

The Impact of E-Commerce on Traditional Businesses in Saudi Arabia

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How to cite this paper: Abuali, A., Alrefaei, A. A., Aljohani, S. A., Aloufi, I. N., Ghabban, F., Ameerbakhsh, O., Alfadli, I., Al-Shehri, A. H., Fallatah, N. A., & Younis, H. A. (2024). The Impact of E-Commerce on Traditional Businesses in Saudi Arabia. *Journal of Service Science and Management*, 17, 354-366.

<https://doi.org/10.4236/jssm.2024.174018>

Received: May 6, 2024

Accepted: August 4, 2024

Published: August 7, 2024

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Abstract

This research explores the influence of e-commerce on traditional enterprises. The study explores the effectiveness of e-commerce, potential hazards, and overall implications for business operations by utilizing secondary research methodologies and literature. The findings underscore the need for a solid IT infrastructure for e-commerce success. Positive results include revenue diversification and worldwide market expansion, while negative outcomes include fraud concerns and service disruptions. The report highlights the rapid expansion of e-commerce in Saudi Arabia and forecasts future trends such as artificial intelligence, mobile commerce dominance, blockchain technology, and cryptocurrency adoption. It also addresses policy concerns such as consumer protection, cross-border trade, and taxation. Finally, the study highlights the revolutionary impact of e-commerce, providing insights for scholars, entrepreneurs, and politicians navigating the dynamic junction of technology and business.

Keywords

E-Commerce, Traditional Business, Blockchain Technology, Policy, ICT Challenges

1. Introduction

In the last decades, the landscape of commercial exchanges at a global level has undergone enormous changes. Changes with the great evolution of information technologies, communication systems, and the Internet provide an increasing

approximation between buyers and sellers. Salvador (2013) says that online commerce, or electronic commerce, or, for short, e-commerce, is a commercial transaction carried out through electronic devices where goods, services, or information are exchanged (Salvador, 2013). The advent of e-commerce, driven by rapid technological advancements and the ubiquity of the internet, has catalyzed a profound transformation in the business landscape. Traditional brick-and-mortar establishments find themselves at the crossroads of unprecedented challenges and opportunities as they navigate this digital revolution. The metamorphosis ushered in by e-commerce extends beyond mere transactional changes, permeating the very fabric of how businesses operate and how consumers interact with products and services. Particularly, e-commerce in Saudi Arabia, in accordance with the 2030 Vision, is considered among the leading commerce arenas due to the exponentially increasing number of internet users in Saudi Arabia. This research holds significant importance on several fronts. Firstly, it will contribute to enriching the theoretical literature related to the impact of e-commerce on traditional businesses. Secondly, it will enhance our understanding of this dynamic relationship in the specific context of Saudi Arabia. The paper explores the effects of e-commerce on traditional businesses operating within the Saudi Arabian market. The insights gained will help traditional businesses in the country develop a more comprehensive understanding of the policy issues surrounding e-commerce, as well as the future directions and opportunities for e-commerce development in Saudi Arabia. Furthermore, the research aims to provide practical recommendations for traditional retailers on how to adapt and thrive in the new landscape shaped by the growth of e-commerce. This is a critical component as traditional retailers seek to navigate and capitalize on the evolving commercial environment. The paper is organized into five main sections. The introduction provides background information. The next section presents a review of the relevant literature, respectively. The methodology section outlines the data sources and analytical approaches used in the study. Finally, the results section discusses the impact of e-commerce on traditional business and the policy issues in Saudi Arabia. The conclusion summarizes the main takeaways and implications of the research.

Research Questions

Here are the research questions to be addressed in this research:

Research Question 1: How effective is e-commerce for traditional businesses?

Research Question 2: Can e-commerce be a failure for traditional businesses?

Research Question 3: What are the impacts of e-commerce on traditional businesses?

Research Question 4: If we assume that traditional businesses will continue to use e-commerce, what are the future directions for e-commerce?

2. Literature Review

Ohene-Djan in 2008 showed that e-commerce is the process of businesses trad-

ing with other businesses and the formulation of internal processes using electronic links (Ohene-Djan, 2008). According to Kutz's book published in 2016, electronic commerce, often abbreviated as e-commerce, refers to the exchange of goods or services through computer networks, including the Internet. This form of commerce relies on various technologies such as mobile commerce, electronic funds transfer, supply chain management, Internet marketing, online transaction processing, electronic data interchange (EDI), inventory management systems, and automated data collection systems. In contemporary times, electronic commerce commonly utilizes the World Wide Web as a significant component of the transaction process, although it may also incorporate other technologies like email (Martin, 2016). "Electronic Commerce: A Study on Benefits and Challenges in an Emerging Economy," by Abdul Gaffar Khan, published in the *Global Journal of Management and Business Research*, provides insights into the benefits of e-commerce in an emerging economy like Bangladesh. The study highlights the time-saving aspect, quick and continuous access to information, convenience, and the ability for customers to easily switch between companies. It also emphasizes the potential for joint initiatives between the private and public sectors to further develop the e-commerce industry. The study suggests that e-commerce has the capacity to significantly impact traditional business systems in developing countries, despite challenges such as reluctance from financial institutions and cultural barriers. Additionally, the study predicts some challenges in an emerging economy but also highlights the benefits of e-commerce, such as customer satisfaction and competitive advantage (Khan, 2016). Tianya's research in 2023, titled "Research on the Impact of E-commerce on Offline Retail Industry" showed that continual innovation and customer-centric approaches are key to success. The results of this study offer valuable knowledge for brick-and-mortar retailers who are looking to adapt and succeed in the ever-changing retail landscape during the era of electronic commerce (Wang, 2023). Yue Hongqiang, with his research in 2022 entitled "Research on E-Commerce Data Standard System in the Era of Digital Economy from the Perspective of Organizational Psychology," showed that industrial agglomeration has experienced rapid growth and has brought significant changes to the national economy and the production organization of enterprises. The paper also discusses the impact of big data expansion on e-commerce in industrial agglomerations, highlighting the advantages and disadvantages of different e-commerce business models. Overall, the research suggests that e-commerce has brought new impetus to the supply chain and has the potential for promising future expansion, providing insights for e-commerce enterprises to gain a competitive advantage in the market (Yue, 2022). Aleksandar and Georgi with their study in 2021 under the title of *Impact of E-commerce on Business Performance*. This study shows that e-commerce has revolutionized business operations, offering organizations numerous opportunities and benefits for growth and market positioning. It has enabled firms to enhance performance through increased market reach, im-

proved growth prospects, reduced costs, lower investment requirements, and mitigated risks. However, while some companies have successfully leveraged these advantages for high growth, others have struggled to optimize the opportunities. Despite the potential benefits, firms also face challenges in implementing e-commerce. Therefore, organizations need to adopt a strategic approach to effectively harness the advantages offered by e-commerce (Aleksandar & Dimitrov, 2021). Based on the literature review, a key gap that emerges is the lack of in-depth, context-specific research on the impact of e-commerce on traditional businesses within the Saudi Arabian market. While existing studies have examined the benefits, challenges, and broader impacts of e-commerce on traditional business, most of this research has been conducted in the context of developed economies or broader emerging markets. Since Saudi Arabia's cultural norms, economic situation, and technological infrastructure are distinct, a more focused study is needed to understand how the growth of e-commerce is impacting traditional businesses within Saudi Arabia. The paper will fill the gap by focusing on the market in Saudi Arabia and understanding the specific policy issues, customer behavioral trends, and organizational adaptations within the Saudi Arabian market.

3. Methodology

This research will adopt a secondary research methodology to systematically investigate the impact of e-commerce on traditional businesses. Secondary research involves the synthesis and analysis of existing academic literature, industry reports, and empirical studies pertaining to the subject matter. By synthesizing relevant findings, this study seeks to contribute valuable insights into the dynamic interplay between e-commerce and traditional business frameworks, shedding light on the adaptations and strategies undertaken by traditional businesses in response to the evolving digital marketplace. A comprehensive search methodology was employed, encompassing various online databases and a meticulous scrutiny of the selected literature. Our search extended across a broad spectrum of prominent databases, including SDL, Science Direct, and Google Scholar.

In the pursuit of scholarly precision, we performed a meticulous manual assessment, scrutinizing the titles and abstracts of the papers under consideration. Subsequently, a discerning selection process was employed to identify and prioritize papers of relevance while concurrently disregarding those deemed irrelevant to the study's objectives. And the keywords are as follows:

- Traditional Businesses.
- E-commerce.
- Digital Information.
- Digital Marketing.

To refine our initial search results and maintain the integrity of our analysis, we have implemented specific inclusion criteria. This strategic approach aims to

selectively include only studies that are deemed pertinent to our research objectives.

- Search domain: E-commerce Trends and Developments, Traditional Business Adaptation Strategies, Consumer Behavior and Preferences, Technological Integration, Economic Impacts.
- Publication type: journals.

Here are the exclusion criteria that were utilized to filter out irrelevant papers:

- Papers that do not specifically focus on e-commerce.
- Papers that cover the topic of e-commerce with traditional businesses as a supplementary subject.

A collection of 16 papers published between 2002 and 2023 has been sourced from various databases. The databases that were manually searched to procure these papers include SDL, Science Direct, and Google Scholar. The meticulous selection of papers for this research ensures their alignment with the research's objectives. These chosen papers contribute depth to e-commerce topics, encompassing cutting-edge technologies, innovative techniques, and groundbreaking research findings. This curated selection establishes a valuable resource for researchers, scholars, and practitioners within the computer industry, facilitating a comprehensive exploration of pertinent themes.

4. Results

E-commerce is very efficient; it can reach a global audience and is convenient and economical. It offers customization, useful data for analytics, and availability around the clock. Its success can be attributed to its scalability, integration with social media, and variety of payment alternatives. E-commerce gives traditional businesses a competitive edge by enabling them to adjust to shifting customer preferences and remain relevant in the digital age. Successful marketing, intuitive design, safe payment processing, and attentive customer support are just a few of the elements that make a business successful.

Saudi Arabia: A market with both huge potential and some challenges

Here is an example of Saudi Arabia e-commerce. The growth rate reached 33%, equivalent to 45 billion Saudi riyals, and it is believed that its market value will reach 56 billion Saudi riyals in the year 2025, becoming the second largest market in the Middle East. E-commerce sales exceeded 8% of retail sector sales. E-commerce received the highest investment at 31%, based on Monsha'at.

E-commerce in Saudi Arabia has experienced rapid growth, aligning with the Kingdom's progressive Vision 2030 initiative, which seeks to transform the country into a knowledge-based economy. Across all categories, online sales have demonstrated a remarkable annual increase of nearly 60%, with media products, apparel, and footwear emerging as particularly robust segments. Presently, the momentum in e-commerce surpasses that of traditional retail, showcasing sustained acceleration with no indications of slowing down (**Figure 1**).

In the wake of the COVID-19 pandemic, Saudi Arabia has experienced a no-

table acceleration in the adoption of e-commerce, surpassing traditional business models as a preferred avenue for commercial transactions (Salem & Nor, 2020). The onset of the pandemic prompted a paradigm shift in consumer behavior, with a heightened emphasis on online shopping and digital transactions as a safer alternative to in-person interactions. Recognizing the imperative for digital transformation, businesses in Saudi Arabia swiftly adapted by bolstering their online presence and investing in robust e-commerce infrastructure. This strategic pivot not only served as a response to the immediate challenges posed by the pandemic but also marked a lasting transformation in the Saudi Arabian business landscape. Post-COVID-19, the momentum towards e-commerce has endured and, in fact, intensified as consumers continue to prioritize the convenience and safety afforded by online platforms. This sustained growth underscores the resilience of the e-commerce sector in Saudi Arabia, positioning it as a pivotal driver of economic activity in the contemporary digital age.

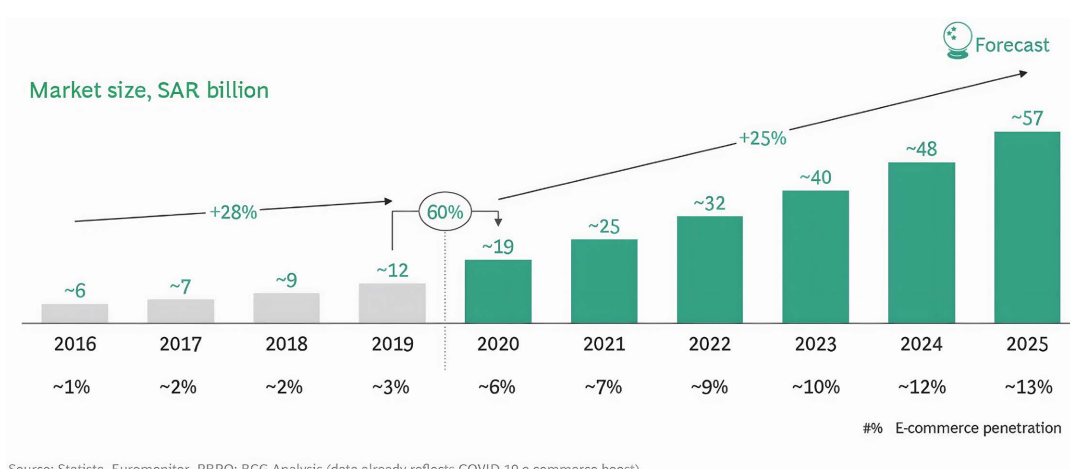


Figure 1. E-commerce in Saudi Arabia has seen growth, with a clear COVID-induced increase in 2020.

E-commerce would certainly be a failure for traditional businesses if it did not use the right information technology (IT) infrastructure.

The success of e-commerce ventures hinges critically on the robustness of their information technology (IT) infrastructure. Without a sound IT foundation, an e-commerce platform risks failing to meet the demands of a dynamic and highly competitive digital marketplace. An effective IT infrastructure for e-commerce should encompass several key components.

1) Firstly, a secure and scalable web hosting service is fundamental to ensuring the reliability and availability of the e-commerce website.

Secure and scalable web hosting is the foundation of a thriving e-commerce venture and is crucial for reliability, performance, and security. It safeguards sensitive customer data and financial transactions through robust security protocols, including encryption and firewalls. This fortification instills trust in online shoppers. Additionally, scalability ensures the platform can handle varying traffic, accommodate growth, and maintain uninterrupted accessibility dur-

ing peak periods. As the digital storefront, web hosting is pivotal, emphasizing its critical role in fostering customer trust, sustaining operations, and ensuring long-term e-commerce success.

2) E-commerce platforms also require a well-designed database management system to handle large volumes of transactional data efficiently.

Efficient handling of large volumes of transactional data is paramount for the success of e-commerce platforms, and this necessitates a well-designed database management system (DBMS). A robust DBMS ensures the seamless storage, retrieval, and management of transactional data, enabling swift and accurate processing of customer orders, inventory updates, and financial transactions. The structured organization of data within the DBMS enhances the platform's ability to handle increased transaction loads without sacrificing performance or compromising data integrity. Ultimately, a well-designed DBMS forms the backbone of e-commerce platforms, contributing to their capacity to scale, deliver responsive user experiences, and maintain the integrity and security of transactional data.

3) Furthermore, a responsive and user-friendly website interface, supported by advanced content delivery networks (CDNs), contributes to a seamless customer experience.

A responsive and user-friendly website interface, coupled with advanced Content Delivery Networks (CDNs), is integral to ensuring a seamless customer experience in e-commerce. The responsiveness of the website interface ensures that it adapts effectively to various devices and screen sizes, optimizing user interactions. A user-friendly design enhances navigation and accessibility, making it easier for customers to find products and complete transactions. Concurrently, CDNs enhance the speed and reliability of content delivery by distributing website assets across multiple servers globally. This results in reduced page load times and ensures that users experience consistent and fast access to the e-commerce platform, regardless of their geographic location. Together, a responsive interface and robust CDNs contribute significantly to customer satisfaction, encouraging engagement and fostering a positive overall e-commerce experience.

4) Secure payment gateways and encryption protocols are indispensable to safeguarding financial transactions and protecting sensitive customer information.

Secure payment gateways and encryption protocols are crucial for the integrity and trustworthiness of e-commerce transactions. These mechanisms play a pivotal role in safeguarding financial transactions and protecting sensitive customer information from potential threats and unauthorized access. Secure payment gateways ensure the safe and encrypted transmission of payment data, preventing interception by malicious actors. Encryption protocols provide an additional layer of security by encoding sensitive information, such as credit card details, and ensuring that even if intercepted, the data remains unreadable

and secure. In essence, the implementation of secure payment gateways and encryption protocols is indispensable for maintaining the confidentiality and security of financial transactions in the e-commerce environment.

5) Additionally, robust inventory management systems, integrated customer relationship management (CRM) tools, and data analytics capabilities constitute essential components for optimizing business operations and making informed strategic decisions.

E-commerce relies on robust inventory management, integrated CRM tools, and data analytics to optimize operations and inform strategic decisions. Efficient inventory management ensures products are available when needed, while integrated CRM tools enhance customer interactions. Data analytics capabilities provide insights for informed decision-making, allowing businesses to adapt strategies based on customer behavior and market trends. In summary, these components are essential for streamlined operations and strategic agility in the dynamic e-commerce landscape.

In conclusion, a well-structured IT infrastructure, comprising these elements, is indispensable for the viability and success of e-commerce ventures in the modern digital landscape.

The impacts of e-commerce on traditional businesses

The integration of e-commerce into traditional business models has brought about a myriad of impacts, reflecting a profound shift in the landscape of commerce. These impacts span various facets of business operations and consumer interactions. As with any impact, the impacts of e-commerce on traditional businesses are double-faceted; some are positive while others are negative.

The positive impacts are:

- E-commerce can open up new and promising revenue streams that are not available in traditional transaction systems.
- It has the potential to expand your exposure to new markets, allowing you to increase your market share.
- By adopting e-commerce practices, you can lower your operating expenses and reduce your overall operating costs.
- E-commerce enables you to extend your reach globally, giving you the opportunity to tap into new customer bases and expand your business internationally.
- Implementing e-commerce strategies can help boost customer loyalty by providing convenient and seamless online experiences.
- It allows you to better manage your suppliers and streamline your supply chain processes.
- E-commerce can speed up the production process, leading to increased efficiency and faster delivery times.
- By integrating e-commerce into your operations, you can strengthen your value chain and enhance your overall income generation.

The negative impacts are:

- Deception and monetary loss: Fraudsters can manipulate financial information or transfer money from one account to another, resulting in direct monetary losses.
- Privacy breaches: Emerging disturbances can lead to the exposure of private data to unreliable parties, potentially causing significant losses for the victim.
- Service disruptions: Non-technical failures, such as unexpected power losses, can disrupt business operations and result in lost business potential.

Unauthorized resource usage: In a scenario where a hacker gains access to a financial system, they can misuse the resources available to them, such as transferring money from other people's accounts to their own.

The future directions for e-commerce:

Dynamic changes in technology, consumer behavior, and industry strategies will define the future of e-commerce. The dominance of mobile platforms, as well as developments in augmented reality and artificial intelligence, are important directions. E-commerce is anticipated to adopt cutting-edge technologies, customized experiences, and ethical business methods as the digital environment develops in order to satisfy the shifting needs and expectations of customers throughout the world (Alrashdan, 2020; Galant et al., 2002; Kedah, 2023; Lucas & Lunard, 2023).

- Artificial Intelligence (AI) and Machine Learning: use of chatbots for customer support, AI to make tailored suggestions, and machine learning algorithms to forecast user behavior and streamline corporate operations.
- Mobile Commerce (M-commerce) Dominance: The growing popularity of mobile shopping is driving e-commerce companies to focus on creating mobile-friendly user interfaces and improving the mobile buying experience in general.
- Blockchain Technology: Blockchain adoption leads to more transparent and safe transactions, lower fraud, and more confidence in online transactions.
- Cryptocurrency Adoption: expanded adoption of cryptocurrencies as a means of payment.
- providing users with more choices and possibly lowering transaction fees.

E-Commerce Policy Issues:

There are several policy issues associated with e-commerce that governments and regulatory bodies often grapple with. Here are some key policy issues:

- Consumer protection in the e-commerce sector plays a vital role in safeguarding the rights of consumers and maintaining trust in online transactions.
- Consumer Protection in E-Commerce: A Case Study on Lodging Applications

This case study examines legal protections for consumers in the context of lodging services provided by online applications, focusing on the case of OYO in the Indonesian market. The research addresses consumer complaints received by the National Consumer Protection Agency (BPKN) regarding OYO and explores

the legal protections available to consumers of e-commerce lodging services. It also investigates the dispute resolution process undertaken by the BPKN in relation to complaints related to e-commerce lodging services. The study utilizes an empirical juridical method, analyzing primary and secondary data, including regulations and legal literature, and conducting interviews and discussions with relevant stakeholders. The study highlights the vulnerability of consumers to online transactions and emphasizes the importance of economic democracy and consumer welfare in Indonesia (Darmadi et al., 2020).

- Cross-border Trade: Facilitating cross-border e-commerce requires policies that simplify customs procedures and reduce trade barriers. Governments may need to establish frameworks for electronic customs documentation.
- Case Study on the Role of Philippine Logistics in E-Commerce and Cross-Border Trade This case study explores the role of Philippine logistics in the context of e-commerce and cross-border trade. The Philippines has the potential to expand its influence in regional and global digital markets due to economic development, improved telecommunications infrastructure, and a growing internet-connected population.

The archipelagic nature of the Philippines presents unique challenges for logistics, but government initiatives to connect the main islands can facilitate cross-border trade and support local SMEs in expanding their businesses. To attract private investments and drive innovation, there is a need for policy and regulatory clarity in the logistics sector. Additionally, reviewing regulatory requirements for small parcel delivery providers can support e-commerce growth, and outsourcing logistics can be beneficial for businesses, enabling them to achieve higher levels of performance (Pua, 2023).

- Taxation involves the imposition and regulation of taxes on digital transactions and online sales to generate government revenue and ensure compliance with tax laws in the digital realm.
- Taxation of goods in e-commerce: Australian case study The Australian Goods and Services Tax (GST), an internal consumption tax of 10%, has undergone significant reforms, particularly with the extension of GST to low-value goods imports in 2018. This expansion, applicable to goods valued at AUD\$1000 or less imported by Australian consumers, operates under a vendor-collector model where vendors collect and periodically remit the GST to the Australian Taxation Office. These reforms build on the 2017 initiatives that included the application of GST to streaming, downloads, and services imported by customers. The extension addresses concerns about government revenue loss from digital imports and operates in a non-discriminatory manner, avoiding issues associated with customs duties targeting foreign suppliers. Remarkably, GST liabilities have surpassed expectations, reflecting excellent compliance among businesses and participants. The model's development prioritizes simplicity, transparency, and a non-discriminatory structure, leading to additional benefits and minimizing regulatory burdens, par-

ticularly for micro, small, and medium enterprises (MSMEs). The success of applying GST to low-value imports and digital transactions is evident in increasing revenue, fostering ongoing growth in digital trade participation, and gaining compliance from major international suppliers and electronic distribution platforms. This approach is considered a sustainable solution to addressing the challenges governments face in obtaining revenue from digitally imported goods and services (Skowronski, 2021).

5. Recommendations

The field of research on how e-commerce affects conventional enterprises is dynamic and ever-changing. Here are a few potential areas to look into further:

- **Consumer Behavior in E-Commerce:** Examine how online shopping affects customer preferences and behavior. This encompasses elements such as decision-making procedures, review and rating systems, and internet buying behaviors.
- **Cross-Border E-Commerce:** Examine the potential and difficulties related to international e-commerce. This might entail researching trade regulations, cultural variances, and practical issues for companies growing globally.
- **Technological Innovations:** Look at the newest e-commerce technical advancements, like augmented reality (AR), virtual reality (VR), and artificial intelligence (AI). Examine how traditional companies might use these technologies to improve the online purchasing experience.
- **Impact on Small and Medium Enterprises (SMEs):** Study the effects of online shopping on small and medium-sized businesses. Recognize the difficulties in implementing e-commerce platforms and develop strategies to aid in their competitiveness in the online market.
- **Regulatory and Legal Considerations:** Study how the e-commerce regulatory environment is changing and how it affects conventional firms. This could involve problems with cybersecurity, data privacy, and international commerce.

Research in these areas is still ongoing and may result in important insights for scholars, entrepreneurs, and leaders as the e-commerce industry changes.

6. Conclusion

In conclusion, the rise of e-commerce has had a profound impact on businesses worldwide, including in Saudi Arabia. With its rapid growth and alignment with the Vision 2030 initiative, the e-commerce market in Saudi Arabia holds immense potential for further expansion. However, the success of e-commerce ventures hinges on the establishment of a strong and well-structured IT infrastructure that encompasses various critical components.

The integration of e-commerce into traditional business models has brought both positive and negative outcomes. On the positive side, e-commerce offers new revenue streams, a broader market reach, cost savings, enhanced customer

loyalty, and streamlined supply chain processes. Nevertheless, there are also risks associated with e-commerce, such as the potential for fraud, privacy breaches, service disruptions, and unauthorized resource usage, which businesses need to address and mitigate.

Looking to the future, the trajectory of e-commerce will be shaped by evolving technologies and changing consumer behaviors. Artificial intelligence and machine learning will play a crucial role in delivering personalized experiences, while mobile commerce will continue to dominate as consumers increasingly rely on mobile devices for their online shopping needs. The adoption of blockchain technology and the potential expansion of cryptocurrency usage hold promise for secure and transparent transactions.

In summary, e-commerce has transformed the business landscape, offering a wide range of advantages and opportunities. To succeed in this digital era, businesses must invest in robust IT infrastructure, adapt to technological advancements, and meet evolving consumer expectations. By embracing e-commerce, businesses can unlock new avenues for growth, profitability, and global expansion, paving the way for a prosperous future in the digital age.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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