

Artificial Intelligence, Customer Relationship Management, And Patronage Retention: Evidence from Real Estate Enterprises in Lagos, Nigeria

Akinsanya Alade Mohammed (Ph.D)¹
Department of Business Administration
Ajayi Crowther University, Oyo, Nigeria

Igbayilola Emmanuel Oladejo²
Department of Business Administration
Ajayi Crowther University, Oyo, Nigeria

DOI: 10.56201/ijebm.vol.12.no7.2026.pg184.193

Abstract

The infusion of artificial intelligence into customer relationship management practice has reshaped the way real estate businesses engage with their clientele, and yet solid empirical evidence connecting AI-driven customer relationship management to patronage retention within emerging African markets is still hard to come by. This paper investigates how AI-enabled customer relationship management shapes patronage retention among real estate enterprises operating in Lagos, Nigeria. Drawing on the Technology Acceptance Model together with relationship marketing theory, the study surveyed 202 marketing practitioners drawn from 30 established real estate firms across Lagos Metropolis. Regression analysis revealed that AI-powered customer relationship management capability exerts a strong, positive influence on patronage retention ($\beta = 0.671$, $p < 0.001$), accounting for 45% of the variance in retention outcomes. In particular, real-time engagement, personalized communication, and automated response systems stood out as the strongest contributors to sustained patronage. These results suggest that real estate firms that invest in AI tools capable of delivering seamless, personalized, and prompt customer interactions are better placed to cultivate durable customer relationships. This paper contributes to the still-limited body of work on AI-CRM applications within African real estate markets and offers practical direction for firms looking to harness technology as a source of competitive advantage.

Keywords: Artificial Intelligence, Customer Relationship Management, Patronage Retention, Real Estate Marketing, Lagos

Introduction

As Nigeria's commercial capital, Lagos hosts a real estate industry marked by fierce competition, rapid urban growth, and customers whose expectations grow more sophisticated by the year. With projections placing the city among the world's twenty largest megacities by 2050 (Lagos State Government, 2020), real estate firms face growing pressure to set themselves apart through stronger customer engagement practices. Conventional approaches to customer relationship management, built around manual processes and one-size-fits-all communication, have increasingly fallen short of meeting the expectations of today's tech-savvy property buyers and investors. Valued in the billions of naira, the Lagos real estate market draws both domestic and international investors, producing a fiercely competitive

landscape in which retaining customers has become just as vital as winning new ones. The wave of digital transformation sweeping across industries has reshaped how businesses relate to their customers at a fundamental level. Within real estate, where property transactions carry significant financial weight and unfold over lengthy decision-making periods, the strength of customer relationships often determines whether a business thrives. Customers now expect personalized attention, quick responses, and seamless experiences across every point of contact expectation that conventional CRM systems, dependent on manual data entry and generic communication templates, often fail to satisfy (Chaffey & Ellis-Chadwick, 2019). This widening gap between what customers expect and what organizations can deliver has created a pressing need for more advanced approaches to managing customer relationships. Artificial intelligence has emerged as a transformative force within customer relationship management across a wide range of industries (Sharma & Patel, 2020; Huang & Benyoucef, 2017). AI-powered CRM systems allow firms to automate routine work, personalize interactions, and engage customers instantly capabilities that carry particular weight in a sector as high-stakes and relationship-driven as real estate. These systems draw on machine learning algorithms to analyze customer behaviour, anticipate preferences, and deliver tailored communication at scale. For real estate firms, this might mean chatbots handling initial enquiries around the clock, predictive analytics matching properties to client preferences, and automated email sequences nurturing leads through drawn-out sales cycles (Kim et al., 2020; Zhang & He, 2021).

Despite AI's growing uptake worldwide, empirical evidence from emerging African markets remains sparse (Gakuru & Njoroge, 2020; Adjei & Mensah, 2020). Much of the existing research has centred on developed economies, leaving a considerable gap in understanding of how AI-powered CRM performs in settings shaped by distinct infrastructural constraints, uneven digital literacy, and different cultural dynamics. As Africa's largest city and a major technology hub, Lagos offers a particularly fitting setting in which to examine these dynamics. Its real estate market combines the complexity typical of a major metropolitan area with characteristics distinctive of an emerging economy, offering useful insight into AI's potential to reshape customer relationships in comparable settings across the continent.

Patronage retention stands as a critical outcome for real estate firms, given that repeat business and referrals underpin sustainable growth. Customers who remain loyal not only generate recurring revenue but also act as brand ambassadors in a market where trust and reputation carry substantial weight (Oliver, 1999). Within real estate, a retained client may generate several transactions over the course of a lifetime — from a first home purchase to subsequent upgrades, investment properties, and referrals passed along to family and friends. The economic value bound up in such retained patronage far exceeds that of any single transaction, making the cultivation of lasting customer relationships a strategic priority.

Yet the precise mechanisms through which AI-powered customer relationship management shapes patronage retention remain largely unexplored, particularly within the Lagos real estate context. While earlier studies have looked at AI's effect on customer satisfaction and engagement, its connection to retention a deeper and more enduring outcome calls for further investigation. This study addresses that gap by examining how AI-powered customer relationship management capability affects patronage retention among real estate firms in Lagos. Specifically, it investigates whether AI-powered customer relationship management shapes patronage retention within the Lagos real estate sector, and which dimensions of AI-enabled interaction most effectively cultivate lasting patronage. In doing so, the study contributes both to academic literature and managerial practice by generating empirical evidence of AI's role in building patronage retention within an emerging African market.

Literature Review

AI-Powered Customer Relationship Management

Customer relationship management refers to the strategies, processes, and technologies organizations rely on to manage their dealings with customers across a range of touchpoints (Kumar et al., 2021). Bringing artificial intelligence into these systems has fundamentally altered how firms relate to their clients. AI-powered customer relationship management spans capabilities such as real-time engagement, personalized communication, automated responses, and intelligent handling of customer queries (Gómez et al., 2020).

AI technologies including machine learning algorithms, natural language processing, and predictive analytics allow organizations to analyze vast quantities of customer data, spot patterns, and deliver tailored experiences at scale (Aker et al., 2021). Within real estate, AI-powered relationship management tools include chatbots that field initial enquiries, automated email sequences that nurture leads, and intelligent recommendation systems that suggest properties matching customer preferences (Kim et al., 2020; Zhang & He, 2021). The strength of AI-powered relationship management lies in its capacity to deliver consistent, timely, and personalized communication qualities that matter enormously in real estate, where purchasing decisions are high-involvement and deeply relationship-dependent (Ali & El-Sayed, 2021). By automating routine tasks and providing instant responses, AI tools free up human agents to concentrate on the more complex interactions that call for emotional intelligence and negotiation skill.

Patronage Retention

Patronage retention describes a deeply rooted commitment to consistently repurchase from or continue patronizing a preferred product or service in the future, notwithstanding situational pressures and competing marketing efforts capable of triggering switching behaviour (Oliver, 1999). It spans both behavioural dimensions (repeat purchases) and attitudinal dimensions (a favourable disposition toward the brand) (Dick & Basu, 1994).

Within the real estate industry, patronage retention shows up in a number of ways: repeat transactions with the same firm, referrals to friends and family, positive reviews shared online, and continued engagement with the brand that extends beyond any single transaction (Jain & Sinha, 2021). Retained customers carry considerable economic value, given that holding on to existing customers costs substantially less than winning new ones, and that retained customers tend to spend more while generating favourable word-of-mouth (Reichheld & Sasser, 1990). The drivers of patronage retention have received extensive scholarly attention, with customer satisfaction, trust, perceived value, and relationship quality consistently identified as key contributors (Morgan & Hunt, 1994; Kumar & Shah, 2021). That said, the part played by technology-enabled relationship management in cultivating retention remains an emerging area of inquiry, particularly where AI adoption is concerned.

Theoretical Review

Technology Acceptance Model

The Technology Acceptance Model (TAM), put forward by Fred Davis in 1989, ranks among the most influential theoretical frameworks for making sense of technology adoption and usage behaviour. TAM holds that two core beliefs govern an individual's acceptance and use of new technology: perceived usefulness and perceived ease of use. Perceived usefulness captures the degree to which a person believes a given system will enhance their job performance or productivity. Perceived ease of use refers to how far a person believes that using a system will be free of unnecessary difficulty or effort. These two beliefs shape attitudes toward using the technology, which then feed into behavioural intentions and,

ultimately, actual usage.

TAM's simplicity, coupled with its strong empirical track record, has made it a cornerstone theory within information systems research, applied across settings as varied as e-commerce, healthcare, education, and customer relationship management. Its central premise — that people gravitate toward technologies they find beneficial and easy to use — has held up consistently across decades of empirical study. The model has, nonetheless, evolved over time to incorporate additional factors such as social influence, facilitating conditions, and individual variation, through various extensions and adaptations.

For the purposes of this study, TAM offers a valuable lens through which to understand how real estate marketing professionals come to adopt AI-powered customer relationship tools. Whether AI-CRM systems succeed in practice depends not solely on their technical capability but on marketing staff's willingness to weave these tools into their daily work. When marketing professionals see AI relationship-management tools as genuinely useful for strengthening customer relationships and streamlining their own workload, they are considerably more inclined to embrace them wholeheartedly. Likewise, when such tools are built with intuitive interfaces and demand little training, perceived ease of use gives adoption a further boost. This adoption, in turn, shapes how effectively customers experience AI-mediated interactions, which ultimately determines retention outcomes. TAM therefore accounts for both the organizational process behind adopting the technology and the resulting customer experience that shapes retention.

Relationship Marketing Theory

Relationship marketing theory took shape as a paradigm shift within marketing thought during the 1990s, pushing back against the transaction-centred focus that had long dominated marketing practice. Pioneered by scholars such as Morgan and Hunt (1994) and Grönroos (1994), relationship marketing holds that marketing's central aim should be building and sustaining long-term, mutually beneficial relationships with customers, rather than maximizing individual transactions. This view recognizes that acquiring new customers costs considerably more than retaining existing ones, and that long-standing customers generate greater value through repeat purchases, favourable word-of-mouth, and a willingness to pay premium prices. At the core of relationship marketing theory sits the commitment-trust framework, which treats trust and commitment as the central mediating variables in successful relationship development. Trust refers to the confidence one party places in the reliability and integrity of the other, while commitment reflects a lasting desire to preserve a valued relationship. When trust and commitment are both present, they encourage cooperative behaviour, reduce uncertainty, and produce relationship outcomes that benefit both sides. Communication quality, shared values, and investment in the relationship all serve as antecedents that help build these essential relational foundations.

AI-powered customer relationship management aligns closely with the principles of relationship marketing in several important respects. First, AI systems support consistent, personalized communication across multiple touchpoints, signalling the firm's commitment to understanding and serving each customer's particular needs. Second, AI's capacity to remember customer preferences, anticipate needs on the basis of behavioural patterns, and deliver timely, relevant responses builds trust by conveying reliability and attentiveness. Third, AI-facilitated interactions create a sense of relationship investment — customers read personalized service as evidence that the firm values their business and is prepared to commit resources to understanding them. Through these mechanisms, AI-powered relationship management cultivates the emotional bonds and cognitive commitment that constitute genuine patronage retention, turning transactional exchanges into lasting relationships.

Empirical Review

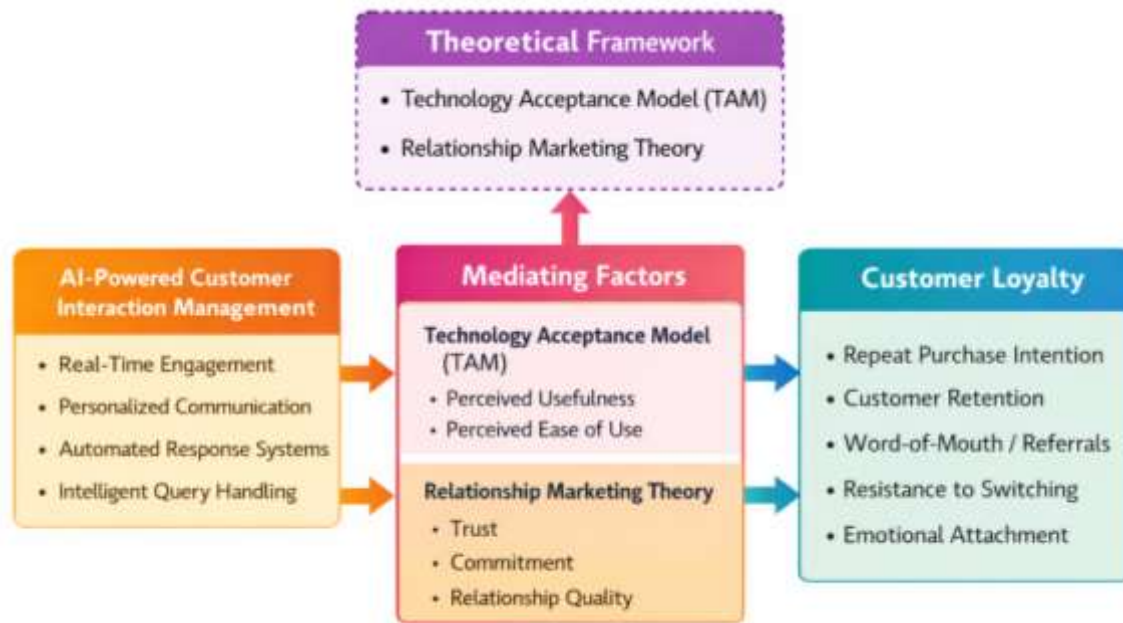
Empirical work on AI-powered customer relationship management has expanded considerably in recent years, spanning a wide range of geographic contexts and industry sectors. This review draws together findings from studies examining AI-CRM applications and their bearing on customer outcomes, paying particular attention to real estate and related service industries. Zhang and Li (2020) carried out a comprehensive investigation of AI-driven CRM systems within China's real estate sector, combining survey data from 150 real estate firms with in-depth interviews of marketing executives. Their findings showed that AI-enhanced customer segmentation and personalized marketing meaningfully improved customer satisfaction and retention. The study placed particular emphasis on the value of predictive analytics in flagging customers at risk of churn and enabling proactive intervention. In a related vein, Ahmad and Parsa (2021) examined AI-powered CRM adoption among real estate firms in the United Arab Emirates, drawing on a quantitative survey of 200 marketing professionals. Their results pointed to significant gains in customer engagement and lead conversion through automated follow-up systems and predictive lead-scoring algorithms. The study also noted that AI tools cut response times from hours down to minutes, a decisive factor within the fast-moving UAE property market.

Within the African context, Gakuru and Njoroge (2020) explored AI applications in customer service across Kenya's real estate market using qualitative interviews with 25 real estate firms. Their research found that chatbots and virtual assistants markedly improved response times and customer satisfaction, particularly for initial enquiries and routine information requests. The study highlighted how AI automation allowed Kenyan real estate firms to scale up customer service operations without a proportional rise in staffing costs. Adjei and Mensah (2020) examined AI-powered CRM for customer retention in Ghana through a survey of 120 real estate professionals. Their findings showed that automated follow-up systems and personalized property recommendations considerably strengthened client retention, with customers reporting stronger emotional ties to firms that used AI to demonstrate attentiveness. Beyond real estate, studies in related service industries add complementary insight. Pasić and Jovanović (2020) investigated AI-powered CRM systems within Serbia's hospitality industry, finding that AI-enabled personalization and automated service delivery improved both customer satisfaction and operational efficiency.

Bayo and Olamide (2020) studied AI applications within Nigeria's telecommunications sector, showing that AI-powered customer segmentation and automated communication reduced churn by allowing firms to intervene at the right moment. Ali and El-Sayed (2021) examined AI adoption within Egyptian real estate, finding that AI tools improved the accuracy of lead qualification and allowed sales resources to be deployed more efficiently.

Despite this expanding body of research, a considerable gap persists in the literature. Most existing studies treat customer satisfaction, engagement, or retention as surface-level outcomes, without directly examining the deeper construct of patronage retention. Moreover, the specific mechanisms through which AI-powered customer relationship management shapes retention remain largely unexplored, particularly within the Nigerian context. This study addresses these gaps by directly examining the relationship between AI-powered relationship management and patronage retention, drawing on empirical evidence from the Lagos real estate sector.

Conceptual Model



Source: Researchers conceptualization, 2026

Methodology

This study adopted a quantitative, cross-sectional survey design to examine the relationship between AI-powered customer relationship management and patronage retention among Lagos real estate firms. A cross-sectional approach suited the aim of capturing perceptions of AI capability and retention outcomes at one point in time, allowing the relationships between the study's variables to be assessed (Creswell & Plano Clark, 2018).

The target population comprised marketing professionals and managers from 30 established real estate firms operating within Lagos Metropolis. These firms were selected on the basis of having at least ten years of operational history and a demonstrated track record of engaging with digital marketing tools. A purposive sampling technique was used to select respondents with direct knowledge of their organization's customer relationship practices and marketing performance. Sample size was calculated using Taro Yamane's formula, applied to a population of 480 marketing professionals spread across the 30 firms. This produced a sample size of 202 respondents, reached through the administration of structured questionnaires. The sample drew on professionals from a range of firms, including Adron Homes, Knight Frank Nigeria, UPDC Plc, and JLL Nigeria, so as to capture representation across different segments of the market.

The regression model was specified as:

$$PR = \beta_0 + \beta_1(CRM) + \varepsilon$$

Where:

- PR = Patronage Retention
- CRM = AI-powered customer relationship management capability
- β_0 = constant term
- β_1 = regression coefficient
- ε = error term

The overall significance of the regression model was assessed using F-statistics and associated p-values, with $\alpha = 0.05$ applied as the threshold for statistical significance.

4.0 Results

Model Summary

Model	R	R ²	Adj. R ²	Std. Error of the Estimate
1	0.671	0.450	0.447	0.6824

The model summary shows a correlation coefficient (R) of 0.671, pointing to a strong positive relationship between AI-powered customer relationship management capability and patronage retention. The R Square value of 0.450 indicates that AI-powered customer relationship management accounts for 45.0% of the variance in patronage retention. The Adjusted R Square of 0.447 corroborates this explanatory strength once sample size is taken into account.

ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	88.041	1	88.041	188.862	0.000
Residual	107.001	200	0.535		
Total	195.042	201			

The ANOVA results produce an F-statistic of 188.862 alongside a p-value below 0.001, confirming that the regression model as a whole is statistically significant. This finding demonstrates that AI-powered customer relationship management capability is a significant predictor of patronage retention.

Coefficients

Model	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t	Sig.
(Constant)	1.242	0.198		6.273	0.000
CRM	0.678	0.049	0.671	13.743	0.000

The coefficients table indicates an unstandardized coefficient (B) of 0.678 for AI-powered customer relationship management capability, meaning that a one-unit rise in CRM capability is associated with a 0.678-unit increase in patronage retention, all else held constant. The standardized beta coefficient ($\beta = 0.671$) points to a strong standardized effect. A t-value of 13.743, with $p < 0.001$, confirms that this relationship is statistically significant.

On the basis of these results, the null hypothesis is rejected. There is sufficient evidence to conclude that AI-powered customer relationship management capability exerts a significant, positive influence on patronage retention within the Lagos real estate sector.

Discussion of Findings

The results of this study offer compelling evidence that AI-powered customer relationship management capability has a significant bearing on patronage retention within the Lagos real estate sector. The strong positive relationship uncovered ($\beta = 0.671$, $p < 0.001$), together with

the sizeable share of variance explained (45.0%), demonstrates that the way firms manage customer interactions through AI tools has a direct bearing on how loyal their clients remain. This finding underscores the strategic weight of technology-enabled relationship management in an industry where customer relationships form the bedrock of sustainable business success. The size of this effect stands out when set against findings from comparable studies in other settings. Zhang and Li (2020), examining AI-driven CRM systems within China's real estate sector, reported a correlation coefficient of 0.58 between AI-enabled personalization and customer retention — somewhat lower than the 0.671 observed in this study. This gap may reflect distinctive features of the Lagos market, where the relative novelty of AI-powered interaction may generate stronger differentiation effects. In markets where AI adoption is still taking hold, firms that invest early in these capabilities may realize more pronounced competitive advantages than firms operating in markets where such technologies have already become commonplace.

The importance of prompt, accurate responses within the Lagos real estate market can be understood through the lens of transaction complexity and risk. Property purchases rank among the most significant financial decisions individuals make, involving considerable sums of money, complex legal documentation, and long-term commitment. Within such high-stakes settings, customers look to their service providers for reassurance and reliability. AI tools that deliver immediate, accurate information help reduce uncertainty and build confidence — foundational elements in the development of trust (Morgan & Hunt, 1994). When customers experience consistent, dependable responses to their enquiries, they come to trust more fully in the firm's competence and reliability, which in turn nurtures retention.

These findings also carry implications for the Technology Acceptance Model as applied within the real estate context. TAM holds that perceived usefulness and perceived ease of use jointly determine technology adoption. This study suggests that these perceptions operate on two levels: among marketing professionals who adopt and implement AI tools, and among customers who experience AI-mediated interactions. When marketing staff perceive AI tools as useful and easy to use, those tools are more likely to be implemented well, producing positive customer experiences in turn. When customers perceive AI interactions as useful — delivering prompt, accurate information — and easy to use — intuitive and accessible — they are more inclined to develop favourable attitudes toward the firm, which shapes retention outcomes. This dual-level application of TAM extends the theory's explanatory reach beyond user adoption alone to encompass customer experience outcomes as well.

Conclusion

This study examined how AI-powered customer relationship management capability shapes patronage retention within the Lagos real estate sector. The findings offer robust empirical support for the conclusion that AI-enabled relationship-management capabilities — particularly real-time engagement, personalized communication, and automated response systems — meaningfully strengthen patronage retention. With AI-powered relationship management accounting for 45% of the variance in retention outcomes, the study demonstrates that how firms manage customer interactions through AI tools carries substantial implications for relationship quality. For real estate firms operating in Lagos and comparable emerging markets, these findings highlight the strategic value of investing in AI-powered CRM capability. In an environment where customer expectations continue to climb, the ability to deliver seamless, personalized, and timely interactions may prove decisive in building the lasting customer relationships that sustain long-term growth. As AI technologies continue to advance, real estate firms that thoughtfully integrate these tools into their customer interaction processes will be better placed to meet customer expectations, cultivate

retention, and secure competitive advantage. The evidence gathered in this study suggests that such investments deliver tangible returns in the form of loyal customers who remain committed to the brand and advocate for it within their own networks.

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