

# Enhancing Customer Engagement and Sales through AI-Driven Personalization in Iran's Fashion Industry: A Case Study of Modiseh

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Date Received: 05-03-2025; Date Revised: 13-04-2025; Date Accepted: 03-05-2025

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## Abstract

The rapid advancement of Artificial Intelligence (AI) has transformed global e-commerce, with AI-driven personalization emerging as a pivotal strategy for enhancing customer experience and boosting sales performance. This study investigates the implementation and impact of AI personalization in Iran's online fashion industry through a case study of Modiseh, one of the country's leading e-commerce platforms. Utilizing a qualitative research approach, data were collected through semi-structured interviews, content analysis of the platform, and internal performance metrics. The findings reveal that AI-enabled recommendation systems and real-time personalization significantly improved user engagement, conversion rates, and average order values. Moreover, the integration of AI fostered internal operational efficiencies and cross-functional collaboration within the firm. Despite these benefits, the study identifies ongoing challenges such as algorithmic bias, data quality issues, and user concerns over privacy. By contextualizing AI adoption within Iran's socio-cultural and regulatory environment, this research offers practical implications for local retailers and contributes to the broader discourse on digital transformation in emerging markets.

Keywords: Artificial Intelligence, Personalization, Customer Engagement, Fashion E-commerce, Digital Transformation, Recommendation Systems, Consumer Behavior

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## Introduction

The proliferation of digital technologies has profoundly transformed the global fashion industry, giving rise to new paradigms in customer engagement, product recommendation, and personalized marketing strategies (Chandra et al., 2022). Artificial Intelligence (AI), in particular, has emerged as a disruptive enabler in reshaping consumer experiences through advanced data analytics, behavior prediction, and content customization. In the context of developing markets such as Iran, the adoption of AI in e-commerce platforms is still in its nascent stage but growing rapidly. Iran's fashion industry, characterized by a young population and increasing internet penetration, presents a fertile ground for AI-driven transformation, especially in enhancing customer satisfaction and optimizing sales funnels (Rane et al., 2024).

Modiseh, one of Iran's leading online fashion retailers, has become a case exemplar of how data-driven strategies can be utilized to gain competitive advantage. With a growing user base and a diversified product portfolio, Modiseh is well-positioned to leverage AI for tailoring user experiences and driving engagement metrics. Personalization in digital commerce involves analyzing customer data to recommend products, predict needs, and deliver tailored communication. AI technologies such as machine learning, natural language processing, and recommendation engines are central to delivering these personalized experiences (Chiu et al., 2021).

However, implementing AI personalization in the Iranian market entails specific challenges, including data privacy concerns, infrastructural constraints, and cultural nuances in fashion

preferences (Karam et al., 2025). These factors necessitate a context-sensitive analysis to assess AI's impact on user engagement and purchasing behavior. The fashion sector in Iran is highly sensitive to social norms, governmental regulations, and cultural codes, which influence both consumer behavior and marketing practices. Therefore, any attempt to apply AI personalization must account for these socio-political dynamics alongside technological capabilities (Saifeddine & Abdellatif Chakor, 2024).

Despite the increasing academic attention to AI in retail, empirical studies focusing on non-Western, emerging markets remain limited. Iran, due to its unique regulatory and cultural environment, is underrepresented in the global discourse on AI and fashion retailing. This research aims to bridge this gap by examining how Modiseh applies AI-driven personalization tools to enhance customer engagement and improve sales performance. The case study approach offers an in-depth understanding of both technological implementation and strategic alignment with consumer expectations.

The findings are expected to offer practical insights for Iranian and regional e-commerce platforms looking to adopt AI solutions in a culturally attuned and economically viable manner. They also contribute to theoretical discussions on the role of AI in customer relationship management and digital transformation. The rest of the paper is structured as follows: Section 2 reviews the relevant literature on AI personalization in retail, Section 3 outlines the methodology, Section 4 presents the results of the case study, followed by discussion and policy implications in Section 5, and finally, conclusions and recommendations are provided in Section 6..

## Literature Review

The integration of Artificial Intelligence (AI) in retail has evolved into a transformative force that reshapes customer interaction, sales forecasting, and supply chain responsiveness. AI applications in retail range from chatbots and visual search tools to dynamic pricing and personalized recommendations (Patil, 2024). The value proposition of AI lies in its ability to learn from large-scale data, adapt in real time, and provide predictive insights that inform both strategic and operational decisions (Aldoseri et al., 2024).

Among AI technologies, personalization is one of the most critical in the context of e-commerce. Personalization involves adapting content, recommendations, and communication based on users' historical behavior, demographics, and preferences (Vashishth et al., 2024). AI-driven personalization improves customer satisfaction by reducing search effort, enhancing product relevance, and increasing the perceived value of online shopping (Tzavlopoulos et al., 2019).

Recommendation systems are foundational tools in AI personalization. Collaborative filtering, content-based filtering, and hybrid approaches have been extensively used to generate tailored product suggestions (Afoudi et al., 2021). The shift toward context-aware and deep learning-based recommender systems further enhances the capacity to model complex user behaviors and anticipate needs (Mateos & Bellogín, 2025).

Scholars have argued that AI personalization positively influences key performance indicators such as click-through rate (CTR), average order value (AOV), and customer lifetime value (CLV) (Balcioglu, 2025). For example, Sahne and Daronkola (2025) found that AI-enhanced customer

engagement significantly boosts repeat purchases and brand loyalty, especially in fashion retail, where product discovery plays a vital role in user satisfaction (Khamoushi Sahne & Kalantari Daronkola, 2025).

The technology acceptance of AI systems has been widely studied using models such as the Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT). Factors such as perceived usefulness, ease of use, trust, and perceived risk significantly influence user acceptance of AI personalization (Lim & Zhang, 2022). In culturally conservative societies, trust and transparency become even more critical.

Cultural dimensions influence consumer attitudes toward personalization and AI. For example, Shin et. al (2022)'s cultural theory suggests that societies with high uncertainty avoidance may be more skeptical of algorithmic decision-making and intrusive personalization (Shin et al., 2022). In the Iranian context, values such as collectivism, religiosity, and respect for social norms affect how consumers perceive digital fashion platforms and personalized content.

Research on digital transformation in emerging economies has highlighted barriers such as weak digital infrastructure, limited institutional support, and low consumer digital literacy (Neumeyer et al., 2020). Nonetheless, emerging markets present immense growth potential, especially as mobile penetration and e-commerce adoption accelerate. Iran's unique regulatory and socio-political environment calls for localized adaptation of global AI models.

There is a growing body of work examining AI personalization in the fashion sector specifically. Fashion e-commerce is highly visual and trend-sensitive, requiring personalization engines to integrate visual search, style-based filters, and fashion forecasting tools (Mameli et al., 2021). Visual AI technologies, including convolutional neural networks, help match customer preferences with the latest design trends.

Industry case studies from Amazon, Zalando, and ASOS illustrate that AI personalization leads to improved targeting, reduced churn, and more effective promotional strategies (Mohapatra et al., 2025). These cases highlight the importance of iterative A/B testing, customer feedback loops, and continuous algorithmic optimization to maintain personalization accuracy over time.

However, AI personalization is not without challenges. Algorithmic bias, cold-start problems, data sparsity, and privacy concerns are persistent issues in both academic research and commercial practice (Pramanik et al., 2021). These concerns are magnified in markets like Iran, where consumer trust in data handling is fragile, and legal protections are still developing.

Some recent studies have examined the role of AI in Middle Eastern retail. For instance, Massoudi et al. (2024) found that AI-driven personalization in Jordan's e-commerce sector enhanced consumer satisfaction but was limited by infrastructure and trust barriers. While not specific to fashion, these findings are instructive for understanding the dynamics in Iran's digital commerce ecosystem (Massoudi et al., 2024).

Overall, existing literature supports the hypothesis that AI personalization can significantly enhance customer experience and commercial outcomes in online retail. However, there remains a paucity of empirical evidence from the Iranian context. This study addresses that gap by exploring how Modiseh

a key actor in Iran's fashion e-commerce uses AI to deliver personalized customer experiences and drive sales performance.

## **Methodology**

This study adopts a qualitative case study methodology to explore the role of AI-driven personalization in enhancing customer engagement and sales at Modiseh. A case study is particularly suited for in-depth exploration of contemporary phenomena within real-life contexts, especially when the boundaries between the phenomenon and context are not clearly evident (Greenhalgh & Manzano, 2022). The rationale for selecting Modiseh as the case organization lies in its prominence in Iran's online fashion retail sector and its reported adoption of AI technologies to drive customer personalization. As one of the few Iranian e-commerce platforms that invest in digital innovation, Modiseh provides a valuable setting for examining how AI applications are operationalized in a culturally specific market.

Data collection for the case study was conducted through three complementary sources: (i) semi-structured interviews with Modiseh's management and technology team, (ii) content analysis of the company's digital platform, and (iii) secondary data from industry reports, company publications, and academic literature on e-commerce in Iran. A total of 10 interviews were conducted between January and March 2025. Participants included senior marketing managers, data scientists, IT specialists, and product development staff. Each interview lasted between 45 and 60 minutes and was recorded with participant consent. The interviews focused on the development, implementation, and evaluation of AI personalization strategies.

The content analysis focused on Modiseh's website and mobile application, with particular attention to recommendation systems, personalized advertising, user interface features, and data collection mechanisms. Screenshots, user journey mapping, and A/B testing features were reviewed to understand how personalization is embedded in the customer experience. Thematic analysis was used to code and analyze the interview transcripts and digital content. Using NVivo 14 software, the data were coded into major themes such as AI implementation challenges, user response to personalization, impact on engagement metrics, and strategic value to the firm. Triangulation of data sources ensured greater reliability and internal validity of the findings.

To assess customer engagement and sales performance, anonymized performance data provided by Modiseh's analytics team were reviewed. Metrics such as click-through rate (CTR), time on site, average order value (AOV), and conversion rates before and after the implementation of AI tools were analyzed to understand measurable impacts.

Ethical considerations were strictly adhered to during the study. Informed consent was obtained from all interview participants, and company data were anonymized and used with explicit permission. The research complies with GDPR principles and local ethical regulations in Iran.

The methodology is limited by its single-case design, which restricts the generalizability of findings. However, the depth of analysis offers valuable insights into the intersection of AI, personalization, and customer behavior in an emerging market. Future research may consider cross-case comparisons to validate and expand on these findings. Overall, this methodological approach enables a holistic

understanding of how AI-driven personalization operates in practice within Modiseh, illuminating the strategic and operational dynamics that shape its contribution to customer engagement and commercial outcomes.

## Results

The findings indicate that Modiseh has adopted a multi-layered AI-driven personalization strategy, integrating machine learning algorithms into its product recommendation engine, homepage content, and email marketing systems. The AI system uses data from browsing history, purchase patterns, search behavior, and user feedback to provide tailored suggestions in real time.

AI integration has significantly altered the platform's user interface. Personalized carousels now display “Recommended for You” and “Recently Viewed Items” sections on the homepage. Furthermore, search results are dynamically adjusted based on users' past preferences, increasing relevance and reducing the time spent searching for products.

Data from Modiseh’s analytics team show a notable improvement in customer engagement metrics following the implementation of AI tools. The average time spent on the platform increased from 5.6 to 8.2 minutes per session. The click-through rate (CTR) for personalized recommendations improved by 31%, and the bounce rate dropped by 18%.

AI-driven personalization has positively impacted sales outcomes. The average order value (AOV) increased by 12%, and the overall conversion rate improved from 2.7% to 4.1% over a 6-month period. Notably, returning customers who engaged with personalized content showed a 25% higher likelihood of repeat purchases compared to those who did not.

Interviews with the marketing team and customer support staff suggest a growing customer preference for personalized experiences. Survey data collected internally by Modiseh showed that 74% of respondents “agreed” or “strongly agreed” that personalized product suggestions improved their shopping experience. However, a small segment expressed concern about privacy and data usage.

AI also contributed to internal process efficiencies. Modiseh’s customer segmentation and inventory planning have been partially automated using predictive analytics, leading to better demand forecasting and reduced stockouts. The marketing team reported that AI-driven content automation reduced manual workload by approximately 40%.

Despite the positive outcomes, challenges remain. Interviewees pointed to issues such as insufficient historical data, algorithmic bias, and occasional mismatches in product recommendations. Furthermore, cultural nuances and changing consumer tastes require constant model retraining and content monitoring to maintain relevance.

AI personalization has become a core component of Modiseh’s digital strategy. Management emphasized that the investment in AI is not merely technical but part of a broader transformation toward data-driven decision-making. Cross-functional collaboration between IT, marketing, and analytics teams has strengthened as a result.

When compared with local competitors, Modiseh appears to be a front-runner in leveraging AI personalization. While other platforms rely on rule-based filtering or manual segmentation, Modiseh's use of real-time AI models allows for more dynamic and accurate targeting, giving it a strategic advantage in Iran's competitive online fashion market.

The company has implemented transparency measures, such as cookie notices and preference settings, to build user trust. Nonetheless, interviewees acknowledged that user education and clearer communication about how data is used remain areas for improvement in ensuring ethical AI deployment.

## **Discussion**

The findings underscore the strategic importance of AI-driven personalization in enhancing customer engagement and driving sales, particularly in emerging markets like Iran. Modiseh's success demonstrates that, even within constrained regulatory and infrastructural contexts, AI can serve as a catalyst for digital innovation and competitive differentiation. The improved engagement metrics and user satisfaction suggest that personalization, when thoughtfully executed, significantly enriches the customer journey. Modiseh's case illustrates how real-time content adjustments and personalized product recommendations contribute to deeper customer involvement, greater time spent on-site, and higher conversion rates.

The impact of AI personalization is mediated by cultural and behavioral norms. In Iran, where fashion choices are influenced by social and religious norms, the effectiveness of AI recommendations depends heavily on how well the algorithms are trained to reflect these contextual sensitivities. Misalignment can lead to customer disengagement or reputational risk. The successful implementation of AI personalization at Modiseh required more than technological investment—it necessitated a reconfiguration of internal workflows and cross-functional collaboration. The alignment of IT, data science, marketing, and customer service illustrates that AI must be integrated into organizational culture and not treated as a standalone innovation.

Building user trust remains a significant challenge. While personalized experiences are valued, users are increasingly aware of data privacy issues. Modiseh's efforts to implement cookie disclosures and preference settings are commendable, but more proactive measures—such as explainable AI and user control dashboards—could further enhance transparency and user empowerment. As with many AI applications, the presence of algorithmic bias and data quality issues presents an ongoing risk. Modiseh's internal recognition of mismatched recommendations highlights the necessity of continuous model training and human oversight. These risks are amplified in culturally complex markets, where nuances cannot always be captured through data alone.

Compared to other local fashion retailers, Modiseh's early and comprehensive adoption of AI gives it a competitive edge. However, this advantage may not be sustainable unless the platform continues to invest in model refinement, innovation in personalization techniques, and customer data protection practices. The results of this case study have several implications for practitioners. Retailers should adopt a holistic approach to AI personalization that includes customer data management, UI/UX design, and content strategy. From a policy standpoint, regulatory frameworks in Iran should evolve to provide clearer guidelines on AI ethics, data usage, and consumer rights in digital environments.

This study contributes to the academic discourse on AI in retail by introducing empirical evidence from a non-Western context, thus expanding the geographic and cultural scope of existing literature. It also reinforces the view that personalization effectiveness is not solely a function of technology, but also of strategic alignment, organizational readiness, and socio-cultural adaptation. Given the limitations of a single-case design, future research could adopt a comparative multi-case approach, examining AI personalization across different sectors or countries in the region. Quantitative studies using customer survey data or experiments could further validate the behavioral and psychological mechanisms behind personalization success in Middle Eastern e-commerce.

## **Conclusion**

This study examined the application of AI-driven personalization at Modiseh, a leading Iranian fashion e-commerce platform, and its impact on customer engagement and sales. The results confirm that the strategic deployment of AI technologies, especially recommendation systems and predictive analytics, significantly enhances user interaction and commercial performance. Modiseh's implementation of personalized interfaces, targeted marketing, and real-time product recommendations resulted in measurable improvements in user engagement, including longer session durations, higher click-through rates, and increased conversion. These outcomes highlight the business value of AI in refining digital customer experiences.

The case also emphasizes that successful personalization extends beyond algorithmic efficiency. Organizational readiness, cross-departmental integration, and cultural attunement play a vital role in realizing the potential of AI tools. Modiseh's experience illustrates how these factors coalesce to support a transformative digital strategy. Ethical considerations remain central to the implementation of AI personalization. While customers appreciated the relevance and convenience of tailored recommendations, concerns over data usage and algorithmic transparency point to a need for more robust governance frameworks and communication strategies.

The unique socio-cultural and regulatory environment of Iran introduces specific challenges to AI adoption that are often overlooked in global studies. This research contributes to filling that gap by offering context-sensitive insights into how AI can be effectively localized to serve diverse consumer bases. Furthermore, the findings support the argument that personalization in e-commerce is not a one-size-fits-all solution. Cultural factors, user expectations, and regional norms shape how consumers interact with technology, thereby requiring companies to continuously adapt and refine their AI models.

From a managerial perspective, this case study provides evidence-based guidance for digital retailers seeking to leverage AI in customer engagement. It suggests that personalization should be embedded as a strategic pillar rather than a peripheral feature, backed by investment in analytics infrastructure and talent development. Policymakers should take note of the growing influence of AI in consumer markets and consider developing guidelines to ensure responsible data practices, algorithmic fairness, and consumer protection in digital platforms, especially within transitional economies.

As AI technology continues to evolve, its potential to drive hyper-personalized commerce in Iran and similar markets is likely to expand. Companies that prioritize ethical, strategic, and culturally aligned applications of AI will be best positioned to succeed in this competitive landscape. In conclusion, the Modiseh case affirms that AI-driven personalization is not merely a technological

advancement but a paradigm shift in customer engagement strategy. Its thoughtful implementation can lead to a more meaningful, efficient, and mutually beneficial interaction between businesses and their consumers.

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