collision, other than deactivating the emergency braking, the system should be ready for any command from humans who should reason and command adjustments. In my view, Tesla vehicles can only meet the mission of social responsibility by cooperating with humans. The cooperation means that humans concentrate

on the actions taken by the robots, and in case of an issue, the right decisions are made and commanded by humans.

In conclusion, the introduction of tesla cars in the market has attracted debates concerning ethics. Scholars insist that cars cause more harm than benefits, especially in cases where errors on roads occur. The most cited example is the 2018 accident, where the vehicle hit a barrier on the highway leading to the death of the driver. Authors insist that cars are faster and efficient, but the ethical safety standard is not ensured. In response, Tesla Company described the structure of the vehicles and the actions they take whenever a collision is expected. As covered, the company also analyzed robots' ethics, which the manufacturing process ensured. I agree with the company that the changes would make the cars safer. As an electrical engineer, I would introduce a system where signals are sent to the human in the vehicle whenever danger is expected. It is possible as the computers can see miles away and would thus inform the human on time and the necessary actions are taken. I would also ensure that the machines cooperate with humans closely, so the commands given are implemented instantly. After this, I would ensure that Tesla users understand the structure and functioning of the vehicles, so they understand the actions to take in case of mistakes.

References

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