

The Impact of AI Technologies on E-Business

Subjects: Others

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The outbreak of COVID-19 has entirely changed how consumers behave, due to an over-reliance on online shopping. With the global pandemic demanding people to stay home, multiple companies had to find innovative strategies to remain competitive and adapt to these rapid changes. However, the pandemic has also propelled the development of technologies, such as artificial intelligence (AI). AI concerns the engineering of machines and programs to make them intelligent, make decisions on their own or provide humans with information that will aid them in the decision-making process. Artificial intelligence software can be programmed according to an organization's needs and performance goals. Although AI offers e-businesses multiple advantages, in order to differentiate themselves from their competitors, it is still a relatively new technology. A lack of understanding of its implementation will hinder organizations from reaping the full benefits of this technology. Moreover, multiple disputes regarding AI's ethicality and privacy concerns have led to further research focused on making these systems more reliable and ethical.

Keywords: machine learning ; deep learning ; recommendation engine ; marketing ; customer service ; big data ; cloud computing ; ethical concerns

With the rise of technologies, such as the Internet of Things (IoT), big data, artificial intelligence, and blockchain, society currently find itself at the dawn of the Fourth Industrial Revolution ^[1] ^[2]. Although some of these technologies have existed for over two decades, a lack of high-performance computing, cloud computing, less transparency in code sharing, and a lesser availability of open-source software has made advancements challenging. Nonetheless, the scene has entirely changed in the past couple of years ^[1].

Nowadays, we find these technologies in every field, healthcare, finance, education, sports, agriculture, management, etc. This clearly demonstrates the popularity of the technology, as well as its diverse applications. Nevertheless, although technologies, such as artificial intelligence, heavily influence our internet usage, only 63% of users are aware that they have been exposed to it ^[3]. With the vast amount of data generated in different platforms, manually assessing and analyzing it would take years for a person to complete. Thus, AI can assist businesses in their decision-making process, as this technology can analyze large sums of data in seconds, and there is a lesser possibility of human error ^[4] ^[5]. Business-wise, some of the advantages that AI offers include the fast unveiling of patterns in large sums of data, the visualization of analytics, insights into your market and competitors, etc. These characteristics can result in increased revenues, improved cost structures, and efficiency, enabling businesses to automate their processes and improve their connectivity ^[1].

Moreover, massive corporations, such as Amazon, Alibaba, and Rakuten, utilize AI for comment mining, the development of other AI technologies, such as chatbots and recommendation engines, and big data processing ^[6]. Retail stores that fail to investigate and adapt to new methods to deliver what their customers want, when they demand it, will quickly fall behind the competition and the advancements in AI. Nevertheless, AI technologies still find themselves in their initial stages of development, leaving ample room for improvement in these systems' accuracy, fairness, and ethicality. In addition, managers and organizations need to acquire more knowledge about the implementation of AI software as a lack of understanding of their functionality will not show the organization the true potential and power of these systems.

The continuous development of AI and an increased necessity for businesses to implement this technology into their daily activities have led to an exploration of how AI functions, its advantages for e-businesses, and possible ethical concerns that arise with this technology.

References

1. Soni, N.; Sharma, E.; Singh, N.; Kapoor, A. Impact of artificial intelligence on businesses: From research, innovation, market deployment to future shifts in business models. arXiv 2019, arXiv:1905.02092.

2. Moosavi, N.; Taherdoost, H. Blockchain and Internet of Things (IoT): A Disruptive Integration. In Proceedings of the 2nd International Conference on Emerging Technologies and Intelligent Systems (ICETIS 2022), Virtual, 2–3 September 2022.
3. Reflektion Inc. Practical AI for E-Commerce How Artificial Intelligence Can Dramatically Improve E-Commerce Customer Experiences. 2018. Available online: <https://pdfslide.net/documents/practical-ai-for-e-commerce-practical-ai-for-e-commerce-how-artificial-intelligence.html?page=10> (accessed on 10 November 2021).
4. Khrais, L.T.; Azizi, T. Analyzing consumer attitude toward mobile payment technology and its role in booming the E-commerce business. *J. Talent. Dev. Excell.* 2020, 12, 1069–1076.
5. Sharma, D. Impact of AI on E-Commerce. In *Applications of Artificial Intelligence in Business and Finance*; Apple Academic Press: Palm Bay, FL, USA, 2021; pp. 1–28.
6. Song, X.; Yang, S.; Huang, Z.; Huang, T. The Application of Artificial Intelligence in Electronic Commerce. *J. Phys. Conf. Ser.* 2019, 1302, 032030.

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