

AI-Driven Personalization in E-Commerce: The Case of Amazon and Shopify's Impact on Consumer Behavior

Daniel Kshetu Alasa^{1,2,3*}, Dalower Hossain⁴, Gugu Jiyane⁵, Mohammad Hasan Sarwer⁶,
Tui Rani Saha⁶

¹Department of Computer Science, Yaba College of Technology, Lagos, Nigeria

²School of Computer Science, University of Hertfordshire, Hatfield, UK

³Aberdeen Business School, Robert Gordon University, Aberdeen, UK

⁴Departments of Engineering and Technology, Trine University, Indiana, USA

⁵Department of Financial Accounting, University of South Africa, Pretoria, South Africa

⁶Department of Business Administration, University of New Haven, CT, USA

Email: *alasadaniel@gmail.com

How to cite this paper: Alasa, D. K., Hossain, D., Jiyane, G., Sarwer, M. H., & Saha, T. R. (2025). AI-Driven Personalization in E-Commerce: The Case of Amazon and Shopify's Impact on Consumer Behavior. *Voice of the Publisher*, 11, 104-116.

<https://doi.org/10.4236/vp.2025.111009>

Received: February 16, 2025

Accepted: March 9, 2025

Published: March 12, 2025

Copyright © 2025 by author(s) and
Scientific Research Publishing Inc.

This work is licensed under the Creative
Commons Attribution International
License (CC BY 4.0).

<http://creativecommons.org/licenses/by/4.0/>



Open Access

Abstract

Amazon and Shopify are always trying to keep up with the latest technology and trends in the market and using AI to adapt to consumer behavior. Artificial intelligence (AI) is changing the world of online shopping by offering personalized buying experiences that significantly impact consumer dynamics. Their application, such as using chatbots and virtual assistants to improve client experience or applying predictive techniques to improve stock control and various other aspects that AI is promoting change in the online buying experience. Additionally, the two companies use AI alongside chatbots and virtual assistants to improve support for customers; these technologies help create interactions that are seamless and effective. The advantages of AI-driven personalization are obvious, but at the same time, issues such as data privacy, algorithmic biases, and over-reliance on automation have also been mentioned. AI improves dynamic pricing and inventory control through real-time price changes and stock level optimization but largely modifies personalization. AI-driven suggestions and personalized purchasing experiences based on consumer behavior research boost Amazon and Shopify customer pleasure, engagement, and retention. The report highlights some of the important AI techniques that Amazon and Shopify use, such as collaborative filtering, natural language processing, and predictive analytics to determine consumer preferences and optimize their shopping experiences. The review emphasizes the transformative role played by AI in e-commerce impacts on customer behavior and its role in providing a competitive edge within an increasingly dynamic digital ecosystem.

Keywords

Amazon, Artificial Intelligence, Customer Engagement, Customer Satisfaction, E-Commerce, Shopify

1. Introduction

The massive amount of data that is present within the e-commerce websites has been a highly useful tool to help AI cater to individual preferences at an unprecedented scale for companies such as Amazon and Shopify. The use of AI and big data has transformed such e-commerce platforms as they have made the personalization and interaction of such websites more effective (Rahaman et al., 2023; Noman et al., 2022; Alasa, 2021). Looking back on how e-commerce has transformed over the years, we can see that they have really come a long way. Personalization, for instance, was done through emails where customers would be addressed by their names, and their purchases would be determined by their previous order. In the current day and era, customer services require real-time interaction that is tailored to their needs (MacKenzie et al., 2019). Consumer these days wants brands to understand the need for recommendations and deliver great experiences across various areas within their websites. Amazon and Shopify utilize AI to meet these requirements in terms of personalization for consumers. Amazon has a generative AI known as Rufus, which is a customer assistant. It helps the customers to synthesize Amazon's product catalogs, investigate the consumer reviews, handle the Q&As, and research on the internet the relevant information that can be useful to consumer questions. This is helpful, especially when consumers are seeking a comparison of prices and reviews. Shopify, on the other hand, has come up with an AI-based semantic search (Alasa et al., 2024). This is a search option that allows the customer to look for products based on intent instead of keywords. For instance, instead of using keywords such as sweaters and socks, a customer can look for warm winter clothing, and the relevant results will come up. This makes finding products on the website easier and friendlier. Even though customers may not know the exact name of the product, they can describe it to the AI and find the same product (Dushnitsky & Stroube, 2021). Even though large companies are still experimenting with the use of AI for customer personalization, consumers are starting to adopt the use of AI during their shopping experience. According to the research carried out by IBM data in 2023, 86% of people shopping online would prefer the use of AI when carrying out their shopping. According to the same survey, 82% would love to use AI to provide them with answers, while 79% would use AI to find promotions and deals on various websites (IBM, 2023).

This study aims to investigate how Amazon and Shopify employ artificial intelligence driven customization to enhance online purchasing experience by way of responses to evolving consumer behavior and market trends, therefore addressing

changing customer behavior. It looks at artificial intelligence applications in stock management and customer support augmentation including predictive analytics, virtual assistants, and chatbots. It also tries to evaluate issues such as data privacy, algorithmic biases, and dependence on automation. Finally, the paper emphasizes two important artificial intelligence methods of natural language processing and collaborative filtering that maximize e-commerce activities.

2. Literature Review

The incorporation of sophisticated technologies like machine learning (ML), blockchain, and sustainable IT solutions is revolutionizing several areas, including healthcare, corporate intelligence, and environmental sustainability. The interaction of various technologies improves operational efficiency while also tackling essential issues like data security, ethical compliance, and scalability. Artificial Intelligence Applications in Healthcare and Commerce.

Machine learning has become an essential instrument in healthcare, using electronic health records (EHRs), wearable devices, and genetic data to provide predictive analytics and individualized treatment strategies. Supervised learning models prevail in healthcare applications, achieving accuracy rates of up to 85% in illness prediction and resource management. Likewise, machine learning in business analytics has evolved from conventional statistical techniques to advanced algorithms such as neural networks and random forests, showcasing enhanced prediction accuracy and operational insights (Rahaman et al., 2024; Islam et al., 2024). Notwithstanding its promise, machine learning encounters obstacles related to data quality, algorithmic openness, and ethical considerations. Dataset's complexity often necessitates extensive preparation, including data cleansing and anonymization, which may account for up to 40% of the overall work in healthcare machine learning initiatives. The opaque characteristics of some machine learning algorithms, particularly deep learning models, restrict their interpretability, which raises problems in critical fields such as healthcare (Islam et al., 2024).

Blockchain technology enhances machine learning by guaranteeing data integrity and security. The amalgamation of blockchain with Internet of Things (IoT) devices and artificial intelligence (AI) in corporate intelligence augments real-time data analysis and decision-making proficiency. The decentralized and immutable ledger of blockchain resolves trust and transparency concerns, especially in sectors such as banking and supply chain management (Rani et al., 2024). Sustainable IT solutions are progressively implemented across sectors to reconcile economic development with environmental responsibility. These techniques, such as energy-efficient hardware and environmentally sustainable data centers, have shown good connections with revenue growth and operational efficiency. Nonetheless, substantial early implementation expenses and cultural opposition persist as considerable obstacles (Aziz et al., 2023). Ultimately, the aggregate advantages of sustainable IT, including less carbon emissions and improved customer satisfaction, outweigh the initial expenditures, making them a feasible long-

term investment (Aziz et al., 2023).

The integration of machine learning, blockchain technology, and sustainable IT has significant revolutionary possibilities for contemporary industry. Although these technologies mitigate certain operational issues, they simultaneously offer new complications that need multidisciplinary cooperation and inventive strategies (Alasa, 2020). Subsequent research should prioritize enhancing the interpretability of machine learning models, mitigating the financial obstacles associated with sustainable IT, and promoting cohesive frameworks for the integration of blockchain and artificial intelligence technology. These developments are essential for realizing the whole potential of these breakthroughs across many domains.

3. Research Methodology

This paper employs a case study in which two dominant e-commerce platforms, Amazon and Shopify, are used to assess how AI personalization adds value to the user experience. The significant research sources include a literature review, market reports, and multiple studies on AI in e-commerce to investigate the effects of personalization on consumer's behavior. Data collected for the study is secondary data sourced from market research companies, journal articles, corporate databases and credible news sources, to give a picture of the effect of AI on e-commerce (Rahaman et al., 2023; Aziz et al., 2023). It also provides an overview of all the AI functions and tools used by Amazon and Shopify as well as their applications such as the recommendations of customers, inventory, and autonomous customer service among others.

A comparative analysis was conducted between Amazon and Shopify, focusing on the following areas:

- AI-driven personalization techniques: Exploring how impulse technologies, such as recommendation engines and chatbots improve user engagement.
- Customer engagement metrics: evaluating even fundamental attributes like the customer churn rate, click through rate (CTR), and sales conversion under the influence of AI suggestions.
- Satisfaction indicators: analyzing the effectiveness of micro-moments in the net promoter score, for instance, lowered bounce rates, and elevated repurchase rates.

It is less likely to identify the real-time advances of AI technologies because it predominately depends on literature and public data. Also, actual interviews with consumers or evidence from using these social media platforms by their users themselves are missing, which narrows this research up to industry-level considerations only.

4. AI-Driven Efficiency in E-Commerce

Most online shopping platforms, such as Amazon and Shopify, employ AI in their systems to improve efficiency in their operations and reduce costs. Artificial intelligence-driven inventory management has changed e-commerce sites including

Amazon and Shopify via better demand forecasting, automating restocking, and supply chain operations simplification. Machine learning algorithms study massive datasets including past sales trends, seasonal demand swings, and external events such as economic conditions and weather patterns (Dushnitsky & Stroube, 2021), with high accuracy to estimate inventory needs. Amazon dynamically distributes goods across fulfillment sites using artificial intelligence, for example, reducing delivery times and logistical costs and minimizing stockouts or overstocking. Similarly, Shopify stores leverage AI-powered supply chain solutions to simplify restocking strategies, hence reducing inventory keeping expenses by up to 25% (Shaikh, 2023). AI also helps to raise conversion rates (IBM, 2023) by means of dynamic pricing strategies, real-time price changes depending on competitor pricing, consumer demand, and market trends. AI-powered fraud detection systems also identify anomalies in order patterns and refund requests by 30% on e-commerce platforms, therefore reducing fraud-related expenditures (Al-Imran et al., 2024). By adding artificial intelligence to inventory and pricing decisions, e-commerce enterprises can maximize stock levels, promote profitability, and raise customer happiness by means of efficient order fulfillment.

Some of the systems AI can help a company achieve include taking care of inventories and fraud detection. On e-commerce sites like Amazon and Shopify, artificial intelligence chatbots improve client involvement. It graphically shows artificial intelligence-driven interactions in which smart virtual assistants answer consumer questions in real time. Eventually, the chatbot technology enhances user experience, simplifies assistance, and promotes customized communication, thereby raising consumer satisfaction and retention in online buying. Besides efficiency in operations, AI has also helped various online platforms in their decision-making process as they are highly data driven (Figure 1). The decision-making process can also be helpful for the vendors using the platforms, as they can make decisions quickly and adapt based on market trends. AI in e-commerce means that various algorithms and machine learning techniques are subjected to consumer data to improve their online shopping experience and automate various activities (Dushnitsky & Stroube, 2021). There is a wide array of AI uses in e-commerce, as it can be used to make personalized product suggestions for consumers. Going through the consumer's data, AI can also use a customer's browsing history and offer products based on the customer's taste. The rapid growth in the use of AI in online shopping is due to the need for personalization (Aldea et al., 2018).

According to the US Census Bureau, e-commerce sales in the US were at \$870.8 billion in 2021, following a rise of 14.2% from the previous year. This marked one of the primary reasons for a rapid rise in the use of AI in the e-commerce space. The sales value is expected to rise in the coming years (U.S. Census Bureau, 2022). The higher volume of transactions within this space makes an ideal environment for AI to streamline operations. The current world of technology has seasoned consumers with a higher expectation of personalized experience (MacKenzie et

al., 2019). AI is a good tool for improving consumer understanding and engagement. A consumer is likely to shop in a space that provides relevant suggestions and provides relevant offers. A study also indicates that consumers are more likely to purchase from an e-commerce website if their shopping experience is personalized.

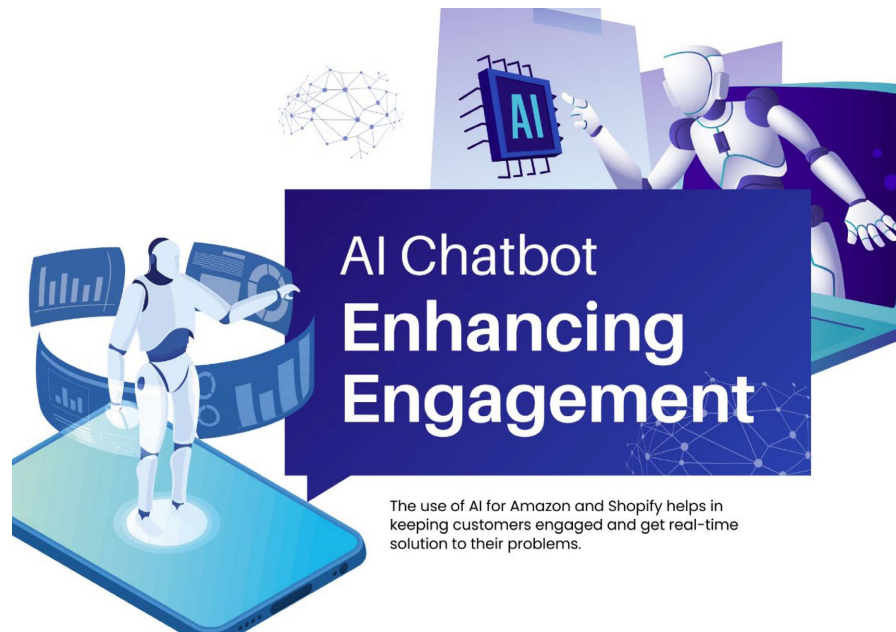


Figure 1. AI chatbots enhance customer engagement in e-commerce by providing real-time solutions on platforms like Amazon and Shopify.

5. Impact of AI Personalization on Customer Engagement

One of the applications of AI for engagement with customers is through an automated chatbot. AI can quickly help consumers find a product through the chatbot by engaging with the client and creating good shopping experience for the clients. By improving user experience and maximizing sales conversions, artificial intelligence-driven personalization has fundamentally changed consumer involvement in e-commerce. Comparative study of Amazon and Shopify shows how significantly artificial intelligence-driven customization influences important measures of customer engagement (**Figure 2**). For example, Amazon's recommendation engine helps about 35% of its overall income to show how well artificial intelligence drives sales and enhances customer retention (*Dushnitsky & Stroube, 2021*). As AI-driven product recommendations and dynamic pricing tactics improve customer satisfaction and repeat purchases, Shopify merchants using AI-powered personalizing tools have also claimed an average gain of 20% in quarterly sales (*Shaikh, 2023*). AI-powered chatbots and virtual assistants also help to ensure 24/7 personalized support and lower cart abandonment rates, therefore contributing to an increase in consumer interaction rates of 40%. These numbers show how, in competitive e-commerce systems, AI-driven personalization not only improves product discovery but also increases engagement and long-term customer loyalty.

Still, major factors for ethical AI deployment in e-commerce, however, include algorithmic biases and client privacy issues (Rani et al., 2024).

The other significant barrier is that most consumers resist AI-powered services. Most people prefer to talk with real people when inquiring about a service instead of using chatbots to interact with e-commerce platforms. This resistance results from the efficacy and control that one may have when making purchasing decisions. Machine learning in e-commerce is highly utilized during the forecasting period. It is highly utilized for a large volume of data, making it significant in its dominance (Marjerison et al., 2022). Massive data collected from the consumer's interaction through e-commerce platforms such as Shopify and Amazon, as well as the purchase history and surfing behavior, are good avenues for the application of machine learning.



Figure 2. AI in e-commerce enhances consumer experience by analyzing behavior patterns and optimizing personalized recommendations.

Emphasizing its ability to examine consumer behavior patterns, this number shows the part A plays in e-commerce. Personalized shopping experiences, targeted discounts, and improved marketing methods made possible by AI help to increase customer engagement and hence propel the expansion of e-commerce. Machine learning can be used for forecasting to determine demand and manage inventory. This feature can help avoid overstocking or running out of stock while efficiently managing the supply chain. As a vendor, streamlining such processes usually leads to higher profitability (Figure 2). Integrating machine learning with the power of AI, such as chatbots, can lead to 24-hour interaction with clients. A good machine learning place will help without human interaction, resulting in good consumer engagement. Businesses that use AI are more likely to use cloud-based segments within their systems simply because they are scalable and flexible (Monjur et al., 2023). The variability in demand for e-commerce systems requires them to be flexible enough to scale up and down resources as needed. The versatile

nature of the cloud enables businesses to operate more efficiently without interfering with the physical infrastructure. The way consumers purchase these days and at this age is quite different. Currently, they can use their smartphones to compare the prices of goods and get product reviews. Most families use social media to make their shopping decisions (Rustam et al., 2020). Additionally, they can place orders and deliver them on the same day. Based on these changes in consumer behavior, it is predicted that retail space will experience a drastic change in the next decade, more than it has experienced in over a century. Some of the changes witnessed in retail commerce have led to the development of online shopping platforms. Supermarkets and department stores took over most traditional corner stores. Suburban shopping malls, discount chains and big-box retailers later took over. However, over the years, we have witnessed the fall of major retailers, which has led to the rise of e-commerce platforms such as Amazon and Shopify. For businesses to remain relevant and keep up with the needs and demands of consumers, they must incorporate AI into their operations.

Furthermore, Amazon is a company that has utilized AI to manage their online businesses. They can be used to create product listings and even design adverts. Amazon has utilized generative AI (Gen AI) to revolutionize how sellers operate on the platform and how consumers shop. The sellers on the platform can operate their stores more efficiently, and the consumers can find various products more effectively. One of the major concerns about AI is that it can level the playground for small and medium businesses to compete with larger businesses. Mary Beth Westmoreland, Vice president of Worldwide Selling partners, states that Amazon's using Gen AI has helped it streamline most of the processes, giving sellers more time back, and they can focus on inventing even more incredible products that delight their customers (Kolawole, 2024). One of the Gen AI at Amazon is Project Amelia, which is designed to provide the necessary support for Amazon sellers. Even though the product is at the beta testing stages, it has remarkable uses for sellers as it can be used to see business insights, view sales metrics, and get tailored recommendations (Aldea et al., 2018). The AI is designed in each seller's unique business context, allowing it to provide relevant advice and insights. Providing the AI with a brief description can help it develop a comprehensive listing for the business. This helps reduce the time taken to list a product. The e-commerce platforms have also developed AI to help sellers create engaging content for their products (MacKenzie et al., 2019). The AI helps in creating narrative content. Small-scale businesses that may not have enough budget to produce high-quality branded content can also utilize such tools. A video-generating AI tool can also launch a video product from a single product image. Such features on Amazon and Shopify can help sellers on the platform who may not have enough resources for such production.

6. AI for Personalized Shopping Experiences

Based on individual shopping habits, Amazon and Shopify have developed Gen AI that provides tailored product recommendations and descriptions. The AI can

provide specific product lines as opposed to generic recommendations (Shaikh, 2023). Suppose a person is used to searching for gluten-free products. In that case, the term “gluten-free” can be added to the relevant product description to assist the customer in quickly identifying a suitable item. Such features are also helpful to clients with limited screens, such as mobile shoppers, since they can reach products more easily (Figure 3). Amazon has strived to be more competitive since other companies, such as Shopify, integrate AI into their platform to attract more clients. One of the ways through which the company has remained competitive is by providing cloud computing to its users through Amazon Web Services (AWS). This is a foundation model for their generative AI. As stated by Michael LeBoeuf, “A satisfied customer is the best business strategy of all.” The available data and the use of AI have enabled businesses to cater to the customers’ preferences. Besides personalized searches, AI has also enabled timely and effective consumer searches. The e-commerce platforms were previously limited based on strategy, as they could only address the customers by their names in emails or make suggestions based on previous purchases (Rustam et al., 2020). Over the years, customer interactions have changed as they require more personalized and real-time interactions. With the data that Amazon and Shopify collect from the consumer, they expect that such brands would understand their needs, make relevant recommendations, and deliver seamless experiences on various touchpoints.



Figure 3. AI in e-commerce streamlines the shopping journey through AI-based recommendations, virtual assistants, and chatbots, enhancing user experience from browsing to checkout.

Moreover, AI can come in handy when looking into such big data, analyzing it, and using the data to predict consumer behavior, preferences, and desires more accurately. The resulting event is that consumers are more likely to be satisfied, there will be an increased retention rate of customers, and it will also likely boost revenue for businesses. There are various ways through which AI drives personalization. The first way is through enhanced product recommendations (Dushnitsky & Stroube, 2021). As mentioned, AI can go through user data and check their

browsing history, products they previously purchased, and even real-time interaction with the user to find the product they most likely need. Personalization does not end in product recommendations for the customer; it reaches the extent of marketing. Through personalized email campaigns, targeted ads, and customized offers, Amazon and Shopify can develop marketing that resonates with an individual customer within their platforms. AI chatbots and virtual assistants have also revolutionized customer interaction within Amazon and Shopify platforms. AI-driven systems such as natural language processing (NLP) and machine learning (ML) can be used to recognize various patterns in customer inquiries, predict issues, and offer personalized solutions based on the needs of a given client.

E-commerce platforms can also use AI for dynamic pricing strategy. This allows the platform to adjust its prices based on the demand for a product, competition from other businesses, or the customers' behavior (Dushnitsky & Stroube, 2021). AI can utilize various factors different from customers' behavior to create a price. Some of these factors are external factors such as time of the day, the weather, and the customer's geographical location. Such data can create unique prices for individual customers and segments. Search and navigation are the other avenues through which AI has helped personalize e-commerce platforms (Law, 2024). An AI-powered search engine on Amazon or Shopify can learn user interaction, refining the search experience with time and giving out the most relevant results. The AI can also use predictive search features to recommend products based on previous queries. This increases accuracy and shortens the time taken. Artificial intelligence-driven inventory management has changed e-commerce sites including Amazon and Shopify via better demand forecasting, automating restocking, and supply chain operations simplification. Machine learning algorithms and big data study massive datasets including past sales trends, seasonal demand swings, and external events such as economic conditions, management, and weather patterns (Dushnitsky & Stroube, 2021; Das et al., 2025) with high accuracy to estimate inventory needs. By adding artificial intelligence to inventory and pricing decisions, e-commerce enterprises can maximize stock levels, promote profitability, and raise customer happiness by means of efficient order fulfillment.

7. Conclusion

Personalization through AI is one of the most important elements currently in online business, with giants like Amazon and Shopify as pioneers of using complex machine learning algorithms to improve the client's experience. AI-driven customization for e-commerce will emphasize increasing real-time customizing, better predictive analytics for user behavior, and adding advanced Gen AI for hyper personalized shopping experiences. Ethical AI approaches, data privacy protection, and reduction of algorithmic biases are therefore also vital for keeping customer confidence and regulatory compliance. AI enhances customer interactions and loyalty by providing personalized offerings, adjusting prices, and utilizing effective customer support applications. While both firms utilize AI in their operations and supply chain and their futures are assured, Amazon and Shopify

enhance customer experience to make shopping easy. Through personalization, AI has made it possible to retain customers and ensure that a higher number of customers purchase commodities in the stores. This way, and with the help of customer interaction through chatbots and virtual assistants, as well as by implementing personalized market promotion techniques, e-commerce platforms continue to maintain market competitiveness in the fast-changing environment. However, customers must also trust issues with their information, and this brings ethical concerns about artificial intelligence, which concerns consumers' privacy when using this invention. With the advancement in AI, a business will continue to unlock the potential of e-commerce to deliver innovations that benefit not only the company but the consumer as well.

Acknowledgements

We would like to express our gratitude to all the anonymous reviewers for their contribution and critical reviews to improve the manuscript.

Conflicts of Interest

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

References

- Alasa, D. K. (2020). Harnessing Predictive Analytics in Cybersecurity: Proactive Strategies for Organizational Threat Mitigation. *World Journal of Advanced Research and Reviews*, 8, 369-376. <https://doi.org/10.30574/wjarr.2020.8.2.0425>
- Alasa, D. K. (2021). Enhanced Business Intelligence through the Convergence of Big Data Analytics, AI, Machine Learning, IoT and Blockchain. *Open Access Research Journal of Science and Technology*, 2, 23-30. <https://doi.org/10.53022/oarjst.2021.2.2.0042>
- Alasa, D. K., Jiyane, G., & Tanvir, A. (2024). Exploring the Synergy of Artificial Intelligence and Blockchain in Business: Insights from a Bibliometric-Content Analysis. *Global Journal of Engineering and Technology Advances*, 22, 171-178. <https://doi.org/10.30574/gjeta.2024.21.2.0216>
- Aldea, A., Kusumaningrum, M. C., Jacob, M. E., & Daneva, M. (2018). Modeling and Analyzing Digital Business Ecosystems: An Approach and Evaluation. In *2018 IEEE 20th Conference on Business Informatics (CBI)* (pp. 156-163). IEEE. <https://doi.org/10.1109/cbi.2018.10064>
- Al-Imran, M., Hossain Ayon, E., Islam, M. R., Mahmud, F., Akter, S., Alam, M. K. et al. (2024). Transforming Banking Security: The Role of Deep Learning in Fraud Detection Systems. *The American Journal of Engineering and Technology*, 6, 20-32. <https://doi.org/10.37547/tajet/volume06issue11-04>
- Aziz, M. M., Rahaman, M. M., Bhuiyan, M. M. R., & Islam, M. R. (2023). Integrating Sustainable IT Solutions for Long-Term Business Growth and Development. *Journal of Business and Management Studies*, 5, 152-159. <https://doi.org/10.32996/jbms.2023.5.6.12>
- Das, K., Tanvir, A., Rani, S., & Aminuzzaman, F. M. (2025). Revolutionizing Agro-Food Waste Management: Real-Time Solutions through IoT and Big Data Integration. *Voice of the Publisher*, 11, 17-36. <https://doi.org/10.4236/vp.2025.111003>
- Dushnitsky, G., & Stroube, B. K. (2021). Low-Code Entrepreneurship: Shopify and the AI-

- ternative Path to Growth. *Journal of Business Venturing Insights*, 16, e00251. <https://doi.org/10.1016/j.jbvi.2021.e00251>
- IBM (2023). *Consumer Preferences for AI in Online Shopping: Insights from 2023 Data*. IBM Research Report. <https://newsroom.ibm.com/2024-01-08-IBM-Study-Widespread-Discontent-in-Retail-Experiences,-Consumers-Signal-Interest-in-AI-Driven-Shopping-Amid-Economic-Strain>
- Islam, M. R., Aziz, M. M., Gonee Manik, M. M. T., ahman Bhuiyan, M. M. R., Noman, I. R., Rahaman, M. M. et al. (2024). Navigating the Digital Landscape: Integrating Advanced IT Solutions with Project Management Best Practices. *ICRRD Quality Index Research Journal*, 5, 159-173. <https://doi.org/10.53272/icrrd.v5i4.5>
- Kolawole, E. (2024). Amazon's Use of Gen AI to Streamline Processes and Enhance Seller Experience. *Tech Innovations Journal*, 15, 112-125.
- Law, M. (2024). *How Amazon Is Using Gen AI to Enhance E-Commerce*. Technologymagazine.com, Bizklik Media Ltd. <https://technologymagazine.com/articles/how-amazon-is-using-gen-ai-to-enhance-e-commerce>
- MacKenzie, I., Meyer, C., & Noble, S. (2019). *How Retailers Can Keep up with Consumers*. McKinsey & Company. <https://www.mckinsey.com/industries/retail/our-insights/how-retailers-can-keep-up-with-consumers>
- Marjerison, R. K., Zhang, Y., & Zheng, H. (2022). AI in E-Commerce: Application of the Use and Gratification Model to The Acceptance of Chatbots. *Sustainability*, 14, Article 14270. <https://doi.org/10.3390/su142114270>
- Monjur, M. E. I., Rifat, A. H., Islam, M. R., & Bhuiyan, M. R. (2023). The Impact of Artificial Intelligence on International Trade: Evidence from B2C Giant E-Commerce (Amazon, Alibaba, Shopify, eBay). *Open Journal of Business and Management*, 11, 2389-2401. <https://doi.org/10.4236/ojbm.2023.115132>
- Noman, I. R., Bortty, J. C., Bishnu, K. K., Aziz, M. M., & Islam, M. R. (2022). Data-Driven Security: Improving Autonomous Systems through Data Analytics and Cybersecurity. *Journal of Computer Science and Technology Studies*, 4, 182-190. <https://doi.org/10.32996/jcsts.2022.4.2.22>
- Rahaman, M. M., Gonee Manik, M. M. T., Rahman Noman, I., Islam, M. R., Aziz, M. M., Rahman Bhuiyan, M. M. et al. (2024). Data Analytics for Sustainable Business: Practical Insights for Measuring and Growing Impact. *ICRRD Quality Index Research Journal*, 5, 110-125. <https://doi.org/10.53272/icrrd.v5i4.2>
- Rahaman, M. M., Rani, S., Islam, M. R., & Bhuiyan, M. M. R. (2023). Machine Learning in Business Analytics: Advancing Statistical Methods for Data-Driven Innovation. *Journal of Computer Science and Technology Studies*, 5, 104-111. <https://doi.org/10.32996/jcsts.2023.5.3.8>
- Rani, S., Islam, M. R., Rahaman, M. M., & Rahaman, M. A. (2024). Machine Learning for Aortic Stenosis: Enhancing Diagnostic Accuracy and Security in Health Information Systems. *World Journal of Advanced Research and Reviews*, 24, 1940-1945. <https://doi.org/10.30574/wjarr.2024.24.2.3577>
- Rustam, F., Mehmood, A., Ahmad, M., Ullah, S., Khan, D. M., & Choi, G. S. (2020). Classification of Shopify App User Reviews Using Novel Multi Text Features. *IEEE Access*, 8, 30234-30244. <https://doi.org/10.1109/access.2020.2972632>
- Shaikh, N. (2023). Generative AI Use Cases for E-Commerce. *International Journal of*

Computer Science and Mobile Computing, 12, 10-14.

<https://doi.org/10.47760/ijcsmc.2023.v12i09.002>

U.S. Census Bureau (2022). *Income in the United States: 2022* (pp. 60-279). U.S. Government Printing Office.

<https://www.census.gov/library/publications/2023/demo/p60-279.html>