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ACADEMIC PAPER

AI-Driven Banking: Advertising, Brand Loyalty, Trust and Customer Experience

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ABSTRACT

Artificial Intelligence (AI) has transformed advertising by allowing brands to interact with customers on a real-time personalised basis. It enables real-time data-driven targeting and automated decision making. In the Pakistan banking industry, AI-driven advertising's impact on brand loyalty, as well as the mediation of customer experience and the moderation of trust in AI, were studied in this study. Drawing from the Stimulus-Organism-Response (SOR) model and the Technology Acceptance Model (TAM), the study examines how the introduction of AI technology triggers consumer behavior through an emotional and cognitive lens. A structured questionnaire having pre-standardized scales has been employed for quantitative study. The study collected data from 350 consumers who regularly use AI-based banking services. Statistical analyses of regression, mediation, and moderation were performed to study the interrelations of the variables. The findings diverge from much of the existing literature that supports AI's personalization capabilities as a driver of loyalty. Possible explanations include cognitive dissonance when expectations from AI ads are unmet, lack of emotional resonance, consumer resistance due to privacy concerns, and the multi-dimensional nature of brand loyalty. These results suggest that while AI may create initial engagement, it lacks the depth required to foster lasting loyalty, especially when perceived as impersonal or misaligned with consumer expectations. The study confirmed that trust in AI significantly moderates the relationship between AI advertising and customer experience; however, the moderation effect was negative, meaning higher trust reduced the positive effect of AI on experience. This contradiction can be explained through expectation-disconfirmation theory, where consumers with low trust are more easily impressed, while high-trust consumers face disappointment if AI performance doesn't meet their elevated expectations.

KEYWORDS

Artificial Intelligence, Advertising, Brand Loyalty, Trust in AI and Customer Experience, AI-driven Banking.

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INTRODUCTION

Since artificial intelligence (AI) technology has advanced so quickly in recent years, we have seen its applications spread across a wide range of fields, drastically altering sectors including media, advertising, e-commerce, education, and many more. The emergence and development of AI have established technological groundwork for intelligent advertising operations. In particular, AI is being used more and more in the creation of content, advertising targeting, personalization, and ad optimization. AI technology improves the effectiveness of advertisement information processing and decision-making by analyzing customer behavior and providing insightful information that helps advertisers create more successful marketing strategies. Numerous machine learning techniques can be used to improve targeted online marketing in the field of advertising targeting, particularly in optimizing the scope of the target audience and greatly enhancing the capacity to segment target users. It is also widely acknowledged that brand loyalty is crucial in the business sector. One of the most important concepts in the majority of conceptualizations of consumer brand equity is brand loyalty.

Trust in AI has emerged as a crucial factor influencing consumer attitudes toward AI-driven advertising. Consumers' willingness to accept and engage with AI-based solutions depends significantly on their perceived trustworthiness of the technology. Similarly, customer experience plays a pivotal role in shaping brand loyalty, as positive interactions with AI-powered tools can lead to greater satisfaction and emotional attachment to a brand. Consequently, understanding how trust in AI and customer experience interact to influence brand loyalty is essential for businesses aiming to leverage AI technologies effectively. Artificial intelligence advancements have transformed how organizations engage with consumers, particularly in advertising and marketing. Currently, technologies such machine learning, predictive analytics, natural language processing, and recommendation systems are employed to create personalized advertisements tailored to individual consumer interests (Bae & Kim, 2023). These skills help advertisements work better and improve the experience for all clients.

Loyalty and customer feedback stands at the new forefront in the world where we're living in today. This helps keep customers loyal to you while reducing the cost of acquiring new customers. Prior studies determine that loyalty can be maintained through personalized interactions and artificial intelligence, along with qualitative factors like product quality, pricing and service. Although AI used in advertising can cause certain elements which can enhance or reduce customer trust in a company, depending on its implementation and public perception (Shin, 2021). Consumer experience and AI control made a difference in whether people chose a brand or firm, or not. When consumers doubt the algorithm's transparency or are highly biased in favor of the business, the consumer may be skeptical of the business although AI makes it easier to target and interact. It is important to understand the linkage between AI, marketing, and consumer behaviors to be successful. According to prior literature, AI is not a special technology tool anymore. It has become a key element of marketing strategies. The world players are increasingly investing in technologies that enable automation and personalization based on data. The rapid adoption of these technologies is reshaping corporate marketing tactics as well as consumer-brand interactions across the marketing ecosystem.

Whereas AI offers unmatched capability for hyper-personalizing advertising and enhancing consumer engagement, there is a knowledge shortage on the efficacy of AI based advertising on brand loyalty moderated by trust in AI (Rapp, Curti, & Boldi, 2021). AI based technologies such as predictive analytics, machine learning, and natural language processing allow brands to offer hyper-personalized content, become more relevant, and perhaps contribute to consumer retention. As per survey findings by Rahman et al. (2023), 72% of consumers are concerned about companies' use of AI in processing personal data, and 60% feel uneasy about AI taking decisions on their behalf when it comes to marketing. The objectives of the research are:

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- To investigate the impact of AI in advertising on brand loyalty.
- To investigate whether the customer experience mediates the relationship between AI in advertising and brand loyalty.
- To investigate whether trust in AI moderates the relationship between AI in Advertising and customer experience.

LITERATURE REVIEW

Underpinning Theories

Stimulus-Organism-Response (S-O-R) Theory SOR, demonstrated by Mehrabian and Russell (1974) suggest that the variables which affect the behavior of humans include stimulus (S) which is the environmental stimuli and would influence the internal emotional and cognitive states (O) of an individual and eventually determines reaction (R). In marketing, internal assessment, which has been prompted by external stimulus (advertisement or computer interface), is a measure such as trust or experience, to which a response (brand commitment or buying desire) will occur. Technology Acceptance Model (TAM) developed by Davis (1989) to explain acceptance of new technologies by users. The TAM mentions that usefulness and ease of use are listed as the two important beliefs that can affect the intention of an individual to use the technology. In the present work, we focus on TAM in that perceptions of AI (e.g., ease of interface, usefulness of advice) and trust in the AI system and overall brand experiences determine the relationship between consumers and AI systems. TAM has garnered broad application to online system, hand-held applications as well as AI applications.

AI in Advertising

The use of algorithmic technology to automate marketing communication and make it specific is known as AI advertising. Examples of such uses include chatbots, programmatic buying of advertisements, natural language processing, sentiment analysis, and recommendation systems. As a theoretical construct, AI can be depicted as an external stimulus (characterized by S-O-R model) that triggers an internal consumer response, especially in the process of generating experience perceptions and emotional involvement (Kumar, Sachan, & Dutta, 2020). In TAM, AI can be understood in terms of perceived ease of use and perceived usefulness. AI technologies that provide accurate, customized content enable customers to make better and faster decisions and hence improve their shopping experience. In advertising, these features become increased engagement, more precise communication, and greater relevance all of which led to richer customer interactions.

Customer Experience

Customer experience serves as a mediating variable between AI in advertising and brand loyalty. It is the sum total of the feelings, perceptions, and satisfaction that customers derive from their engagement with a brand specifically through AI-mediated touchpoints (Malodia et al., 2022). In contrast to transactional satisfaction, which only applies to the momentary case, customer experience covers the whole journey of how customers are engaged, supported, and recognized by the brand. Prior literature found that customer experience fully mediated the relationship between AI-based marketing and brand loyalty. Similarly, prior literature also determine that personalization and engagement served as sequential mediators, with AI systems enhancing experience, which then drove loyalty outcomes. The framework thus positions customer experience as the central route through which AI's influence is channeled toward brand loyalty.

Trust in AI

Although AI provides technical and strategic benefits, consumer adoption rests upon trust a psychological construct that has grown more relevant within digital environments. Trust in AI involves beliefs regarding competence, benevolence, integrity, and transparency. Consumers who trust in AI systems are likely to accept and adopt personalized advertising, while others with low levels of trust might find such advertising intrusive or manipulative. Trust not only influences the consumer's willingness to engage with AI tools but

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also their understanding of the interaction itself. For example, when trust is high, consumers might find personalization to be considerate and helpful; when trust is low, the very same message can be found to be intrusive or algorithmically biased. Evidence from prior studies confirms that trust plays an important role in determining the way AI features are experienced.

Brand Loyalty as the Outcome Variable

Brand loyalty is a customer's affective attachment and conducted allegiance to a brand. Loyalty in the marketing literature is frequently described as the holy grail of customer relationship programs, as it leads to repeated purchasing, word-of-mouth communications, and lower sensitivity to competitive offers (Cheng & Jiang, 2021). In this conceptual framework, brand loyalty is defined as the outcome variable that is the product of a sequence of interactions prompted by AI in advertising and influenced by customer experience.

Hypotheses Development

AI in Advertising and Brand Loyalty

AI-based advertising employs artificial intelligence technology such as machine learning algorithms, natural language processing, predictive analytics, and automated decision-making systems to build marketing messages that are optimized to the behavior, preference, and purchase history of each customer (Pereira, Limberger, & Ardigó, 2021). Organizations can reach customers in a more meaningful, effective, and emotional manner with AI based advertising than conventional adverting strategies. AI's ability to scan massive amounts of data and make predictions about what consumers will desire in real-time revolutionizes how marketers communicate with customers in a significant way. This is why AI in advertising is now a key element in establishing brand laoyalty (Pentina et al., 2023). Many empirical studies examines that AI-driven advertising has a significant positive impact on brand loyalty. In order to examine the relationship between AI-based marketing and brand outcomes, Peltier et al. (2024) conducted a quantitative study involving over 200 participants. The findings demonstrated that AI-driven marketing significantly enhances consumers' brand experiences, which positively impacts brand choice and loyalty. This study's focus on brand experience demonstrated that AI can improve brand-consumer interactions.

Additionally, Nirala, Singh and Purani (2022) investigated the impact of AI integration on customer loyalty in digital marketing platforms. Their structural equation modelling demonstrated a statistically significant direct impact of AI-driven advertising on brand loyalty ($\beta = 0.292$, $p < 0.001$). Misischia, Poecze and Strauss (2022) examined how chatbots driven by AI can help the hotel industry retain customers. According to the study, employing intelligent virtual assistants significantly enhanced customer service by providing clients with prompt, tailored responses to their enquiries. Customers were much happier and more devoted to the business as a result of these real-time interactions. AI improves marketing communications' accuracy and relevancy, thus increasing customer appeal. By facilitating increased personalization, quicker service, and real-time responsiveness, it enhances the overall brand experience and leads to happier, more emotionally connected customers. Empirical research shows that brand loyalty depends on the personalization of customer engagement, an area where artificial intelligence (AI) shines, and is not just a result of seeing the same advertisements or using marketing techniques. Because it accelerates the customer journey and makes people feel more appreciated and acknowledged, AI-driven advertising is a crucial strategic tool for building enduring customer relationships.

H1: AI-driven advertising positively affects brand loyalty.

Trust in AI as Moderator

Customer trust in AI plays a key factor in determining customer reactions towards advertisement involving AI due to the fact that it has been a part of marketing and client interaction. In that regard, the level of trusting AI will depend on the confidence consumers can have in the way the brands use it, in its honest, fair and effective application. It is a psychological condition that influences the readiness of a user to interact with an AI, agree to its utilization, and obtain the benefit out of such interactions. Digital marketing and

emerging technology are commonly affected by trust. Prior literature describes the effects of customer trust on AI-based service usage so as to determine how the two are related. The results of the study showed that the elevated trust in AI contributed to the increase of the service quality via influencing the engagement and enjoyment levels of people remarkably. Customers who invested trust in the AI were more inclined to think about AI ads as aids, relevant, and enjoyable, which are mandatory features of outstanding customer experiences (Deryl, Verma, & Srivastava, 2023). Trusted AI systems would make customers have a more positive view of their activities, thus, decreasing the rate of skepticism and making the encounters enjoyable. On the other hand, mistrust of the technology results in hesitation, circumspection, and a potential refusal to use it, even when it is powerful or has high accuracy rates (Cheng & Jiang, 2020).

Chen, Yin and Gong (2023b) investigated and found that trust moderates the impacts of convenience, personalization, and service quality of AI in the retail and beauty markets. The researchers examined the role of AI trust on the feelings of individuals who used structural equation modelling in their sample cohort consisting of 430 people and found that trust in AI increased the comfort of humans with automated systems and reduced their fears of loss of privacy and they did not fear to receive individual recommendations in advertisements (Chen et al., 2022). Such consumers stated their preference vis-a-vis that experience, which proves trust serves to eliminate fears, which are based on typical challenges with AI, like a loss of control or privacy. According to Chen et al. (2023a) there is much emphasis on transparency to increase trust in AI advertising. People showed themselves to have a heightened level of trust and pleasure with advertisement, following the feeling that it was created through the AI and that their information was dealt with in a most particular manner. This group exhibited a greater propensity to repurchase the product following the enhanced transparency. Companies that fail to disclose or elucidate their AI usage may erode customer trust, resulting in a subpar overall customer experience. Empirical research indicates that trust in AI is a crucial aspect that influences the effect of AI- driven advertising on customer service experiences. Enhanced trust in AI can improve personalization, augment the perceived convenience of services, and result in heightened satisfaction. Low trust typically leads to diminished outcomes and may culminate in adverse experiences when individuals feel anxious, uncomfortable, or perceive excessive scrutiny.

H2: Trust in AI moderates the relationship between AI in advertising and customer experience.

Customer Experience as a Mediator

Customer experience is any interaction a consumer has with a brand at various touchpoints, whether in-store, on digital platforms, or increasingly, AI-powered channels like chatbots, voice assistants, and recommendation engines. With the hyper connected world today, customer experience transcends transactional satisfaction; it involves emotional, cognitive, and sensory reactions that build a consumer's overall perception of a brand. As AI technologies assume a greater share in the management of such interactions, it becomes crucial to know how customer experience serves as an intermediary between AI-based advertising and brand loyalty for both scholarly research and real-world marketing strategies (Islam et al., 2024). Various empirical studies have confirmed that AI does not act simply by affecting consumers in terms of novelty or automation it delivers, but rather mostly by the quality of experiences it facilitates. Jain, Wadhwani and Eastman (2024) performed structural equation modelling meditation analysis and determined that brand experience is a complete mediator between AI-based marketing and brand loyalty. Their study concluded that AI only increases brand loyalty when it also enhances the way consumers view their interactions with the brand. Another impactful study by Mariani, Perez-Vega and Wirtz (2022) investigated the role of digital marketing personalization, driven by AI, in shaping brand loyalty via customer engagement and experience. Their results proved to support a sequential mediation model, demonstrating that AI-based advertising extensively enhances personalized experiences ($\beta = 0.789$, $p < 0.001$), which in turn enhances consumer engagement ($\beta = 0.777$, $p < 0.001$), and finally boosts brand loyalty ($\beta = 0.517$, $p < 0.001$). Their results establish the effectiveness of AI not to be direct but to be mediated by consumers' interpretation and emotional reaction to the experience it offers.

The distinct advantage of AI in advertising is its ability to personalize the customer experience in real-time. For example, AI-based applications are able to send tailored email content, adaptive website design based on user activities, and context-driven product suggestions. These capabilities are used to create experiential value, meaning the emotional and psychological benefits customers get from interactions (Prentice, Weaven, & Wong, 2020). Over-personalization can also create intrusion or manipulation feelings and bring about privacy issues as well as eroded trust (Bhati & Verma, 2020). So, successful AI design will involve user-centric considerations like transparency, consent-based personalization, human fallback options, and emotionally intelligent interaction. Whereby, AI systems are designed to sense, respond to, and even anticipate customer needs while respecting ethical boundaries, they don't just deliver utility but create relational value a key driver of mediating loyalty outcomes (Nguyen, Quach, & Thaichon, 2022).

H3: Customer experience mediates the relationship between AI in advertising and brand loyalty.

Figure 1: Conceptual Framework.

RESEARCH METHODOLOGY

This study employed a positivist research philosophy, adopting a quantitative method to examine the impact of AI-driven advertising on brand loyalty, with a focus on customer experience and trust in AI. The proposed study utilized cross sectional approach for data collection. Essentially, a cross- sectional study is easy to do and offers fresh insights into the way people think today. Because new technologies can change consumer perceptions so rapidly in the online world, this is even more significant for digital environments. For this reason, the study's cross-sectional design is very useful, given that it studies digital advertising and how consumers feel about AI technologies (Mohajan, 2020). At present, when everything moves at a fast speed online, attitudes and shopping habits of customers can quickly shift because of technological breakthroughs, new viral trends or updates to online platforms. That's why understanding perceptions at a certain moment helps illuminate what is really happening in the digital world at the time. Since this design doesn't allow for following changes over the years, it is valuable for finding out about current patterns and guiding future research (Agénor, 2020).

To conduct this study, the study used data from people directly involved with advertising driven by AI. Users who benefit from AI in e-commerce, mobile apps and social networks by getting AI- based suggestions, personalized experiences or conversations with chatbots are included in this group. When respondents understand AI, the gathered data matches the focus of the research. The study selects a sample of 350 respondents which allows for the analysis of regression, mediation and moderation. This data meets the minimal sample size requirement for performing multivariate analyses that include different predictors and their interactions. The technique used was convenience sampling because it is straightforward to reach online customers. Conveniently, this form of sampling enables the researcher to reach subjects using social media platforms, email and forums. Data collection for this study is collected by the survey method on Google Forms and sent out via social media, university mailing lists and handy tech forums. The team spent four weeks collecting data for this study. People were surveyed after they answered a question that verified their interaction with AI-driven advertising over the past six months. Respondents were free to participate or to decline and the survey did not include any payment for replies.

RESULTS

This section presents the empirical findings derived from the statistical analyses conducted to test the study's hypotheses. Using SPSS and Hayes' PROCESS macro, the study examined the direct, mediating,

and moderating effects among key variables: AI-driven advertising, brand loyalty, customer experience, and trust in AI. The analyses included simple linear regression, Model 1 for moderation, and Model 4 for mediation. The goal was to assess the strength and direction of relationships as hypothesized, and to determine the significance and explanatory power of each model.

Interaction with AI in Ads

The statistics indicate that 54.3 of the respondents have experienced AI and interfaces, whereas the rest are 45.7. This implies that there is an overwhelming minority using AI-driven advertising, meaning that there is a rise in awareness or liberalization of AI-driven technology in advertising. The findings indicate the growing importance of AI advertisements in the online affair of consumers.

Table 1: Frequency Distribution.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	160	45.7	45.7	45.7
	Yes	190	54.3	54.3	100.0
	Total	350	100.0	100.0	

Construct Reliabilities

The reliability of the measurement scales was assessed using Cronbach's Alpha, and the results indicate excellent internal consistency across all constructs. AI in Advertising ($\alpha = 0.997$), Trust in AI ($\alpha = 0.993$), Customer Experience ($\alpha = 0.994$), and Brand Loyalty ($\alpha = 0.994$) all demonstrated exceptionally high reliability, reflecting strong coherence among the items measuring these constructs. Perceived Strategic Value also showed a high reliability score ($\alpha = 0.902$), indicating consistent responses across its measurement items. Since all Alpha values exceed the acceptable threshold of 0.70, the constructs are considered statistically reliable and suitable for further analysis within the structural equation modeling framework.

Table 2: Reliabilities.

Construct	Alpha
AI in Advertising	0.997
Trust in AI	0.993
Customer Experience	0.994
Brand Loyalty	0.994
Perceived Strategic Value	0.902

Regression

The R value (.012) reveals that there is a very low connection between advertising and brand loyalty. The R^2 value- (.000) indicates that advertising does not contribute to any variances in brand loyalty. Adjusted R^2 is even negative (-.003), a fact that supports the explanation power of the model.

ANOVA[a]

Table 3: Model Summary.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.012[a]	.000	-.003	.50712

a. Predictors: (Constant), Advertising
b. Dependent Variable: Brand Loyalty

The regression model proves to be statistically insignificant ($F = 0.050$, $p = .823$) and so, advertising does not contribute to brand loyalty significantly. The p-value is greater than 0.05, thus indicating that the difference in brand loyalty has nothing to do with fluctuation in the level of advertising.

Table 4: Regression Model.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.013	1	.013	.050	.823[b]
	Residual	89.495	348	.257		
	Total	89.508	349			

a. Dependent Variable: Brand Loyalty
b. Predictors: (Constant), Advertising

Coefficients

Coefficient of advertising is significant at p =.823 (-.009), revealing non serious influence on brand loyalty. The significance associated with the constant (4.205) is the mean of the brand loyalty by the time the values of advertising influence are equal to zero. In general there is no substantial predictive behavior of advertising in this model.

Table 5: Coefficients.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.205	.172		24.489	.000
	Advertising	-.009	.041	-.012	-.224	.823

a. Dependent Variable: Brand Loyalty

Table 6: Residuals Statistics.

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4.1598	4.1871	4.1673	.00609	350
Residual	-1.78713	.84018	.00000	.50639	350
Std. Predicted Value	-1.232	3.255	.000	1.000	350
Std. Residual	-3.524	1.657	.000	.999	350

a. Dependent Variable: Brand Loyalty

The means of the predicted values is closely distributed (4.1673), which means that the predicted brand loyalty is not sensitive towards changes. They have wide ranges of residuals (-1.79 to 0.84) and indicate the low predictive power of the model. Standard deviation of residuals (0.50639) indicates also that the performance of the model was weak, which supports the assumption that the model is not well fitted and correlates poorly with variables.

Summary (Model 1) Moderation model

The overall model has a weak (R^2 = 0.0155, p = 0.145) and a statistically insignificant fit.

Table 7: Goodness of Fit Statistics.

Statistic	Value
R	0.1243
R^2	0.0155
MSE	0.3723
F	1.8102
df1	3
df2	346
p-value	0.1450

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Regression Coefficients

Ad and Tr have a significant predictive value of the outcome ($p < 0.05$), but an interesting effect of the interaction between the two variables is that the interaction rate is significant ($p = 0.0283$) indicating an effect of moderation of the impact of Ad on the outcome, which varies with the levels of Tr.

Interaction Test (Highest-Order Interaction: Ad × Tr)

Table 8: Regression Coefficients.

Predictor	Coefficient	SE	t	P	LLCI	ULCI
Constant	1.5225	1.3268	1.1475	0.2520	-1.0872	4.1322
Ad	0.7004	0.3141	2.2301	0.0264	0.0827	1.3182
Tr	0.6808	0.3294	2.0669	0.0395	0.0330	1.3286
Ad × Tr	-0.1711	0.0777	-2.2019	0.0283	-0.3240	-0.0183

Table 9: Moderation Analysis.

Term	R^2 Change	F	df1	df2	p-value
Ad × Tr	0.0138	4.8486	1	346	0.0283

To ascertain that Tr moderates the effect of Ad on the outcome variable, the interaction term also significantly adds to R 2 by 1.38 per cent ($p = 0.0283$).

Conditional Effects of Ad at Values of Tr

At the low level of Tr (3.00), the major positive impact of Ad is observed. The effect of Ad is not significant at medium values (4.00) and high Tr (5.00), and it means that moderation decreases the influence of Ad as Tr rises.

Table 10: Moderation Analysis.

Tr Value	Effect of Ad	SE	t	P	LLCI	ULCI
3.00	0.1870	0.0913	2.0483	0.0413	0.0074	0.3666
4.00	0.0159	0.0490	0.3241	0.7461	-0.0804	0.1121
5.00	-0.1553	0.0924	-1.6804	0.0938	-0.3370	0.0265

Table 11: Bootstrap Estimates (5000 Samples, 95% CI).

Predictor	Coefficient	Boot Mean	Boot SE	Boot LLCI	Boot ULCI
Constant	1.5225	1.5360	1.3465	-1.1459	4.1191
Ad	0.7004	0.6974	0.3134	0.0853	1.3204
Tr	0.6808	0.6772	0.3269	0.0493	1.3194
Ad × Tr	-0.1711	-0.1704	0.0760	-0.3212	-0.0235

The significance of the interaction Ad x Tr is further supported by the findings of bootstrapped confidence intervals, which suggests that the need to redefine the moderation variable is not unimportant (CI: -0.3212 -0.0235).

Mediation (Model 4)

Model 1: CE as Outcome (Path a)

Table 12: Regression Coefficients.

Predictor	Coefficient	SE	t	p	LLCI	ULCI
Constant	4.2447	0.2076	20.4457	0.0000	3.8363	4.6530
Ad	0.0152	0.0491	0.3089	0.7576	-0.0814	0.1117

There is no significant prediction of CE by ad (p = 0.7576), and the first step in mediation path does not support it.

Model 2: BL as Outcome (Path b and c')

Table 13: Regression Coefficients.

Predictor	Coefficient	SE	t	p	LLCI	ULCI
Constant	4.3479	0.3127	13.9037	0.0000	3.7328	4.9630
Ad	-0.0107	0.0498	-0.2139	0.8307	-0.1087	0.0874
CE	-0.0398	0.0544	-0.7309	0.4653	-0.1468	0.0673

Both CE (p > 0.46) and Ad (p > 0.46) are not significant predictors of BL, so there is no significant direct or mediated effects in either of these two paths.

Direct Effect of Ad on BL

Ad alone does not have any significant relationship with BL (p = 0.8307), and hence the impact is not direct.

Table 14: Direct Effect of Advertising on Loyalty.

Effect	SE	t	p	LLCI	ULCI
-0.0107	0.0498	-0.2139	0.8307	-0.1087	0.0874

Indirect Effect of Ad on BL via CE

Indirect Effect (Ad It is a logical extension of the indirect effect of both the Ad and subsequent CE into the data (see Indirect Effect: Ad = CE = BL). The indirect effect through bootstrapping is insignificant and small (the CI includes zero), proving that CE is not a mediator of the correlation between Ad and BL.

Table 15: Indirect Effect of Advertising.

Mediator	Effect	Boot SE	Boot LLCI	Boot ULCI
CE	-0.0006	0.0034	-0.0087	0.0058

DISCUSSION AND CONCLUSION

The current study examined the influence of AI-driven banking advertising on brand loyalty, the moderating role of trust in AI, and the mediating role of customer experience in banking industry of Pakistan. Contrary to the first hypothesis, regression analysis revealed no significant relationship between AI advertising and brand loyalty, as indicated by a zero R-squared value and a non-significant p-value (p = 0.823). The findings diverge from much of the existing literature that supports AI's personalization capabilities as a driver of loyalty. Possible explanations include cognitive dissonance when expectations from AI ads are unmet, lack of emotional resonance, consumer resistance due to privacy concerns, and the multi-dimensional nature of brand loyalty. These results suggest that while AI may create initial engagement, it lacks the depth required to foster lasting loyalty, especially when perceived as impersonal or misaligned with consumer expectations.

For the second and third hypotheses, the study confirmed that trust in AI significantly moderates the relationship between AI advertising and customer experience; however, the moderation effect was negative, meaning higher trust reduced the positive effect of AI on experience. This contradiction can be explained through expectation-disconfirmation theory, where consumers with low trust are more easily impressed, while high-trust consumers face disappointment if AI performance doesn't meet their elevated expectations. Meanwhile, the mediation hypothesis was rejected, as customer experience did not significantly bridge the link between AI advertising and brand loyalty. The study suggests AI interactions may be too shallow, inconsistent across channels, and cognitively rather than emotionally engaging. Hence, while the theoretical

foundation supports the role of experience and trust, empirical evidence points to a more nuanced relationship that requires better integration, personalization, and emotional depth in AI advertising strategies.

With an emphasis on the moderating mediating role of trust in AI and customer experience, the study sought to explore the intricate relationship between consumer brand loyalty and artificial intelligence (AI) in advertising. The study attempted to provide a comprehensive view on the impact of artificial intelligence (AI) technologies on consumer loyalty outcomes in the context of digital advertising, drawing on theoretical knowledge from theories such as the Technology Acceptance Model (TAM), Stimulus-Organism-Response theory. This research was based on the growing academic and business community consensus that when applied strategically in marketing, AI technologies can come a great way as far as personalization, touchpoint automation with consumers, and ultimately generating more effective consumer brand relationship is concerned.

Moreover, the powers of AI, recommendation engines, predictive targeting, chatbots and dynamic content are generally assumed to lead to consumer engagement, satisfaction, and consumer loyalty (Jun & Yi, 2020). Furthermore, previous research and research in the field have promoted the theory that a highly targeted, relevant, and timely advertising enabled by AI leads to a superior customer experience, and therefore a strong brand loyalty.

Nevertheless, there are some positive assumptions that are broken by the quantitative results of this study. However, contrary to the expectations, the findings showed that AI-based advertising on its own does not exhibit any statistically significant immediate influence on brand loyalty. The subsequent point is a significant finding, suggesting that the implementation of AI in advertising is insufficient to establish or sustain a significant level of consumer loyalty. The regression analysis results did not demonstrate the predictive power of AI advertising on brand loyalty. This raises serious concerns about the overestimation of technology's value without considering the psychological, contextual, and emotional aspects of the consumer experience. Moreover, the finding refutes most of the literature that delineates AI as a disruptive power in marketing. There is no argument that AI can be used to enhance operational efficiency and delivery of content but there seems to be a caveat in winning loyalty to the brand and this would not work without fail. In addition, the result corroborates the notion that the impact of technological sophistication should be sustainable by incorporating emotional intelligence, ethical design, and user-centric experiences.

Limitations and Future Directions

This study has been quite informative on how AI-driven banking advertising could determine brand loyalty and how trust and customer experience can play a role in the same, yet it has exposed possible avenues where future studies can seek to explore. Since AI is developing further and reorganizing the marketing space, a subject of future scholarly research cannot be limited by the premises of the present investigation to present a more complex and clearer portrait of the industry influence. Among the main directions of future studies is the use of longitudinal study designs that could help in greater evaluation of the long-term impact of AI on brand loyalty. In this study, a cross-sectional was used and it gave a picture of the consumer attitudes at a given moment (Samek & Müller, 2019). Brand loyalty in banks is, however, a dynamic concept that is generated over time based on repetitive experiences and contacts. Longitudinal studies would enable the scholar to assess the evolution of customer perceptions over time, which would provide better insights into the shapes of loyalty progress and brand commitment as the result of the AI interaction over time.

There is also another potential direction in the form of conducting cross-cultural and demography comparative studies. Place of trust in AI, beliefs about personalization and tolerance towards algorithmic communication may vary hugely depending on cultural beliefs, generation experiences, and socio-economic backgrounds. As an example, banking consumers in technologically developed countries can be more digitally trusting and demanding much more transparency and control, whereas the emerging ones will be more open to AI-driven banking innovations, but not necessarily knowledgeable about the

implications of data usage. Possible future studies may analyze the role that cultural considerations and individual variability play in attitude towards AI advertising, which may unleash cross-cultural differences in AI implementation policies. The introduction of qualitative or mixed-method studies ought to be explored in regard to the emotional and psychological aspects of AI interaction. Although quantitative approaches can be employed to generalize patterns, the key learning about the way consumers process AI interactions in an emotional sense, especially how such is achieved when expectations are or, more importantly, when they are not, is that it can be grasped through qualitative research approaches like interviews, focus group exercises or open-ended responses to sentiment analysis on the said type of responses (Abrardi, Cambini, & Rondi, 2022). The future research may examine something such as cognitive dissonance, perceived manipulation, or digital fatigue, and could even touch on the topic of AI anthropomorphism, which was not considered as part of the present study but very much belongs to the new digital marketing world (Brand et al., 2023).

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