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Improving The Shopping Experience for Sports Products Using Artificial Intelligence Technologies

Hayder Abdulammer Hussein Al-azzawi¹, Sajjad Pashaie^{1*}

¹University of Tabriz, Tabriz, Iran

*Corresponding author E-mail: Pashaie.s@tabrizu.ac.ir

Article Info.	Abstract
<i>Article history:</i> Received 16 November 2025 Revised 03 January 2026 Accepted 30 January 2026	In this study, we have set out to make it easier for people in Iraq to buy sports products online. The goal was to get a sense of how artificial intelligence might make the shopping experience easier and more personal for customers. The study targeted several segments of the population — online consumers, sellers and owners of companies that produce or sell sports goods in Iraq. To find some real, useful information, we spoke to thirteen experts in-depth. These discussions were carefully organized and subsequently step-by-step analyzed to identify central themes, patterns between themes and the context in which they occurred. From the results, we found that a few things really matter when people shop online — like how easy the website is to use, how secure it feels, and how much the system seems to “know” what the customer wants. Personalized suggestions and smooth navigation make people more satisfied and more likely to buy again. We found that social media impact, a company's reputation, and trust all affect how people behave when they purchase online. Consumers who believe a brand is reliable and open about its products are more likely to purchase from it. Businesses may be able to better understand their customers and provide solutions that improve the dependable and smooth purchasing experience with the use of artificial intelligence.
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1. Introduction

Digital and technological advances are changing how decisions are made and business is conducted inside organizations at a quick pace [1, 2]. Internet shopping and e-commerce are the foundations of online commerce. E-commerce is becoming the preferred mode of purchase by consumers and in this model, evolution of new technologies like artificial intelligence (AI) goes a long way to improve them [3].

AI can be useful for any institution to make the right decisions and promote performance [4]. Machine learning approaches can process customer data and offer personalized suggestions; thus, contribute to a better shopping experience [5]. The technology also is significant in improving digital interaction and improve the security of payment, intelligent support systems development [6]. Application of AI in digital marketing Personalized experience and customized services to customers would be provided using the message articulation but also with a more reason – whose end result will be higher customer satisfaction, loyalty, ordering repurchase and profitability [7]. AI in digital marketing is about foreseeing customer behavior, decisions as well as developing a dynamic, interactive and responsive digital marketing ecosystem. It allows marketers to better estimate potential customers, and develop digital marketing campaigns, but cannot store useful data in order to improve sales [8]. Previous studies also predict that AI will result in higher customer satisfaction within digital marketing [9]. Those are aimed at promoting virus prevention through cutting-edge AI technology in the field of digital marketing by providing online computer programs that identify and support users, user guidance, and humans' simplified interaction.

This could be a real game-changer for Iraq's online sports product buying experience. TYPES OF SPORTS PRODUCTS: There is a wide range of sports products between sport garments, shoes, nutritional supplements, training equipment and devices for fitness therefore improving the online purchasing behavior related to these products in Iraq can be attained through involving different methods and approaches. To build customer confidence and to motivate purchase, value and transparency are particularly significant [10]. For the development of personal (personalized) messages and advice for individuals, human influence factors are regarded as important. These factors comprise community participation, trust, competences and the ability to meet different cognitive and social needs [11].

Many companies are developing AI solutions to assist people in finding what they are looking for in an online marketplace, which is products and services [12]. Prior research has shown that the customer's experience is influenced by cognitive, emotional, sensory and social factors [13]. Customer-perceived attitudes and personality traits are also social-context dependent [14]. Argues that the power of AI and their shared knowledge about customer idiosyncrasies can accelerate and, at the same time, make decision-making more near-rational by comprehending (faster) customers' reaction to behavior. Thus, AI is a forerunner in marketing due to its ability to enhance decision-making and interactions with customers on digital platforms [15].

2. Research Methodology

2.1. Research problem

Digital marketing is believed to be an instrument used by companies for constantly improving and drawing customers [16]. Some branches where AI is related to also include many digital marketing technologies such as Augmented Reality, Computer Vision-based Imaging and AI-based predictive management in the online businesses [17]. Understand the consumer The quality of service can only be improved if you understand what your customers like and how they have been treated. AI can accelerate this understanding [18]. However, whether AI can enable digital marketing without any barriers is still unclear. AI has been found to have negative ramifications if not applied correctly, according to research [19]. Typical obstacles encountered by those organization trying to apply AI into A&T are similar to these issues [20].

Therefore, companies need to use AI within the framework of robust and tested information systems, as AI requires appropriate and high-quality digital marketing data. Hence, the need arises to understand how customers interact with AI innovations, how they accept them, and how these innovations can lead to more attractive offerings [21].

2.2. Research Important

- With the expansion of the digital space and increased competition in online markets, various industries are turning to advanced technologies to improve performance and increase profits.
- The research links advanced variables in the field of marketing, namely sports consumer behavior and artificial intelligence.
- Enriching scientific libraries with theoretical concepts related to research variables.
- The sports sector and online sports equipment stores are among the areas that can benefit from artificial intelligence to enhance the customer shopping experience.

2.3. Research objective

This study aims to create an AI-based model to improve the online sports shopping experience for Iraqi consumers. This is the idea which will enable online sports retailers and equipment companies to enhance trust and are designed for them to create and optimize digital engagements in order to acquire and retain customers.

The research pays particular attention to how AI can be used to offer tailored recommendations and enable customers to make more informed decisions that lead to their greater satisfaction. The primary topic of the research: how AI can enhance online sports shopping in Iraq?

The overall aim of this thesis is to capitalise on online expertise in the Iraqi economy by utilising sound statistics to communicate appropriately with both entrepreneurs and investors/policymakers by theoretical and empirical methods.

2.4 Qualitative method

This study employs a qualitative grounded theory approach to investigate how AI can enhance online sports goods purchasing behaviors. This approach is particularly applicable to exploring complex, multilayered online consumer behavior phenomenon as it allows researchers in-depth examination of consumer online shopping expectation and experience.

The Grounded Theory approach was applied to collect qualitative information on a groups' experience and perceptions through open-ended interviews. This method allowed Investigators to find significant trends in consumer behavior online and innovative insights on customer experience. The primary data collection tool for this study was semi-structured interview because it allowed the participants to express themselves freely on various issues discussed through open-ended questions, which facilitate an accumulation of a lot of data.

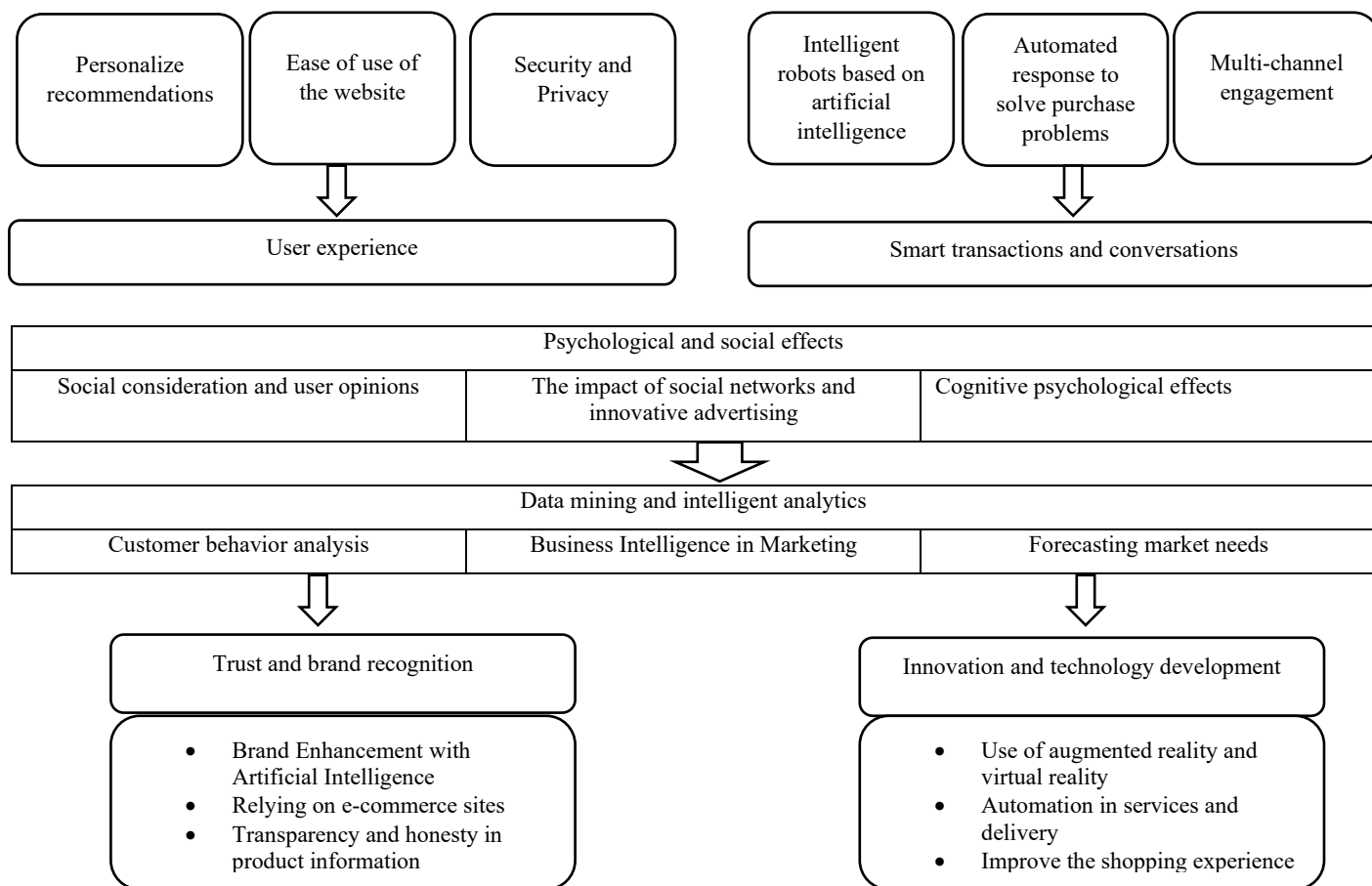
2.5. Research community and sample

A sample of sports marketing experts, production company owners and online sports product sellers in Iraq was considered as the target group on the view that they were the most proper one related to the subject studied. Data were collected and analyzed through purposive sampling with the experts who had the best subject-matter expertise. Theoretical saturation was achieved after 13 interviews. This criterion is based on the number of participants needed in advance to achieve theoretical saturation [22]. In grounded theory, the theoretical saturation point is reached when new interviews bring no new information or concepts, but merely repeats previously identified patterns of ideas. Thirteen interviews were completed for this study when theoretical saturation reached, that is no new information or ideas emerged. In order to ensure coherence of the data retrieved, a separate analysis was performed.

Data were obtained through in-depth interviews with professionals involved in sports product marketing, sales, and other complementary areas of expertise within the Iraqi market. The open-ended questions were used to stimulate the participants for detailed content in these semi-structured interviews, and a good quantity data was needed. After transcribing and archiving, these interviews provided the raw material for several meticulous analytical techniques such as pattern recognition and data coding. The researchers employed qualitative data analysis methods encompassing; open, axial and selective coding to ensure an inclusive interpretation of the findings. This enabled common themes contained in participants' comments to be identified.

2.6. Research model

The proposed research model explains how artificial intelligence technologies can contribute to improving the shopping experience for sports products. It focuses on the psychological and social influences associated with social networks, customer opinions, and innovative advertising. The model also considers the role of data mining and intelligent analytics in examining customer behavior and identifying purchasing preferences. These relationships provide a suitable basis for understanding how AI-supported marketing tools can enhance customer satisfaction and better anticipate market needs as follow: -



2.7. Previous studies

Proved that AI can enable innovative encouragement to indent consumers to share their experience online and improve user experience because users highly value emotional aspects while making decisions on purchasing [23]. As well, today's technology-savvy customers are known as "digital travellers" and insights into technology and artificial intelligence help to enhance these interactions and move their experiences further up the value chain toward more highly refined digital conceptions which result in purchases through online stores [24]. On- line purchase to intention seems to be more pronounced particularly in Iraqi customers. Brand equity is supported by value and trust, therefore also purchase intentions [25] are influenced by brand equity and value-added services such as warranties and after-sales support play a role in those tendencies. Also, increasingly the purchase of things nowadays is over the internet and with young people especially. Entrepreneurs are taking advantage of this trend in increasing their business [26]. Furthermore, artificial intelligence enhances the personalization of knowledge, it supplies facts to consumers, and guides them toward superior purchasing decisions [27]. Taken together, these results suggest that fretting over the poor development of banking and legal systems and more research are the key to stimulate consumers' online activity, as well as their ability to manage digital experiences. Not to the same levels and with the same quality as we are used to seeing in developed countries at least. The online sale of sport articles is still a very low maturity level market, also due to low consumer confidence, awkward or non-existent user experience and lack reliable electronic payment methods. The extant literature finds that product recommendation, product offer and virtual interaction could moderately influence online purchasing rate. In addition to this, by employing the latest intelligent technologies like AI (Artificial Intelligence), you can better understand consumer behavior, enhance user experience and build customer loyalty. Although several studies have discussed the importance of AI, till now, no such study has been done to develop a unique AI model targeting at enhancing the online sportswear purchase in Iraq; thus, representing an extant research gap. While there is growing interest in the impact of AI technologies on consumer behavior, current research focuses primarily on online shopping. It is increasingly essential to comprehend how customers use digital channels and AI technologies to improve the purchasing experience, given the rapid advancement of technology and the shifting trends in consumer behaviour. In this context, the study sought to develop a model that enhances consumer sports product buying behavior, online in Iraq.

3. Research Theoretical Framework

The role of artificial intelligence (AI) in digital marketing and online shopping experiences has been gaining increasing interest in recent years. It has been proved that AI can be used to forecast purchase propensity, and enhance shopping experiences of users in the online environment [28, 29]. For instance, recommendation system infused with AI has been observed to enhance user satisfaction, engagement and online shopping clique [30]. Such AI progressions are driving businesses to take up innovative personalized methods while adapting their marketing campaigns according to and in line with the interests of its demographics. A lot of research has already been done about the impact of social media and user reviews on purchase decisions. Customer evaluations and reviews on the web are found to be one of the most essential drivers for consumer trust in firms and exert a significant impact on purchase decisions [31, 32]. Studies on increasing the security

and transparency of electronic payment systems through AI bring attention to the significance in innovating new payment systems [33]. One study finds that visibility and coherence have a great influence on consumer attitudes towards sport-related marketing content, artificial intelligence generated messages influencing consumers and increase in purchase intent [34]. We also showed how an on-line purchase, as a sensorial request could help our client leveraging artificial intelligence for data analysis. The application of AI and ML tools in analyzing data mining from the web provides an effective way to forecast consumer behavior especially in sensory purchases involving visual and auditory stimulation [35]. Meanwhile, a study has employed the artificial intelligence technologies to analyze customers' behavior of purchasing. AI could have a role in predicting and measuring vast bodies of data on customer behavior to improve marketing decisions. The Guardian quotes the report to say. In this framework, we point out that changes in new stimuli may result in changes in consumer responses; hence the use of artificial intelligence to analyse consumer behavior can assist businesses make accurate digital marketing decisions [36, 37]. The application of AI in understanding consumer behavior has been reported to cover various domains such as personalization and recommendation, emotion and sentiment analysis, image and voice recognition, virtual assistants [38]. Therefore, what we can infer from these studies is that customer experience has a significant effect on growth and organisational memory for a brand. The function of online shopping in e-commerce shops is also justified [39]. The findings of a research demonstrated that among the youth, online shopping is on rise and furthermore this mode is contributing forth dynamic entrepreneurship in digital set ups. In general, the results of current research indicate that important issues are related to improved systems, increased security and user behavior challenges [40] (see Table 1).

Table 1. Test-to-Interview Reliability Test Results

Number	Title Interview	Total number of codes	Number of matches	Number of incompatibilities	Test-retest reliability
1	First	29	25	4	86%
2	Second	25	21	4	82%
3	Third	20	15	5	75%
	Total	74	61	13	85%

4. Research Practical Framework

This study got test-retest reliability which is 85%, and It shows that it has do a better result. Data coding and analysis method Three steps were employed:

- During the processing, in the open coding phase, descriptive open codes were formulated directly from interview data representing participants' statements and meanings.
- Stage 2: Axial coding, through which themes and relationships were developed by open codes grouping them together to be compared.
- In stage three, selective coding, primary core categories or concepts were tied together to form the theory.

Analysis was based on qualitative data analysis methods that followed the grounded theory approach. Interviews were audiotaped, transcribed verbatim, and coded by hand. comparative analysis was also used to compare codes between the interviews for commonalities, differences, and/or patterns. Open coding was applied for development of initial concepts, Axial coding for interconnections among codes, and selective descriptions for synthesizing the categories to a working theoretical model. In this way, those involved in the work on the extractor were able to perform a deeper analysis of the collected data and achieve a better understanding of relatedness among ideas. Total from Whom Interviewed 13 Experts' Characteristics of the in Depth (Table 2).Core research variables were identified through systematic coding procedures and analysed based on the qualitative information obtained from in-depth interviews. These factors were user experience, Smart transactions and conversations, Psychological and social impacts, Data mining and intelligent analytics, Trust and brand loyalty, Innovation and technology developments. Every single variable was explored in its underlying dimensions, that were built deductively from the data of participants (open and axial coding). Such method adopted facilitated generate meaningful relations between study variables and progressed optimized understanding of the role that artificial intelligence plays to influence online purchasing behavior for sports sector in Iraq. In this section, the features of our target population are described. In general a wide picture of the demographics is presented. The study included 13 subjects of different educational backgrounds and life experience with the topic in all. In education, three had bachelor's degrees, five had master's and five doctorates. The variety is evident in the participants' range of expertise and areas of specialization within the realm of scientific subjects represented by the wide array of field-specific educational backgrounds. With respect to practical experience, 8 of the participants had some practical experience in this field but none of the remaining 5. This feature might influence the quality and breadth of proposals and opinions suggested. The views of those experiencing the ground truth may be more pragmatic and realistic. Regarding gender distribution, the majority of participants were male (11 participants), while two participants were female, reflecting the current gender composition commonly observed in the Iraqi sports marketing and e-commerce sector.

Table 2. Demographic characteristics of the research sample

Variable	Number
Academic achievement	Bachelor's 3
	Master's 5
	PhD 5
Educational and research experience	Yes 7
	No 6
Executive and sales experience	Yes 8
	No 5
Gender	Male 11
	Female 2

5. Results

In this section, we discuss the core findings emerged from our analysis of interview data. The results are presented based on the main research variables and their related dimensions that came out in the coding. Table 3 represents conceptually rich themes rather than frequency scores, in line with the principles of grounded theory analysis. It provides the core categories, axial codes, and open codes as generated while analyzing the data representing the most influential factors affecting online sports purchasing behavior via artificial intelligence programs.

Table 3. presents the results obtained from the research

Core categories	Axial codes	Open codes
User experience	Personalize recommendations	Leveraging personalization algorithms to purchase based on past preferences Providing personalized suggestions for sports products Display similar products based on previous customer behavior Intelligently adjust the user interface based on search pattern The impact of dynamic design on purchasing decisions Fast loading time for website pages Easy access to product information
	Ease of use of the website	Ability to filter products by different criteria Simple and practical site navigation Site responsiveness to different devices Trust the site in protecting personal information Transparency in privacy laws Guarantee of secure payments Use of two-factor authentication systems Accurate management of user information
	Security and Privacy	Quick response to user questions Providing purchasing advice based on personal needs Ability to recognize and analyze users' emotions Improved user experience in text interactions Chatbots are getting smarter over time. Automatic identification of common problems Providing smart and automated solutions
	Intelligent robots based on artificial intelligence	Reducing problem-solving time with artificial intelligence Access complete information about orders and delivery. Improve customer satisfaction through smart interactions Integrated synchronization of information between different channels Ability to purchase and track orders from multiple devices Unified support for social networks and messaging apps Ability to continue purchasing from different devices without losing information A consistent and integrated buying experience across every channel
Smart transactions and conversations	Automated response to solve purchase problems	The impact of positive user reviews on the purchase decision The impact of the number of opinions on customer confidence The role of user evaluation in product selection direct relationship with other consumers Study the impact of expert opinions alongside general opinions The impact of targeted advertising on social media The role of influencers in promoting sports products The Importance of Brand Engagements on Social Media The impact of video and image content on the purchasing process The impact of using social media analytics tools on increasing sales The psychological impact of low prices and special offers Create incentives through discount campaigns Increase purchase motivation through loyalty programs The impact of placing products on the first page Using psychological techniques to stimulate purchases Collecting customer behavioral data Predicting future customer behavior using artificial intelligence models Recognizing unusual buying patterns Analyzing aggregated data to forecast sales Using customer data to improve marketing strategies Using business intelligence to analyze sales Leveraging business intelligence data to allocate advertising budget Analyze market trends to adjust pricing Identify market opportunities with the help of data mining. Optimize marketing channels using data analysis Forecasting market needs Using predictive algorithms to understand new needs Analyzing global and local data for decision making
Psychological and social effects	Multi-channel engagement	
	Social consideration and user opinions	
	The impact of social networks and innovative advertising	
	Cognitive psychological effects	
Data mining and intelligent analytics	Customer behavior analysis	
	Business Intelligence in Marketing	
	Forecasting market needs	

Trust and brand recognition	Brand Enhancement with Artificial Intelligence	Identify future best-selling products through data analysis. Adjust advertising campaigns based on predictive data Delivering innovative products based on advanced analysis The impact of artificial intelligence on customer brand adoption Using AI to Manage Brand Relationships Increase customer loyalty through personalized offers Using artificial intelligence to improve brand image Enhance brand experience with smart tools Increase trust by providing accurate and up-to-date information.
	Relying on e-commerce sites	Transparency in purchasing and product returns Provide product warranties digitally View security accreditations and licenses on the website Provide real user feedback to increase trust.
	Transparency and honesty in product information	Provide full details about the products including quality and materials. The impact of honesty in the information provided on the purchasing process Display transparency of side costs (shipping, etc.) Provide accurate information about delivery time.
	Use of augmented reality and virtual reality	The importance of displaying real and original images of the products Augmented reality experience to showcase products in the real environment Using virtual reality to test sports products 3D interaction capability with sports products Using VR and AR technologies to increase customer engagement Providing a rich and interactive shopping experience using VR and AR technology.
Innovation and technology development	Automation in services and delivery	Ability to view products using 3D modeling and modern technologies Using robotics and artificial intelligence to automate the delivery process Inventory management and automated dispatch using artificial intelligence Using smart algorithms to reduce delivery time Provide instant tracking of purchased products Improving the quality of after-sales services using smart tools
	Improve the shopping experience	Using artificial intelligence to improve purchasing flow Improve user experience with smart tools Leveraging modern technologies to reduce the complexity of the purchasing process
		Using interactive tools to improve accessibility and shopping experience Learn how to make relevant suggestions based on users' purchasing behavior.

5.1. User experience

The findings reveal that user experience represents a core category in the context of online sports consumption behavior. Ease of finding information, content that is customized to individuals and overall website ease of use were all factors influencing participants' interactions with online sports websites. These are the dimensions in which AI-powered interfaces facilitate a more seamless path to purchase - and a happier customer.

5.2. Smart transaction and conversations

Smart transactions and smart talk constituted as an important direction of efficiency and interaction quality in the purchasing process. For example, secure payment systems and automated transactions were discussed as resources for faster feedbacks and minimization of uncertainty in making online purchases through AI-based conversational agents. These characteristics were seen as increasing the safety of the transactions and provided a sense of security to the users.

5.3. Psychological and social effects

Psychological and social impact has been identified as a dominant factor which forms consumer purchase intention. The results indicate that social media influence, user review, shared experience and social trust impact on consumers' online sports products evaluation. These dimensions reflect the role of social validation and cognitive assurance within an online shopping context.

5.4. Data mining and intelligent analytic

The findings demonstrate the way data mining and smart analytics can enhance our understanding of consumer behavior. Consumers acknowledged that AI had the ability to evaluate browsing behavior, purchase history and consumer preferences and was capable of improving product recommendation and serving for personalization. This class shows the AI analytical skills in accessibility of decision making in online sports retail sites.

5.5. Trust and brand recognition

Trust and brand were also identified as the two principle category for online shopping behavior. Respondents highlighted platform trust, data privacy and brand image as key factors influencing their likelihood of participating in online sports transactions. This study suggests that AI systems help build the trust relationship through transparency and consistency of digital interactions.

5.6. Innovation and technology development

Supporting categories associated with the evolution of online shopping sites Other categories that supported the overarching theme of site evolution included innovation and technology development. Interview data also indicate that respondents perceive technology improvement

in the forms of functionality, user interface and system response. This category mirrors the said potential role of nascent AI technology in maintaining competitiveness and enhancing consumer experience at large.

6. Discussion

The paper is among other based on a somewhat qualitative analysis and the discussion should also be seen as linked to this when, derived from the results of our study, it was shown how AI impact of online sports consumption can also be interpreted along indexes. The features of personalization, security and smart interaction supports previous research that points to how AI plays a vital role in increasing customer satisfaction and trust on digital markets. These results contribute to the body of research on consumers' technology adoption, help in understanding the situational traits of Iraqi online market, and provide evidence for how AI-driven solutions can help avoid problems associated with consumer trust, usability and experience.

Expose factors The results of the open codes showed that consumers' purchasing behavior of sports goods affected by AI have a number of significant trends and core elements in analyzing. User experience focuses on important aspects such as personalization, website usability, security, and secrecy that are being included in the acquisition and retention of users. The psychosocial factor show the effect of opinion and social network to make a purchase decision.

A satisfying shopping experience also promotes repurchase intentions. Analysis of data also allows for purchase patterns and consumer behaviour trends to be observed. Another research has revealed AI can improve will task on consumer knowledge and attitudes [41]. Pointed out the role of AI in consumer behavior research and addressed its challenges and future development [42]. One proposal included another modelling mechanism for an intelligent OS that monitors consumers' behavior.

The AI model of online sports products purchase behavior based on network public opinion is conducive to brand trust, customer loyalty and improved online shopping experience. Trust and brand are the two requirements in digital storefronts that need to be scrutinized with as much analysis. Trust is a key driver in any purchase decision for consumers, but if it's not there, sales can drop and loyalty may wane.

Transparency and relevant product information AI is an excellent man*factor for trust building in the online retail environment, for increasing transparency by furnishing 'honest about product' information.

Perceived value is a key factor in explaining Iraqi consumers' E-purchase intentions. The rationale is that making the shopping experience better will involve new technology, and maybe even a little A.I. Buyers will be able to transact more easily, and have a better overall experience with the help of these tools and functionality.

The findings provide insights into the need to be mindful of consumer attitudes in AI deployment. These results highlight the potential of AI in digital marketing settings. Through their discoveries, businesses can make the most of today's modern technology to create a custom motivating and profitable shopping experience that grows sales and keeps customers coming back.”.

7. Conclusions and Recommendations

7.1. Conclusions

- Personalization is a recipe for (e-commerce) success. Yes, companies might use AI algorithms to comb through data on customers and learn things that we don't want them to know. Here, that could involve employing people's purchasing histories and behavior on the site to suggest products.
- The weaving of trustworthiness through part of customer profiles and the ability to segment data by age, gender and interests can make a truly personalised (and personal) experience even while giving brands they option to convert at scale.
- Shopping online and security is key. 6. @ SECURE TRANSACTIONS : Companies should ensure that client information is never traded, sold or otherwise conveyed to any organization, other than for executing of transactions and delivering solutions to its clients (and also no such transaction details should be shared), except if ordered by a court or some other authority.
- Demonstrating the degree to which buying is transparent, i.e. returning of goods or types of guarantees offered could also work in favour of consumers. Seminars or workshops also can be arranged to inform customers on how to secure their private and financial data, thereby enhancing the value of “security” and enhance customer confidence in the service.
- Actual market needs are conducive to sustainable business expansion and higher customer satisfaction. A significant domain that has a potential to improve the marketing operations and the consumer experience by utilizing an artificial intelligence-based behavior optimization model can be on-line purchasing for sporting goods. Commercial enterprises can gain a competitive advantage by collecting behavioral data and using cognitive analytics to think faster and more accurately. The tools of these approaches are market demand forecasting, and business intelligence in the improvement performance and enhancement sales methods. That is why in this incredibly competitive market, data-analysis and artificial intelligence help companies to succeed.

7.2. Recommendations

- Increasing the level of customer engagement and handling queries smartly with Chatbots. For service, they can be open 24 hours fielding standard inquiries and resolving customer problems in seconds. You can train chatbots to process customer emotion and respond appropriately through intelligence.
- The Multi-Channel Shopper – Today, people expect to be able to shop anywhere. For a seamless customer experience that allows users to move between devices (computer, tablet, and mobile), and to keep the user up with his cart and history, businesses must aggregate data and services across all channels.
- Customer data gathering and analysis can also be useful for identifying buying trends and customer habits. With the help of AI predictive models, businesses will be able to know in advance which products will become popular in future and adapt marketing strategies accordingly.

- It can offer hints on the best times of day to buy and seasonality in customers. It now becomes easy to figure out when to launch something new and the time for niche marketing campaigns. So the most immediate things companies should be thinking about are developing websites and apps that allow customers to better find products, and complete a purchase, more easily. This can be anything from faster load times, amazing and easy navigation or simply great useful content to both entice prospective new clients and keep current ones coming back to your store. Articles, videos and webinars on how to use sports products can also help train shoppers before they buy.
- The development and establishment of e-payment system may promote online buying and trust extension. This also involves a number of payment modes, such as online payment, cash on delivery and virtual currency. And businesses also have to provide customers with some confidence that their financial data is safe. One such process may involve collaboration with banks and financial institutions to develop the mechanism for modern payment infrastructure and data privacy laws.

8. References

- [1] J. Paul, A. Ueno, C. Dennis et al., "Digital transformation: A multidisciplinary perspective and future research agenda," *International Journal of Consumer Studies*, vol. 48, no. 2, Art. no. e13015, 2024, doi: 10.1111/ijcs.13015.
- [2] M. Alkhalidi, "Digital transformation impact on business decision-making," *Journal of Business and Management Research*, vol. 12, no. 2, pp. 45–59, 2024.
- [3] R. E. Bawack, S. F. Wamba, and K. D. A. Carillo, "Artificial intelligence in e-commerce: A bibliometric study and research agenda," *Electronic Markets*, vol. 32, no. 4, pp. 1239–1262, 2022.
- [4] V. Kumar, A. R. Ashraf, and W. Nadeem, "AI-powered marketing: What, where, and how?," *International Journal of Information Management*, vol. 78, Art. no. 102783, 2024.
- [5] C. Acatrinei, I. G. Apostol, L. N. Barbu, R.-G. Chivu, and M.-C. Orzan, "Artificial intelligence in digital marketing: Enhancing consumer engagement and supporting sustainable behavior through social and mobile networks," *Sustainability*, vol. 17, no. 14, Art. no. 6638, 2025.
- [6] M. A. Raji, B. Olodo, T. T. Oke, W. A. Addy, and A. T. Oyewole, "E-commerce and consumer behavior: A review of AI-powered personalization and market trends," *GSC Advanced Research and Reviews*, vol. 18, no. 3, pp. 66–77, 2024.
- [7] A. Shoib and A. Hermawan, "The impact of artificial intelligence (AI) on consumer behavior in digital marketing: A systematic literature review," *International Journal of Finance and Business Management*, vol. 3, no. 3, pp. 161–176, 2025.
- [8] A. R. Guerra-Tamez et al., "Decoding Gen Z: AI's influence on brand trust and purchasing behavior," *Sustainability*, 2024.
- [9] F. Omeish, "Investigating the impact of AI on improving customer experience in social media marketing," 2024.
- [10] X. Gong and M. Janssen, "The effect of transparency on trust in digital platforms: The role of perceived value and risk," *Government Information Quarterly*, vol. 39, no. 4, Art. no. 101734, 2022.
- [11] M. de Carvalho, P. Chimenti, and R. dos Santos, "Human-centered artificial intelligence in digital marketing: The role of empathy, trust, and personalization," *Journal of Retailing and Consumer Services*, vol. 73, Art. no. 103490, 2023.
- [12] H. L. Vemula, S. Khatir, G. Vijayalakshmi, S. Hatole, and A. K. Gubbala, "Artificial intelligence in consumer decision-making: A review of AI-driven personalization and its managerial implications," *Journal of Informatics Education and Research*, vol. 5, no. 2, 2025.
- [13] A. Gungunawat, N. Khandelwal, and N. Gupta, "AI-powered personalization in digital marketing: Transforming consumer engagement and strategy," *Research Review International Journal of Multidisciplinary*, vol. 9, no. 11, pp. 183–191, 2024.
- [14] Tompo, "Analysis of the use of AI technology in personalizing the consumer experience in digital marketing: A review from perspective," *Journal of Entrepreneur, Business and Management*, vol. 2, no. 3, 2024.
- [15] N. Hassan, M. Abdelraouf, and D. El-Shihy, "The moderating role of personalized recommendations in the trust–satisfaction–loyalty relationship: An empirical study of AI-driven e-commerce," *Future Business Journal*, vol. 11, Art. no. 66, 2025.
- [16] A. M. Kaplan and M. Haenlein, "Siri, Siri, in my hand: Who's the fairest in the land? On the interpretations, illustrations, and implications of artificial intelligence," *Business Horizons*, vol. 62, no. 1, pp. 15–25, 2019.
- [17] G. Singh and P. Singh, "A comprehensive review of augmented reality applications in digital marketing and consumer engagement," *Journal of Digital Marketing*, vol. 10, no. 1, pp. 1–15, 2025.
- [18] L. Zarantonello, B. H. Schmitt, and J. J. Brakus, "The influence of AI on customer experience: A conceptual framework," *Journal of Business Research*, vol. 100, pp. 1–10, 2019.
- [19] M. Arkov and J. Toth, "Challenges in integrating AI into digital marketing strategies," *Journal of Marketing Technology*, vol. 15, no. 3, pp. 45–58, 2021.
- [20] S. Ragovin and R. Patel, "Consumer acceptance of AI innovations in digital marketing: A study of user perceptions," *Journal of Consumer Marketing*, vol. 38, no. 4, pp. 412–423, 2021.
- [21] B. Sanders, J. Sim, T. Kingstone, S. Baker, J. Waterfield, B. Bartlam, and C. Jinks, "Saturation in qualitative research: Exploring its conceptualization and operationalization," *Quality & Quantity*, vol. 52, no. 4, pp. 1893–1907, 2018.
- [22] N. Ameen, "Customer experiences in the age of artificial intelligence," *Journal of Retailing and Consumer Services*, vol. 55, pp. 102–110, 2020.
- [23] A. Bakko, J. Smith, and T. Lee, "Digital travelers: The impact of artificial intelligence on online shopping behavior," *Journal of Business Research*, vol. 78, pp. 102–110, 2022.
- [24] A. Nouri, R. Hassan, and S. Karim, "Factors affecting the online purchase intention among Iraqi consumers," *Journal of Retailing and Consumer Services*, vol. 68, pp. 102–110, 2022.

- [25] S. H. K. Hamza and J. M. Issa, "Measuring the online shopping trends and their effects on consumer buying habits in Iraqi Kurdistan during the COVID-19 pandemic," *Qalaai Zanist Scientific Journal*, vol. 8, no. 1, pp. 1176–1202, 2023.
- [26] P. Cuesta-Valiño, "The role of AI as an unconventional salesperson in online retail," *Journal of Retailing and Consumer Services*, vol. 68, pp. 102–110, 2025.
- [27] A. Z. A. Shiddieqy and T. Widarmanti, "The influence of artificial intelligence in digital marketing on Generation Z consumer decision making," *Eduvest—Journal of Universal Studies*, vol. 5, no. 9, pp. 10701–10718, 2025.
- [28] S. Abd-El Fattah Hammad, "The moderating effect of artificial intelligence marketing activities on the relationship between brand activism and repurchase intentions applied on e-retail stores in Egypt," *The Scientific Journal of Business and Environmental Studies*, vol. 15, no. 3, pp. 1453–1506, 2024.
- [29] A. Veshesht, H. Mohammadi, and B. Zarei, "The role of AI-based recommendation systems in enhancing customer engagement and satisfaction," *Journal of Digital Marketing Studies*, vol. 12, no. 3, pp. 210–230, 2025.
- [30] M. Hosseini, A. Rahimi, and A. Shafie, "Influence of social media and user reviews on online purchase decisions," *International Journal of E-Commerce Research*, vol. 17, no. 4, pp. 112–130, 2021.
- [31] F. Salim, H. Bayachi, and J. Kim, "The effect of online reviews on brand trust and consumer purchasing behavior," *Journal of Internet Commerce*, vol. 24, no. 2, pp. 145–167, 2025.
- [32] L. Pietro and K. Mortens, "AI in electronic payment systems: Security and transparency enhancements," *Computers in Human Behavior*, vol. 35, pp. 12–23, 2014.
- [33] N. Rawah, S. Al-Mahdi, and H. Zain, "Artificial intelligence applications in e-payment systems: A review," *Journal of Financial Technology*, vol. 9, no. 1, pp. 55–78, 2023.
- [34] R. Patel and R. Surur, "Observability, congruity, and AI-generated content in sports marketing," *Journal of Marketing Analytics*, vol. 2, no. 3, pp. 101–115, 2014.
- [35] Y. Li and H. Liu, "Sensory online shopping experiences: AI and machine learning applications," *Electronic Commerce Research and Applications*, vol. 13, no. 5, pp. 300–310, 2014.
- [36] C. Vazquez, L. Rodriguez, and M. Perez, "Evaluating consumer behavior using AI tools," *Journal of Consumer Research*, vol. 40, no. 6, pp. 987–1005, 2013.
- [37] J. Cacioppo and R. Sepci, "Consumer responses to new stimuli: AI applications in marketing," *Journal of Interactive Marketing*, vol. 28, no. 2, pp. 75–88, 2014.
- [38] S. Rani, "AI in virtual assistants, image and voice recognition for consumer analytics," *International Journal of AI Research*, vol. 14, no. 2, pp. 55–72, 2020.
- [39] T. Hamza and R. Issa, "Online shopping adoption among youth and digital entrepreneurship trends," *Journal of Electronic Commerce in Organizations*, vol. 21, no. 1, pp. 1–22, 2023.
- [40] R. Olan, J. Smith, and K. Lee, "The impact of artificial intelligence on consumer attitudes and behavior," *Journal of Consumer Research*, vol. 48, no. 3, pp. 456–472, 2021.
- [41] S. Mousavi and H. Sepeli, "Artificial intelligence in consumer behavior research: Challenges and opportunities," *International Journal of Marketing Studies*, vol. 14, no. 2, pp. 34–52, 2022.
- [42] R. Garkoochi, L. Ahmed, and Y. Zhou, "Development of an intelligent operating system to monitor consumer behavioral responses," *Journal of Retailing and Consumer Services*, vol. 62, Art. no. 102621, 2021.