

Technology affect the automotive industry

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Technology has affected on Automotive Industry Literature Review The impact of technology on the automobile industry can be seen through the cars that come out these days that were a dream a few years back. From the auto start engines to the latest safety devices, high-tech devices, cameras that allow cars to think and drive for the driver. These new automobiles offer several new features that are stuff of dreams for many drivers. With lighter materials, cars have become more efficient and due to light weight production costs have lowered that lowers the prices for customers.

When a customer decides on a new car, many drivers search for the latest technology, because why would someone spend thousands and settle for a something old and outdated. Customers consider the use of technology used for construction and value the car on the basis of return they get for their investment. With all these advancements and new devices that come along new cars, customers get the most efficient models with latest control and gear, engines, brakes and much more. This gives customers many new options when they are on the lookout for their new vehicle.

With hundreds of car makers and thousands of car models, the impact of technology on the automobile industry is significant. The technological impact of automobile industry can be seen through the way car was made in earlier days, as the laborers used to make every part by their hand. With time and improvement in technology, mass production started through the assembly line method of Ford Motors. With time the method of car production has changed vastly, as the technology behind it has also seen major changes. The first automobile was built in 1885 by Karl Benz of Germany.

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The age of innovation in development and design of automobiles was between 1950 and 1983. This was the period of many developments that included the implementation of independent suspension, fuel injection and the increased focus on safety for the design of cars. The year 1983, was the year when three different kinds of automobiles dictated the market, these were; Sports Utility Vehicle, Hatchback and the Minivan. Currently, the research is ongoing in the fields of drivers cars, adaptive cruise control and lane departure warning system.

In addition to that, making greener cars is an ongoing program that is being followed by all leading car makers. It is important to consider the financial aspect of sport utility vehicle and market of cars. Research has suggested, around 10% of the global Carbon Dioxide emission from combustion of fuel comes from Subs and cars. Also, the same are found responsible for 41% of the Carbon dioxide emission in the transport industry. Under these circumstances, it is essential to start switching to the hybrid model that emits lesser amount of gas and limits pollution.

The financial outcome for switching to the hybrid models will be beneficial in the present and future scenarios. Technological additions to the hybrid and green cars would increase the costs in the initial years and customers might resist such technology as it adds to their costs. It is in the hands of car manufacturers to make technologically advanced cars affordable for customers and work on lower margins (Reynolds, 2009). In addition to the chronology of automobile industry, security is also another issue that needs work and technology can play a crucial role.

A dynamic approach is required for designing a car protection system or anti-car theft system. Security of automobiles is highly important and technology is needed to prepare the layers of security and implement them effectively in the system. With use of microelectronic an inexpensive, easy to implement anti-theft design can be created for making automobiles safer. Any unauthorized user can be stopped to open and start the car if the system is implemented properly. The three layers is the technology on which system design is based. Firstly, user needs to insert their key and the random security code decided by the user.

When these two match the three layers of security will make the green signal and the user can enter and start the car. But in case, the key and the code do not match, the unauthorized user cannot access the car. The three layers in this case are main power off, main display and control off and control of the directional fuel valve. Adding to the security parameters can also be done to the current design with use of the same microelectronic, this can include retina scan, fingerprint scan, palm scan, voice activated technology, etc (Absolute et al). New technologies have significant influence on the growth of the automobile industry. With implementation of proposed technology the fuel efficiency can be increased by 20% and around 90% of the car accidents can avoided with the current car system. Technology also influenced the customer who drives the car; advanced version of traditional and adaptive control can reduce the number of car accidents. Additional safety measures like automatic car stoppage when the distance between two cars significantly small and similar measures will help in avoiding accidents.

These include the sec and abs that helps car to avoid collision. Along with the excessive requirement of safety measure implementation there is grievance importance for reducing the resulting emission and fuel consumption.

Through the CEO-Routing technology, Centre of Environment of Research has proposed that up to 30% of the automobile induced emission of greenhouse gases can be reduced. Simply put, this genealogy can help drivers to use GASP and this technology selects the most fuel- efficient route.

With use sophisticated servers the possibility of accidents and safety of people's life in car is enhanced (Brenner, 2012). Age is an important ergonomic factor when it comes to designs of cars and selecting the product car. Statistics reveal around the year 2000, few countries had more people above the age of 65 in comparison to those below 15 years. This was the ageing index around the turn of the century. According to estimates by 2030, every country in the world will be above : 1 in the ageing index.

According to data, the percentage of world population above the age of 65 has increased from 5.2% in 1950 to 6.9% in the year 2000. The most notable increases are in Europe (14.7% in 2000) and Japan (17.2% in 2000). This trend is expected increase for the world population as the % of population above 65 is expected to rise to 19.3% in the year 2050. This makes the importance of designing cars that be used by customers from any age group. This will have significant impact on the sales of cars as target market will increase from a group limited design to the total market.

Several new features can be added to the designs of automobiles irrespective of the classification on the basis of age. Some of these features

include; enhanced mobility and control, blind spot warning system, improved stability of the vehicle, smart lightning system, smart reverse monitoring system and lane departure warning system (dames, 2012). To incorporate the drivers technology in everyday transportation system, driver support has to be programmed that would get over- ridden by technology.

Eventually, the transportation system would get habitual to the drivers car system that will be acquainted with air-bags. This drivers technology will be offered as an option for customers looking for expensive luxurious substitute in high profile cars that will be blended in the automobile industry through government regulation. This is due to the reason that, such automated system would be neglected and cannot be realized unless drivers get barred from using the wheel.

With the number of accidents every year and the long list of fatalities, it not long before legislation gets passed for forcible automated drivers or drivers cars (Frey, 2012). In presence of the environmental externalities, it can be welfare enhancing for overcoming the technological lock-in with a dead end technology through intervention of government. Subsidizing a dead end technology is socially desirable if the environmental externalities are small relative to an established technology.

Policies have to passed that will help in shifting the automobile industry for a more efficient and sustainable operative future. At present, there is a lock-in when there is talk of transitioning from gasoline driven cars to cars that are hydrogen fuelled. The main reason behind this is the government policies, as many countries prohibit employing hydrogen fuel in vehicles due to many

reasons. An extensive technological and financial supports is needed from the International governments for improving the status of cars.

When government promotes the alternatives of gasoline driven vehicles like the Hydrogen driven vehicles need to be aware of the opposing effects of welfare (Greater & Hedged, 2010). A study was conducted that monitored 100 cars for more than 1 year and results were published that were seemingly unexpected and strange. The data collected found that these cars had 750 near-misses and around 70 crashes in the span of 1 year. The research claims that these accidents are due to driver's distraction for matter of 2-3 seconds. The instrument for distraction was mostly use of mobile phone by the driver.

According to past records, these distractions are caused while drivers commence using their mobile while behind the wheel. The International Conference on Distracted Driving Conference that was held in Toronto in 2005, stated that, " Driving time is increasingly viewed as unproductive, so it is seen as an opportunity for accomplishing other tasks - to maintain seamless communications with the office and home, and sustain personal contact" (Edwards, 2007). Another technological factor that needs mention in technology in automobile industry is car washing and usage, containment and purification of water.

After conducting survey from many car washes, it was discovered that car wash industry has technologically grown in comparison to past years and has been bifurcated into New Washing Technologies, Advanced Water Recycling System, Water Desalination and Purification and Ecological and Economical

Innovations. With time the demand and quality of water keeps on increasing, this will see changes in the water recycling system that will eventually become the part of the car care industry and genealogical partner Monika & Cupric, 2007).

Automobiles have become an crucial part of the transport industry in the past century and an imminent need exists for innovation in this discipline. Due to continuously increasing demand in the transport industry and the proposed solution is changing automobile control and make the vehicles completed auto driven. This will throw the manual drivers from the loop and reduce the automobile incidents and increase the efficiency in traveling. There are many realistic developments towards this goal such as the dedicated infrastructure n automated commercial vehicles, driving assistance for passenger cars and upcoming models for urban transport.

One such example is the Cabers that are in operation in some parts of Europe and such an approach would transform the transportation mode that might lead to fully automated transportation infrastructure (Parent & De La Foretell, 2005). Significant advancements in robotic technology for automobiles will lead to drivers technology with autopilots for cars that includes optimum and smart selection of destination route, advanced adaptive control systems and manual override. Credit is deserved to the recent challenges that were organized by DARPA that has led to better engineering and sophisticated systems.

Comparison of developing and current technology in the automobile industry can be done with marine vessels and aircrafts. Enormous social benefits can

be reaped from deploying the emerging technology in the marketplace. The planned vision of robotic cars in future and development and deployment strategies, in addition to obstacles, that have not been solved in order to develop well developed and functioning robotics automobile system. Data has been presented that reflects that today the automobiles that are used are highly inefficient in comparison to the terms of; Human Health, Resource Utilization, Human Productivity and Energy Consumption.

This suggests that automobile fatalities of 42, 000 and accidents of around 6 million are reported annually in the United States of America. In addition, the traffic Jams costs around waste of 3. 7 billion hours of human time and 2. 3 billion fuel gallons. These numbers can be reduced drastically if an automated system or robotic automobile system is implemented over the current manual system (Thru, 2010). Regulatory measures with the increasing trend that is getting implemented by the international traffic administration for reducing the polluted emissions from the transport industry.