Revolutionizing Retail: A Mini Review of E-commerce Evolution

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ABSTRACT: This review article delves into the transformative journey of e-commerce, tracing its inception in the mid-1990s, characterized by visionary companies such as Amazon, eBay, Alibaba, PayPal, and Dell. These pioneers laid the foundation for a digital commerce revolution, with technological innovations, particularly in mobile technology, reshaping the e-commerce landscape and providing users with seamless, on-the-go shopping experiences. The integration of augmented reality (AR) and virtual reality (VR) further bridged the gap between physical and digital realms, offering immersive product interactions. Artificial intelligence (AI) emerged as a transformative force, utilizing algorithms to analyze user data and personalize online shopping experiences. AI-driven chatbots and virtual assistants enhanced customer support, contributing to an overall personalized shopping journey. The predictive capabilities of AI enabled platforms to anticipate user behavior and strategically deploy personalized recommendations. Evolving consumer behavior, influenced by the convenience of online shopping and social media, is a central theme, with the rise of conscious consumers emphasizing sustainability and ethical practices in purchasing decisions. Looking forward, future trends in e-commerce include the continued dominance of AI in refining personalization, the potential of blockchain for transparency and security, and the integration of the Internet of Things (IoT) for a more connected shopping experience. AR, VR, voice commerce, and cross-border e-commerce are anticipated to play significant roles.

KEYWORD: E-commerce evolution; technological innovations; artificial intelligence in retail; consumer behavior trends, future of e-commerce

1. Introduction

The advent of e-commerce has ushered in a revolutionary transformation in the retail landscape, reshaping the way consumers interact with businesses and obtain goods and services. This review delves into the dynamic evolution of e-commerce, dissecting the multifaceted changes in platforms, technologies, and consumer behaviors that have defined the industry's trajectory. By providing an in-depth analysis of the past, present, and future trends, this exploration aims to offer valuable insights into the forces propelling the e-commerce sector. The historical roots of e-commerce trace back to the early days of the internet, where

pioneering companies set the stage for a digital shopping revolution. From the modest beginnings of online transactions, the industry has burgeoned into a global powerhouse. Technological innovations have played a pivotal role in this evolution, and the review scrutinizes these transformations. Mobile technology, in particular, has become a cornerstone, enabling consumers to engage in seamless e-commerce experiences anytime and anywhere. The integration of augmented reality and virtual reality has further enhanced user interactions, providing immersive and personalized shopping encounters [1, 2].

One of the critical facets explored in this review is the evolving behavior of consumers in response to the changing e-commerce landscape. Shifts in preferences, expectations, and purchasing decisions are analyzed in-depth. The review also scrutinizes the profound influence of social media on e-commerce choices, elucidating how online platforms have become powerful vehicles for product discovery and brand engagement. Moreover, the rise of the conscious consumer is examined, exploring how sustainability considerations and ethical practices increasingly influence purchasing decisions [3].

As e-commerce transcends geographical boundaries, the globalization of online retail becomes a focal point of discussion. Cross-border e-commerce is dissected, highlighting the challenges and opportunities it presents for businesses. The review delves into the role of e-commerce as a global connector, exploring how it fosters relationships between businesses and consumers worldwide. Regulatory considerations and logistical challenges in international e-commerce are scrutinized to provide a holistic view of the complexities associated with a global market. E-commerce platforms and business models constitute another critical area of analysis. Major platforms are dissected to uncover their unique features and market positions. The emergence of new business models, such as subscription-based services and direct-to-consumer approaches, is explored. The impact of marketplace dynamics on retailers, especially small and medium-sized enterprises, is examined to understand the shifting dynamics of the e-commerce ecosystem [1, 4].

Challenges and opportunities inherent in the e-commerce landscape are also scrutinized. Security and privacy concerns are highlighted, acknowledging the critical need for robust cybersecurity measures. The intricacies of supply chain and logistics in the e-commerce domain are explored, emphasizing the importance of efficient and agile systems. Looking toward the future, the review offers a glimpse into emerging trends and predictions. Technologies like AI, blockchain, and the Internet of Things are analyzed for their potential to further revolutionize the e-commerce space. Predictions for the industry's future and potential disruptors are discussed, providing stakeholders with valuable foresight [5]. The objective of this review article is to explore the historical, technological, and consumer-driven evolution of e-commerce, examining its transformative impact on the retail landscape, analyzing key trends, and providing valuable insights into the forces shaping the present and future of the e-commerce sector.

2. Early Days of E-commerce

2.1. Historical overview of the inception of e-commerce.

The inception of e-commerce marks a pivotal moment in the history of commerce, fundamentally altering the traditional landscape of retail. The roots of e-commerce can be traced back to the early days of the internet, a time when visionary entrepreneurs recognized

the untapped potential of digital platforms for conducting business transactions. The journey commenced in the mid-1990s, a period often referred to as the "dot-com era," characterized by a surge in internet usage and the establishment of the World Wide Web. During this time, pioneering companies emerged, laying the foundation for what would become a revolutionary shift in the way goods and services are bought and sold [1, 6].

One of the trailblazers of this era was Amazon, founded by Jeff Bezos in 1994 as an online bookstore. Amazon's visionary approach extended beyond selling books, aiming to create a comprehensive online marketplace. The success of Amazon showcased the viability of e-commerce and set the stage for the diversification of online retail. Simultaneously, eBay, launched in 1995, introduced the concept of online auctions, providing a platform for individuals to buy and sell a wide array of goods. This innovative approach democratized commerce, allowing users to engage in virtual bidding and transactions. The early days of e-commerce were characterized by the novelty of online transactions and the challenge of building consumer trust in digital platforms. Security concerns and skepticism about the reliability of online payments were prevalent obstacles that the industry had to overcome [1, 7].

The late 1990s witnessed the rise of other influential players, including Alibaba in China and eBay's acquisition of PayPal, addressing some of the security concerns by introducing secure online payment systems. The introduction of secure sockets layer (SSL) encryption further bolstered the safety of online transactions. As the internet became more accessible, with increasing penetration of home computers and the advent of broadband, e-commerce experienced exponential growth. Companies diversified their offerings, and traditional retailers transitioned into the online space to meet the evolving demands of consumers. The historical trajectory of e-commerce reflects a journey from experimentation and skepticism to widespread acceptance and reliance. The initial challenges paved the way for technological innovations, secure payment methods, and a shift in consumer behavior. This historical overview sets the stage for a deeper exploration of the dynamic evolution of e-commerce, from its nascent stages to the global powerhouse it has become today [7].

2.1.Pioneering companies and their contributions.

The inception and early growth of e-commerce were significantly shaped by pioneering companies that dared to envision a digital future for commerce. These trailblazing enterprises not only laid the groundwork for the e-commerce industry but also introduced novel concepts and technologies that have become integral to online retail.

Founded by Jeff Bezos in 1994, Amazon started as an online bookstore. However, Bezos had a grander vision — to create an expansive online marketplace. Amazon's commitment to customer satisfaction, efficient logistics, and a vast product selection propelled it to become the e-commerce giant it is today. The introduction of features like one-click ordering and Amazon Prime redefined convenience in online shopping [8].

Launched in 1995 by Pierre Omidyar, eBay introduced a groundbreaking concept with its online auction platform. It allowed individuals to buy and sell goods through virtual bidding, creating a unique and dynamic e-commerce experience. eBay's model facilitated person-to-person transactions and turned online shopping into a community-driven activity [9].

Founded by Jack Ma in 1999, Alibaba transformed the e-commerce landscape in China and globally. Initially focused on connecting Chinese manufacturers with international buyers,

Alibaba later expanded its services to include consumer-focused platforms like Taobao and Tmall. Alibaba's influence extends beyond online retail, as it became a major player in digital payments, cloud computing, and various other sectors [10].

Originally developed as a security software for handheld devices, PayPal was founded by Max Levchin, Peter Thiel, and Luke Nosek in 1998. Later, it merged with Confinity, a financial software company, and evolved into a widely used online payment system. The acquisition of PayPal by eBay in 2002 provided a secure and trusted payment method for millions of online transactions [11].

Dell, founded by Michael Dell in 1984, played a crucial role in the early days of e-commerce by demonstrating the potential of selling customized computers directly to consumers online. Dell's direct-to-consumer model eliminated the need for intermediaries, showcasing the efficiency and cost-effectiveness of online sales [12].

3. Technological Innovations in E-commerce:

3.1.Impact of mobile technology on e-commerce.

The impact of mobile technology on e-commerce has been nothing short of transformative, ushering in an era of unprecedented accessibility, convenience, and connectivity. Mobile devices, particularly smartphones and tablets, have become ubiquitous, empowering consumers to engage in seamless e-commerce experiences anytime and anywhere (Figure 1). Mobile technology has liberated e-commerce from the constraints of physical locations. Consumers can now browse, shop, and make purchases from the palm of their hands, eliminating the need for desktop computers or in-person visits to brick-and-mortar stores. The anytime, anywhere accessibility has redefined convenience, making shopping a spontaneous and on-the-go activity. The development of dedicated mobile apps and responsive websites optimized for various screen sizes has further enhanced the e-commerce experience. Retailers have invested significantly in creating user-friendly mobile interfaces that provide intuitive navigation, quick loading times, and secure payment options. Mobile apps, in particular, offer personalized experiences, push notifications, and one-click functionalities, fostering customer loyalty [13].

Mobile technology has introduced features that enrich the overall shopping experience. AR and VR technologies enable users to virtually try on products, visualize furniture in their homes, or experience products in immersive ways before making a purchase. These advancements bring a new dimension to online shopping, bridging the gap between the digital and physical worlds. The integration of mobile payment solutions has streamlined the checkout process. Digital wallets, mobile banking apps, and contactless payment options have made transactions quick, secure, and hassle-free. This not only benefits consumers but also contributes to the growth of mobile commerce (m-commerce), where transactions are specifically conducted through mobile devices. Mobile technology has facilitated the integration of e-commerce with social media platforms. Consumers can discover products through social channels, and seamless integration allows for direct purchases without leaving the app. Platforms like Instagram and Pinterest have become powerful vehicles for product discovery, leveraging mobile interfaces to enhance visual and interactive content [14, 15].

Figure 1. The impact of mobile technology on e-commerce.

3.2.Integration of AR and VR for enhanced user experiences.

The integration of AR and VR into the e-commerce landscape represents a paradigm shift, fundamentally altering the way users engage with products and services. Augmented reality overlays digital information onto the real-world environment, enriching the user's perception of their surroundings. In the context of e-commerce, AR facilitates an innovative approach known as "try-before-you-buy," allowing users to visualize products in their own physical spaces before making a purchase. This transformative application has been particularly impactful in industries such as furniture retail, where customers can use AR to preview how a piece of furniture would fit and complement their living spaces [16].

On the other hand, virtual reality immerses users in entirely virtual environments. Within e-commerce, VR has found compelling applications, notably in the creation of virtual stores or showrooms. This allows users to navigate and explore products in a simulated 3D space, providing a level of interaction and engagement previously reserved for physical retail experiences. The real estate, travel, and fashion industries have harnessed VR to offer virtual property tours, destination exploration, and immersive fashion shows, respectively [17]. The concept of "try-before-you-buy" is extended further through these technologies, enabling users to virtually try on clothing, accessories, or experiment with various products, addressing a longstanding challenge in online shopping – the inability to physically interact with items. Moreover, AR and VR contribute to enhanced product visualization by providing a 360-degree view, allowing users to inspect details and features from every angle. This heightened level of detail is particularly beneficial for products with intricate designs, such as electronics or jewelry [18].

Perhaps most significantly, AR and VR technologies contribute to creating immersive shopping journeys. Virtual storefronts or experiences designed with these technologies engage users in ways that extend beyond traditional online shopping. The interactive and enjoyable nature of these experiences not only captivates users but also fosters brand loyalty by leaving

a lasting and positive impression. As technology continues to advance, the integration of AR and VR in e-commerce promises to redefine the boundaries between physical and digital retail environments, offering users increasingly innovative and enjoyable ways to interact with online shopping [17, 18].

4. The role of AI in personalizing online shopping.

AI has emerged as a transformative force in revolutionizing the landscape of online shopping, particularly in the realm of personalization. This paradigm shift is driven by the capacity of AI algorithms to analyze vast amounts of data, interpret user behavior, and deliver tailored shopping experiences [19, 20]. The role of AI in personalizing online shopping encompasses various facets that collectively enhance user satisfaction, engagement, and overall convenience (Figure 2).
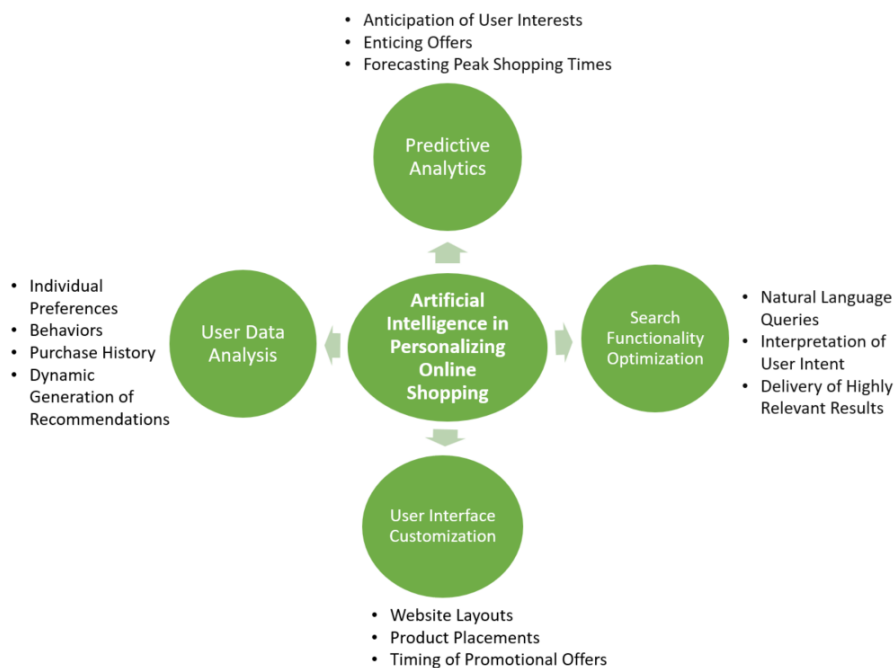

Figure 2. AI in personalizing online shopping.

One of the primary applications of AI in personalization is the analysis of user data to understand individual preferences, behaviors, and purchase history. AI algorithms can process this information to create detailed customer profiles, enabling e-commerce platforms to offer personalized product recommendations. These recommendations are dynamically generated in real-time, reflecting the user's current interests and evolving preferences. This level of personalization goes beyond traditional demographic targeting, allowing businesses to tailor recommendations based on the user's unique preferences and browsing patterns [19, 21].

Moreover, AI-driven personalization extends to the customization of the user interface and overall shopping journey. E-commerce platforms leverage AI to optimize website layouts, product placements, and even the timing of promotional offers based on individual user preferences. This ensures that users are presented with a visually appealing and intuitively designed interface that aligns with their preferences, creating a seamless and enjoyable shopping experience [19, 20].

AI also plays a pivotal role in optimizing search functionalities. Advanced search algorithms powered by AI can understand natural language queries, interpret user intent, and deliver highly relevant results. This not only streamlines the search process but also contributes to a more personalized and efficient shopping experience. Additionally, AI-powered chatbots and virtual assistants provide real-time support, assisting users with product inquiries, order tracking, and personalized recommendations, further enhancing the overall customer experience [21, 22].

The predictive capabilities of AI are harnessed to forecast future user behavior and trends. By analyzing historical data, AI algorithms can anticipate what products a user might be interested in, what offers could be enticing, and even forecast peak shopping times. This foresight allows e-commerce platforms to proactively tailor their strategies, ensuring that personalized recommendations and promotions are strategically deployed to maximize user engagement and conversions [21].

5. Evolving Consumer Behavior

Evolving consumer behavior stands at the forefront of the dynamic landscape of e-commerce, continually shaping and reshaping the strategies of businesses in response to changing preferences and technological advancements. This section explores the multifaceted shifts in consumer behavior and their profound implications for the e-commerce industry. The advent of e-commerce has brought about a paradigm shift in how consumers discover, evaluate, and purchase products and services. Traditional brick-and-mortar shopping has given way to the convenience of online platforms, catalyzing a fundamental change in consumer expectations and behaviors. One of the key aspects scrutinized in this review is the relentless transformation in consumer preferences. Consumers today seek not only products but also seamless and personalized experiences. The convenience of online shopping, coupled with personalized recommendations, has become integral to the modern consumer's expectations. This shift is magnified by the influence of social media, where platforms like Instagram and Pinterest serve as powerful tools for product discovery. Consumers increasingly rely on these platforms for inspiration and engage with brands that align with their values [23, 24].

Moreover, the rise of the conscious consumer adds another layer to the evolving landscape. Sustainability considerations, ethical practices, and corporate responsibility now play a pivotal role in purchasing decisions. E-commerce platforms are compelled to align with these values, leading to the emergence of eco-friendly and socially responsible brands. The review delves into how businesses navigate these shifting dynamics, emphasizing the need for agility and responsiveness. The interplay between consumer behavior and technology is a central theme. Mobile technology, in particular, has become a ubiquitous companion in the consumer journey. The review explores how mobile devices influence purchasing decisions, enable on-the-go shopping, and contribute to the blurring of online and offline retail experiences. Additionally, the integration of AR and VR enhances user engagement, providing consumers with immersive and interactive shopping encounters [21, 25].

6. Future Trends and Predictions

The future of e-commerce promises to be a dynamic and transformative landscape, shaped by emerging technologies, evolving consumer expectations, and global trends. This section of the review delves into the crystal ball, exploring the anticipated future trends and predictions that

are poised to redefine the e-commerce sector. AI is expected to play a central role in the future of e-commerce. Advanced AI algorithms will continue to refine and personalize the online shopping experience, offering more accurate product recommendations, personalized interfaces, and efficient search functionalities. Machine learning models will gain sophistication, enabling e-commerce platforms to anticipate consumer preferences, optimize marketing strategies, and enhance overall user satisfaction [26-28].

Blockchain technology is anticipated to revolutionize the e-commerce sector, particularly in the realms of transparency, security, and supply chain management. Blockchain's decentralized and secure nature can be leveraged to build trust between buyers and sellers, reduce fraud, and ensure the authenticity of products. Smart contracts, powered by blockchain, may streamline and automate various processes, from payment settlements to order fulfillment, fostering efficiency and reliability [28, 29]. IoT is poised to create a more connected and seamless e-commerce experience. Smart devices, from wearable gadgets to connected home appliances, will become integral in the shopping journey. For instance, smart refrigerators may automatically reorder groceries, and wearable devices can provide personalized product recommendations based on the user's preferences and physical activity [27, 28].

AR and VR are expected to transcend novelty applications and become mainstream components of the e-commerce experience. Virtual try-on features for apparel, immersive product demonstrations, and virtual showrooms will bridge the gap between the online and offline shopping experiences. Consumers will have the ability to interact with products in a more tangible way before making purchase decisions [14, 16]. Voice commerce, driven by the increasing prevalence of voice-activated assistants like Amazon's Alexa and Apple's Siri, is anticipated to gain momentum. Consumers will rely on voice commands to search for products, place orders, and receive personalized recommendations, revolutionizing the traditional process of typing and clicking [30].

Cross-border e-commerce is poised to expand further, breaking down geographical barriers and connecting consumers with products from around the world. E-commerce platforms will invest in strategies to streamline international transactions, address regulatory challenges, and provide localized experiences to a global customer base [31]. The future of e-commerce is not without its challenges. Privacy concerns, cybersecurity threats, and the need for sustainable practices will be at the forefront. E-commerce businesses will need to navigate these complexities while staying agile and adaptive to the ever-evolving technological landscape.

7. Conclussion.

The inception of e-commerce in the mid-1990s marked a transformative period in retail history, with visionary companies such as Amazon, eBay, Alibaba, PayPal, and Dell laying the foundation for a digital commerce revolution. Technological innovations, particularly in mobile technology, have played a crucial role in reshaping the e-commerce landscape, providing users with seamless, on-the-go shopping experiences. The integration of AR and VR has further bridged the gap between physical and digital realms, offering immersive product interactions. AI has emerged as a transformative force, utilizing algorithms to analyze user data and personalize online shopping experiences. AI-driven chatbots and virtual assistants enhance customer support, contributing to an overall personalized shopping journey. The predictive capabilities of AI enable platforms to anticipate user behavior and strategically deploy

personalized recommendations. Evolving consumer behavior is a central theme, with modern consumers seeking seamless, personalized experiences influenced by the convenience of online shopping and social media. The rise of conscious consumers emphasizes sustainability and ethical practices in purchasing decisions. Looking ahead, future trends in e-commerce include the continued dominance of AI in refining personalization, the potential of blockchain for transparency and security, and the integration of the IoT for a more connected shopping experience. AR, VR, voice commerce, and cross-border e-commerce are anticipated to play significant roles, though challenges such as privacy concerns and cybersecurity threats must be addressed for the industry's successful navigation of the evolving technological landscape. Overall, the future of e-commerce promises to be dynamic, shaped by innovation, evolving consumer expectations, and the ongoing global integration of digital commerce.

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Conflicts of Interest

The authors declare no conflict of interest.

References

[1] Bănescu, C.-E.; Țițan, E.; Manea, D. (2022). The Impact of E-Commerce on the Labor Market. *Sustainability, 14,* 5086. https://doi.org/10.3390/su14095086.

[2] Attar, R.W.; Almusharraf, A.; Alfawaz, A.; Hajli, N. (2022). New Trends in E-Commerce Research: Linking Social Commerce and Sharing Commerce: A Systematic Literature Review. *Sustainability, 14,* 16024. https://doi.org/10.3390/su142316024.

[3] Aydin, G.; Uray, N.; Silahtaroglu, G. (2021). How to Engage Consumers through Effective Social Media Use—Guidelines for Consumer Goods Companies from an Emerging Market. *Journal of Theoretical and Applied Electronic Commerce Research, 16,* 768–790. https://doi.org/10.3390/jtaer16040044.

[4] Liao, Y.; Wu, G.; Huang, J. (2023). The Impact of Rural E-Commerce Environment Development on Orchard Expansion from the Perspective of Tele-Coupling: The Case of Pinghe County in Southeast China. *Land, 12*, 1991. https://doi.org/10.3390/land12111991.

[5] Castillo, M.J.; Taherdoost, H. (2023). The Impact of AI Technologies on E-Business. *Encyclopedia, 3*, 107–121. https://doi.org/10.3390/encyclopedia3010009.

[6] Costa, J.; Castro, R. (2021). SMEs Must Go Online—E-Commerce as an Escape Hatch for Resilience and Survivability. *Journal of Theoretical and Applied Electronic Commerce Research, 16,* 3043–3062. https://doi.org/10.3390/jtaer16070166.

[7] Zhao, C. (2022). Variable Interest Entity, Offshore Domesticated Foreign Finance, and the Political Economy of China's Internet Firms: The Case of Alibaba. *Social Science, 11*, 99. https://doi.org/10.3390/socsci11030099.

[8] Bezos' Amazon: from bookstore to backbone of the internet. (accessed 10 September 2023) Available online: https://www.theverge.com/2021/2/3/22264551/jeff-bezos-amazon-history-timeline-look-back-company.

[9] Our history. (accessed 10 September 2023) Available online: https://www.ebayinc.com/company/our-history/.

[10] Story about Jack Ma. (accessed 10 September 2023) Available online: https://www.founderstoday.news/story-about-jack-ma/.

[11] The Inspiring Success Story And History of PayPal. (accessed 10 September 2023) Available online: https://thebrandhopper.com/2023/08/29/the-inspiring-success-story-and-history-of-paypal/#:~:text=PayPal%20was%20founded%20in%201998,merged%20company%20was%20renamed%20PayPal.

[12] Dell Computer: Using E-commerce To Support the Virtual Company. (accessed 10 September 2023) Available online: https://escholarship.org/content/qt7r55529z/qt7r55529z.pdf?t=lnq69p.

[13] Mollick, J.; Cutshall, R.; Changchit, C.; Pham, L. (2023). Contemporary Mobile Commerce: Determinants of Its Adoption. *Journal of Theoretical and Applied Electronic Commerce Research,18,* 501–523. https://doi.org/10.3390/jtaer18010026.

[14] Voicu, M.-C.; Sîrghi, N.; Toth, D.M.-M. (2023). Consumers' Experience and Satisfaction Using Augmented Reality Apps in E-Shopping: New Empirical Evidence. *Applied Science, 13,* 9596. https://doi.org/10.3390/app13179596.

[15] Zeng, J.-Y.; Xing, Y.; Jin, C.-H. (2023). The Impact of VR/AR-Based Consumers' Brand Experience on Consumer–Brand Relationships. *Sustainability, 15,* 7278. https://doi.org/10.3390/su15097278.

[16] Muñoz-Saavedra, L.; Miró-Amarante, L.; Domínguez-Morales, M. (2020). Augmented and Virtual Reality Evolution and Future Tendency. *Applied Science, 10,* 322. https://doi.org/10.3390/app10010322.

[17] Hamad, A.; Jia, B. (2020). How Virtual Reality Technology Has Changed Our Lives: An Overview of the Current and Potential Applications and Limitations. *International Journal of Environmental Research and Public Health*, *19*, 11278. https://doi.org/10.3390/ijerph191811278.

[18] Merritt, K.; Zhao, S. An Investigation of What Factors Determine the Way in Which Customer Satisfaction Is Increased through Omni-Channel Marketing in Retail. *Administrative Sciences, 10*, 85. https://doi.org/10.3390/admsci10040085.

[19] Jankovic, S.D.; Curovic, D.M. (2023). Strategic Integration of Artificial Intelligence for Sustainable Businesses: Implications for Data Management and Human User Engagement in the Digital Era. *Sustainability, 15,* 15208. https://doi.org/10.3390/su152115208.

[20] Goti, A.; Querejeta-Lomas, L.; Almeida, A.; de la Puerta, J.G.; López-de-Ipiña, D. (2023). Artificial Intelligence in Business-to-Customer Fashion Retail: A Literature Review. *Mathematics, 11*, 2943. https://doi.org/10.3390/math11132943.

[21] Beyari, H.; Garamoun, H. (2022). The Effect of Artificial Intelligence on End-User Online Purchasing Decisions: Toward an Integrated Conceptual Framework. *Sustainability, 14*, 9637. https://doi.org/10.3390/su14159637.

[22] Kazeem, K.O.; Olawumi, T.O.; Osunsanmi, T. (2023). Roles of Artificial Intelligence and Machine Learning in Enhancing Construction Processes and Sustainable Communities. *Buildings, 13*, 2061. https://doi.org/10.3390/buildings13082061.

[23] Zhang, N.; Yu, P.; Li, Y.; Gao, W. (2022). Research on the Evolution of Consumers' Purchase Intention Based on Online Reviews and Opinion Dynamics. *Sustainability, 14,* 16510. https://doi.org/10.3390/su142416510.

[24] Sun, M.; Zhao, J. (2022). Behavioral Patterns beyond Posting Negative Reviews Online: An Empirical View. *Journal of Theoretical and Applied Electronic Commerce Research, 17*, 949–983. https://doi.org/10.3390/jtaer17030049.

[25] Bravo, A.; Vieira, D.; Rebello, T.A. (2022). The Origins, Evolution, Current State, and Future of Green Products and Consumer Research: A Bibliometric Analysis. *Sustainability, 14*, 11022. https://doi.org/10.3390/su141711022.

[26] Pang, J.; Zhang, Y.; Jiao, F. (2023). The Impact of the Digital Economy on Transformation and Upgrading of Industrial Structure: A Perspective Based on the "Poverty Trap". *Sustainability, 15*, 15125. https://doi.org/10.3390/su152015125.

[27] Kennedyd, S.I.; Marjerison, R.K.; Yu, Y.; Zi, Q.; Tang, X.; Yang, Z. (2022). E-Commerce Engagement: A Prerequisite for Economic Sustainability—An Empirical Examination of Influencing Factors. *Sustainability, 14,* 4554. https://doi.org/10.3390/su14084554.

[28] Brenner, B. (2018). Transformative Sustainable Business Models in the Light of the Digital Imperative—A Global Business Economics Perspective. *Sustainability, 10,* 4428. https://doi.org/10.3390/su10124428.

[29] Taherdoost, H.; Madanchian, M. (2023). Blockchain-Based E-Commerce: A Review on Applications and Challenges. *Electronics, 12*, 1889. https://doi.org/10.3390/electronics12081889.

[30] Seo, J.; Lee, D.; Park, I. Can Voice Reviews Enhance Trust in Voice Shopping? The Effects of Voice Reviews on Trust and Purchase Intention in Voice Shopping. *Applied Sciences, 12*, 10674. https://doi.org/10.3390/app122010674.

[31] Wang, C.; Liu, T.; Wang, J.; Li, D.; Wen, D.; Ziomkovskaya, P.; Zhao, Y. (2022). Cross-Border E-Commerce Trade and Industrial Clusters: Evidence from China. *Sustainability, 14*, 3576. https://doi.org/10.3390/su14063576.