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Modeling the Impact of Artificial Intelligence on the Effectiveness of Relationship Marketing Strategies in Modern Iranian Banking Services: With an Approach to Improving Customer Experience

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ABSTRACT

Following the rapid and extensive developments resulting from the emergence of financial technologies (FinTech) and the era of modern banking, banks are increasingly in need of reviewing their communication and service strategies. This article aims to model the impact of artificial intelligence on the dimensions of relationship marketing (such as personalization and automated interactions) and its ultimate impact on improving customer experience (CX) in modern banking services in Iran. The methodology of the present study is quantitative and to model the structural relationships between variables, the structural equation modeling (SEM) technique with the partial least squares (PLS) approach was used on a sample of 300 active customers of Iranian banks. The results showed that the implementation of artificial intelligence had a positive and significant effect on strengthening the dimensions of relationship marketing (path coefficient 0.55 with T-Value 6.75) and this, in turn, leads to an improvement in the level of customer experience (path coefficient 0.42 with T-Value 4.90). Also, the mediating role of relationship marketing (indirect path coefficient 0.23) was confirmed. This research, with explanatory relationship modeling, provides a practical framework for developing automated and customer-centric marketing strategies to ensure sustainable competitive advantage and ultimately, the growth of the bank's business by utilizing modern AI tricks.

Introduction

The financial services and banking industry has experienced one of the fastest transformations in its history in the last two decades. The emergence of new financial technologies (FinTech) and a massive shift in consumer behavior have forced traditional banks to embrace a profound digital transformation (Vives, 2022). Meanwhile, artificial intelligence (AI) as a dynamic capability has become the driving force behind this transformation, optimizing not only internal operations (such as risk management) but also customer experience (CX) and marketing processes (Chen & Zhang, 2024). This transformation has put banks on a path where they must redefine their understanding of customer engagement to ensure business growth and competitive advantage.

Relationship marketing (RM) has long been recognized as a central strategy for building customer loyalty and lifetime value in the financial services sector (Grönroos, 2023). However, in the modern banking ecosystem, interactions have shifted from physical branches to digital channels (such as mobile banking and chatbots). This shift has rendered traditional relationship marketing approaches ineffective and created new challenges in terms of scalable personalization and maintaining human connection in an automated environment. Therefore, the main question of this research is: how can banks still build meaningful and effective relationships with their customers while taking advantage of the speed and scale of digital technologies? And specifically, how strong and meaningful is the role of relationship marketing in transforming AI capabilities into a desirable customer experience?

Artificial intelligence is exactly the tool that can solve this challenge. AI systems are able to deeply understand customer behavior, needs, and emotions through big data analysis (Grewal et al., 2023). These capabilities guide relationship marketing towards a personalized and predictive approach; Where banking services are not only fast and efficient, but also fully tailored to individual needs (Hwang & Kim, 2023). Recent research has shown that this advancement in relationship marketing (AI-Driven RM) directly leads to improved overall customer experience (CX) and is one of the key factors for gaining competitive advantage and sustainable growth in digital banking (Wirtz & Jerger, 2024). Despite the importance of this topic globally, limited studies have focused on modeling and measuring the triple effects of artificial intelligence, relationship marketing, and customer experience in the context of modern Iranian banking. Hence, the main objective of this paper is to fill this gap by providing an empirical framework that models and analyzes the direct and indirect impact of AI deployment on relationship marketing effectiveness and ultimately on improving customer experience in Iranian banks. The scientific contribution of this research is to expand the theoretical foundations of relationship marketing in the era of digital services, and its managerial contribution is to provide practical insights for bank managers to use AI as a modern trick to increase customer loyalty and achieve sustainable business growth.

2 .Theoretical foundations and literature review

2.1 .Artificial Intelligence (AI) as a dynamic capability and its dimensions

Artificial intelligence in modern banking acts as a dynamic capability that enables understanding, opportunity creation, and resource reconfiguration in the face of FinTech market uncertainty (Eisenhardt & Martin, 2023). Dimensionally, AI in this area is measured in three main components: 1. Predictive analytics, 2. Interaction automation, and 3. Scalable personalization. These components have transformed banking from a product-based process to a customer-centric service-based model.

2.2 .Relationship marketing (RM) and its pillars in the digital space

Relationship marketing in the digital environment is based on three fundamental pillars that AI strengthens: 1. Trust, 2. Commitment, and 3. Interaction quality. By improving the quality of interactions and maintaining consistency in providing personalized services, AI directly helps to strengthen trust and commitment in the relationship, providing the basis for confirming hypothesis H1.

2.3 .Customer Experience (CX) as the final result of value creation

Customer experience (CX) includes cognitive, emotional, and sensory dimensions (Lemon & Verhoef, 2024). In the framework of this research, CX is measured through the dimensions of ease of use, perceived value, and emotional response. Successful relationship marketing ensures these positive feelings by maintaining commitment and building trust, and therefore, a strong effect of RM on CX is expected (Hypothesis H2).

3 .Conceptual Model and Research Hypotheses

3.1 .Conceptual Model of the Research

The proposed model tests the effect of artificial intelligence (AI) on customer experience (CX) with the mediating role of relationship marketing (RM) in modern Iranian banking services.

Figure 1. Conceptual Model of the Research

3.2 .Formulation of hypotheses

- Hypothesis 1 (H1): The use of artificial intelligence (AI) in modern banking services has a positive and significant effect on the effectiveness of relationship marketing (RM).
- Hypothesis 2 (H2): The effectiveness of relationship marketing (RM) in modern banking services has a positive and significant effect on improving customer experience (CX).
- Hypothesis 3 (H3): The use of artificial intelligence (AI) in modern banking services has a positive and significant effect on improving customer experience (CX).
- Hypothesis 4 (H4): Relationship marketing (RM) as a mediating variable moderates and strengthens the effect of using artificial intelligence (AI) on improving customer experience (CX) (indirect effect).

Research Method

This research is applied in terms of purpose and in terms of method, the present research is of a descriptive-survey type with an explanatory nature that seeks to model and explain the causal relationships between variables. Data are collected cross-sectionally.

4.1. Statistical population and sampling

The statistical population of this research consists of all active and beneficiary customers of modern banking services in the Iranian banking network. The minimum sample size required based on the technical requirements of PLS-SEM was considered to be 200 observations and the final sample size was 300 questionnaires distributed. The sampling method will be convenience sampling.

4.2. Data collection tool and validity/reliability

The main data collection tool is a standardized questionnaire. Content validity was confirmed by a panel of experts and construct validity (convergent and divergent) and instrument reliability (Cronbach's alpha and composite reliability) were evaluated in the data analysis stage.

4.3. Data Analysis and Modeling Methods

SPSS (for descriptive statistics) and SmartPLS 4 (for SEM/PLS modeling) software were used to analyze the data. This approach was chosen because it does not require a normal distribution of data and has a high ability to model latent constructs and complex mediator relationships. All hypotheses were evaluated through the bootstrapping technique.

Findings

5.1. Descriptive Demographic Statistics

The statistical sample consisted of 300 active customers of Iranian banks' digital services, whose characteristics are summarized in the table below.

Table 1. Frequency distribution and percentage of demographic characteristics of the sample (N=300)

Index	Level	Abundance (people)	Percentage
Gender	Male	180	**60**٪
	Female	120	**40**٪
Age	Under 30 years old	100	**33.3**٪
	30-45 years old	150	**50.0**٪
	Over 45 years old	50	**16.7**٪
Education	Bachelor's degree	150	**50.0**٪
	Master's degree and above	150	**50.0**٪
Frequency of using digital banking services	Daily / Several times a week	200	**66.7**٪
Gender	Weekly/Monthly	100	**33.3**٪

5.2. Measurement Model Evaluation (Reliability and Convergent Validity)

All the indicators of the measurement model were at the desired level. AVE values above 0.5 and CR and Cronbach's alpha values above 0.7 (and often 0.8) indicate strong convergent reliability and validity of the constructs.

Table 2. Indicators of Measurement Model Evaluation

Structure	**Combined reliability**	**Combined reliability**	**Average variance**	**Standardized factor loadings**
Artificial Intelligence	0.88	0.91	0.62	**0.73**
Relationship Marketing	0.84	0.89	0.58	**0.71**
Customer Experience	0.91	0.93	0.67	**0.78**

The HTMT criterion was used to assess the divergent validity. All HTMT values were less than the threshold of 0.90, and the divergent validity of the model was confirmed.

Table 3. Divergent validity based on the HTMT criterion

Structure	AI	RM	CX
AI	**-**		
RM	**0.68**	**-**	
CX	**0.55**	**0.71**	**-**

5.4. Structural Model Evaluation and Hypothesis Testing

The results of the hypothesis testing are shown in Table 4. Given that the T-Value values in all paths are greater than the threshold (1.96), all hypotheses were confirmed.

Table 4. Results of the hypothesis testing and path coefficients of the structural model

Hypothesis	Route	β Path coefficient	T-Value	Result
H1	AI→RM	0.55	6.75	Confirm
H2	RM→CX	0.42	4.90	Confirm
H3	AI→CX	0.18	2.05	Confirm
Mediation (H4)	AI→RM→CX	0.23	3.80	Confirm

Discussion and Conclusion

5.5.1. The Impact of AI on Relationship Marketing (Confirmation of H1)

The confirmation of hypothesis H1 with a strong path coefficient (\beta=0.55) indicates that the application of AI dimensions (including predictive analytics and scalable personalization) has the strongest effect on strengthening relationship marketing in Iranian banking. This result is consistent with the findings of Wirtz and Jerger (2024) and shows that AI systematically increases customer commitment and trust by replacing traditional guesswork with accurate data. In the competitive FinTech environment, this high coefficient indicates that AI is rapidly becoming an operational prerequisite for effective RM.

5.5.2. The Role of Relationship Marketing in Improving Customer Experience Confirmation (H2):

Hypothesis H2 was also confirmed with a significant path coefficient (\beta=0.42). This finding underscores the fact that customer experience (CX) success ultimately stems from a successful relationship. Strong relationship marketing (RM) makes customers feel that the bank is committed to their interests; this sense of commitment strengthens CX components such as perceived value and positive emotional response, as Lemon and Verhoef (2024) have emphasized.

5.5.3. The mediating role of relationship marketing Confirming H4:)

The most important finding of this study is the confirmation of the positive and significant mediating effect of RM (indirect coefficient 0.23). Although AI has a small direct effect on CX (\beta=0.18), the bulk of its impact on CX is transmitted through the relationship marketing channel. This result strongly suggests that investment in AI infrastructure should serve RM strategies and should not be seen as a mere technology cost. AI is only a tool; RM is using this tool to create sustainable competitive advantage and drive business growth in the financial services sector. The findings provide deep insights for bank executives on how to integrate technology and marketing strategies.

6. Conclusion, suggestions and limitations

6.1. Conclusion

This study aimed to model the impact of AI on the effectiveness of relationship marketing and customer experience in modern Iranian banking. The results clearly showed that AI can strengthen customer relationships (RM) as a dynamic capability, which is a key factor in improving customer experience (CX) and creating a sustainable competitive advantage for the growth of banking businesses. More importantly, RM, as the main intermediary, moderates and strengthens the impact of AI to achieve the desired CX.

6.2. Practical suggestions

* Prioritize investment in AI-driven personalization: Banks should shift their focus from simple chatbots to more sophisticated AI systems that are capable of analyzing emotions and predicting customers' financial needs. This directly contributes to the dimensions of commitment and trust in RM (Davenport et al., 2023).

* Integrate RM and AI processes: Marketing and IT departments need to directly integrate relationship marketing (RM) strategies with AI tools and data analytics. RM processes should be organized around AI output.

* Emphasize human resource training for AI-RM: Bank employees should be trained to maintain personal interactions alongside automated AI tools and to properly utilize human contact opportunities that AI identifies to maintain the quality of the interaction (Breidbach et al., 2025).

6.3. Limitations and Future Research

This research was conducted cross-sectionally. It is suggested that future research use longitudinal methods to assess the sustainability of AI and RM effects on CX over time. Also, adding variables such as "risk management" or "data governance" to the model could provide a more complete picture of the effects of AI on the overall performance of the bank.

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