OPEN ACCESS Freely available online

Advances in Automobile Engineering

ISSN: 2167-7670

Short Communication

Evaluating the Impact of Automobile Vehicles on Technological Innovation

Alia Enciso*

Department of Automotive Engineering, University of Victoria, Victoria, Canada

DESCRIPTION

The automobile has been one of the most transformative inventions of the modern era, reshaping society, economies, and the very fabric of daily life. From the horse-drawn carriages of the 19th century to the advanced electric and autonomous vehicles of today, the evolution of automobiles reflects broader technological, social, and environmental changes. This commentary delves into the significance of automobiles, their current state, and the potential future directions that may redefine personal and public transportation [1].

The advent of the automobile in the early 20th century revolutionized mobility, making personal transportation more accessible and convenient. Henry Ford's introduction of assembly line production made cars affordable for the average consumer, fundamentally altering how people live and work. The automobile enabled the growth of suburbs, increased personal freedom, and transformed economies by creating a vast network of industries around car manufacturing, maintenance, and infrastructure. Cars have become cultural icons, symbolizing freedom, progress, and personal identity. The automobile has inspired everything from road trips to the automotive design aesthetic. It has played a central role in shaping social norms, urban development, and even national policies.

Today's vehicles are marvels of technology, incorporating advanced electronics, connectivity, and automation. Modern cars come equipped with features like adaptive cruise control, lane-keeping assist, and infotainment systems that offer everything from navigation to real-time traffic updates. These advancements enhance safety, convenience, and driving pleasure, reflecting a shift towards smarter, more connected transportation [2-4].

The environmental impact of traditional Internal Combustion Engine (ICE) vehicles has become a major concern. Emissions from ICE vehicles contribute significantly to air pollution and climate change. In response, the automotive industry is increasingly investing in cleaner technologies, such as hybrid and Electric Vehicles (EVs). This shift aims to reduce the carbon footprint of personal transportation and address growing regulatory pressures and consumer demand for sustainable solutions.

The rise of electric and autonomous vehicles is disrupting traditional automotive markets and supply chains. Electric vehicles challenge established automotive giants, while new entrants, such as Tesla, have reshaped industry dynamics. Additionally, the development of autonomous driving technology promises to redefine car ownership, public transportation, and logistics, potentially leading to a future where mobility is more shared and less vehicle-centric [5].

The transition to electric vehicles brings with it challenges related to infrastructure and energy. Expanding the network of charging stations is essential for making EVs a viable option for more consumers. Additionally, the shift to electric vehicles raises questions about the sustainability of electricity production and the need for investments in renewable energy sources to ensure that the benefits of EVs are fully realized [6].

Self-driving technology holds the promise of revolutionizing transportation by improving safety, reducing traffic congestion, and providing mobility solutions for those unable to drive. However, the path to widespread adoption of autonomous vehicles is fraught with challenges, including regulatory hurdles, technological limitations, and ethical considerations surrounding decision-making in complex driving scenarios. As the automotive industry evolves, there is a need to address issues of social and economic equity. The benefits of new technologies, such as EVs and autonomous driving, must be accessible to all segments of society. Ensuring that these advancements do not exacerbate existing inequalities is essential for achieving inclusive progress [7].

The future of automobiles is likely to be characterized by a focus on sustainability. Innovations in battery technology, renewable energy integration, and more efficient manufacturing processes will play an important role in reducing the environmental

Correspondence to: Alia Enciso, Department of Automotive Engineering, University of Victoria, Victoria, Canada, E-mail: enciso_alia@ae.ca

Received: 26-Jul-2024, Manuscript No. AAE-24-33557; **Editor assigned:** 29-Jul-2024, PreQC No. AAE-24-33557 (PQ); **Reviewed:** 12-Aug-2024, QC No. AAE-24-33557; **Revised:** 19-Aug-2024, Manuscript No. AAE-24-33557 (R); **Published:** 26-Aug-2024, DOI: 10.35248/2167-7670.24.13.304

Citation: Enciso A (2024). Evaluating the Impact of Automobile Vehicles on Technological Innovation. Adv Automob Eng. 13:304.

impact of transportation [8]. Future vehicles may also incorporate new materials and designs that further enhance their eco-friendliness.

The concept of Mobility as a Service represents a shift from car ownership to a more flexible, service-oriented approach. This model envisions a future where transportation is integrated, on-demand, and tailored to individual needs. Advances in digital platforms and connectivity will facilitate this shift, offering users a range of transportation options from shared rides to autonomous shuttles. As cities adapt to new transportation technologies, we can expect significant changes in urban planning and infrastructure. Smart city initiatives will integrate transportation systems with other aspects of urban life, creating more efficient, livable, and sustainable environments [9].

Automobile vehicles have undergone remarkable evolution since their inception, profoundly influencing nearly every aspect of modern life. As we look to the future, the automotive industry faces both exciting opportunities and significant challenges. By embracing technological innovation, addressing environmental concerns, and striving for social equity, we can navigate the complex landscape of transportation and shape a future where mobility is sustainable, efficient, and accessible to all [10].

REFERENCES

1. Jose D, Prasad S, Sridhar VG. Intelligent vehicle monitoring using global positioning system and cloud computing. Procedia Comput Sci. 2015;50: 440-446.
2. Devi YU, Rukmini MS. IoT in connected vehicles: Challenges and issues-A review. IEEE International Conference on Signal Processing, Communication, Power and Embedded System (SCOPES). 2016: 1864-1867.
3. Joy J, Gerla M. Internet of vehicles and autonomous connected car-privacy and security issues. IEEE 26th International Conference on Computer Communication and Networks (ICCCN) 2017: 1-9.
4. Shu YC, Lien IC. Analysis of power output for piezoelectric energy harvesting systems. Smart Mater Struct. 2006;15(6): 1499.
5. Howlett RJ, Walters SD, Howson PA, Park I. Air-fuel ratio measurement in an internal combustion engine using a neural network. Advances in Vehicle Control and Safety. 1998;98(1): 1-10.
6. You BH, Kim JW. A study on an automatic seam tracking system by using an electromagnetic sensor for sheet metal arc welding of butt joints. Proc Inst Mech Eng B J Eng Manuf. 2002;216(6): 911-920.
7. Kaufman RB, Meador JR. Dielectric tests for EHV transformers. IEEE Transactions on Power Apparatus and Systems. 1968:135-145.
8. Heublein B, Rohde R, Kaese V, Niemeyer M, Hartung W, Haverich A. Biocorrosion of magnesium alloys: A new principle in cardiovascular implant technology?. Heart. 2003;89(6):651-656.
9. Domingo Galindo L. The challenges of logistics 4.0 for the supply chain management and the information technology. Master's thesis, NTNU.
10. Wang Z, Cao C, Yu Q, Wang Q, Niu C, Shen J, et al. Multi-scale failure mechanisms of hydraulic engineering exposed to seasonally frozen salinization environment: Integrating SBAS-InSAR and mechanical experiments. Sci Total Environ. 2024;912:169210.