Abstract

E-commerce, the buying and selling of goods and services online, is evolving with the fourth industrial revolution (4IR), marked by technologies like IoT, AI, VR, machine learning, and big data. These technologies enable seamless integration between the digital and physical worlds, transforming business operations making them more resilient. To remain competitive, e-commerce players must forecast mid- and long-term trends. The study assesses the e-commerce status in Kenya, identifies key adoption drivers, and explores the future of e-commerce in the 4IR context. The findings reveal that several key factors significantly influence the adoption and use of e-commerce in Kenya. Chief among these is the quality of internet infrastructure, which serves as the backbone for e-commerce. The widespread adoption of smart mobile phones is equally crucial, as it enables a larger segment of the population to access e-commerce platforms. Additionally, the development of digital skills is essential, empowering users to navigate online marketplaces effectively. Efficient trade logistics also play a vital role, ensuring that products can be delivered reliably and promptly. Lastly, environmental factors, including the sustainability practices of e-commerce businesses, are increasingly shaping consumer preferences and behaviors. To enhance e-commerce competitiveness, the government may develop a comprehensive e-commerce law and clear regulatory framework. Leveraging public-private partnerships is essential for actualizing Kenya's Digital Superhighway. Investments in internet access and equipping schools with digital tools will bridge the digital skills gap, building on programs like Ajira Digital and Jitume in Konza Technopolis. Creating industry-specific e-commerce service stations will help small vendors market their goods online. Implementing a National Addressing System (NAS) is critical for efficient delivery services, bolstering Kenya's e-commerce ecosystem and global competitiveness.