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Application of AI based chatbots on facilitating the banking customer retention and customer engagement for private banks of UAE

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ABSTRACT
Artificial Intelligence (AI)-based chatbots are already being considered as a groundbreaking resource in the process of enhancing customer relations and retention when it comes to the sphere of the private banking industry in the UAE. It examines how such chatbot-enhanced features as personalization, real-time responsiveness, multilingual communication, and automation contributed to the high levels of customer satisfaction and long-term loyalty in an ever-digitizing financial context. The study used mixed-method research design that incorporates the descriptive and exploratory research designs, a stratified random sampling of 200 employees of the UAE private banks was used. A structured questionnaire was used as the main data collection instrument, and it was statistically analyzed through SPSS and MS Excel and the techniques used in the analysis included mean, standard deviation, correlation and regression. The correlation analysis shows that the use of AI chatbots and customer engagement as well as customer retention have significant positive correlation. These results tend to support the idea that chatbot technologies do not only improve the efficiency of the banking procedure but also contribute to a better experience of a customer by providing credible and on-demand services and finances that are similar to the needs of a customer. In addition, the strategic significance of the AI chatbot implementation as associated with the lower costs of operation, higher quality of services, and, finally, helping the UAE achieve a higher goal of an achievement of an advanced and competitive economy based on knowledge is observed in the analysis. Lastly, these technologies are arguably, customer-focused, sustainable innovations that are encouraging interactions and retention in the private banking industry.
Keywords: Artificial Intelligence, Chatbots, Customer Engagement, Customer Retention, Private Banking, UAE, Digital Transformation, CRM Integration..

1. INTRODUCTION:

There is an increasing trend of banks using AI (Artificial Intelligence) and chatbots alongside growing usage of smartphones and the internet. Both variables are advancing as more significant forces in banking, reshaping the way banking services are delivered and accessed (Vergallo & Mainetti 2022). Technology has provided avenue to offer "mobile banking apps and online platforms", which has provided customers with an unprecedented convenience and access to their financial accounts. The advent of digital payments and enhanced security of use over traditional physical cash and transactional cards, has decreased the world use of cash, as well as keeping it secure (Anaya et al., 2024). The use of smartphones or the internet has also enabled banks to service clients more effectively, offer services 24/7, and also offer digital marketing and support. Banks have adopted these technologies in the digital age, in order to provide a modernized service and increased overall customer experience, which also revolves more closely around customer needs and wants when determining the role of technology in banking (Tanveer et al., 2023).

In today's banking environment, chatbots have become a valuable tool, providing advantages for both banks and customers. Chatbots are conversational artificial intelligence (AI) systems which utilize natural language processing and machine learning to enhance customer service, process automation, and efficiency (Kediya et al., 2023). By far the greatest positive aspect of chatbots is enhancing customer service for banks. Chatbots are available at all times to provide immediate responses to customer inquiries and assist with routine tasks (Tulcanaza-Prieto et al., 2023). Furthermore, if customers have questions regarding their account balance, recent statement or attempting to determine how to open a new account, chatbots can deliver quickly and efficiently while lowering wait time and raising customer satisfaction (Satheesh et al., 2020).

Statistics from the Central Bank of the UAE reveal that total bank credit reached AED 2.04 trillion, deposits increased to AED 2.657 trillion, and total assets stood at AED 4.25 trillion by the conclusion of March 2024 (Alzoubi et al., 2025). Thus, the UAE government is proactively seeking to improve the sustainability of the "private banking sector". The UAE is recognized as the most diversified economy within the "Gulf Cooperation Council (GCC)" at this juncture.

Over time, the UAE has been able to largely decrease its reliance on the hydrocarbons sector for "Gross Domestic Product" (GDP) increases and government revenue (ALBLOOSHI & ROBANI 2024). The UAE began its economic divergence process in the "late 1980s and early 1990s", concentrating on building a "resilient economy" that is less dependent on hydrocarbons revenues. This approach was characterized by the creation of free-trade zones, infrastructure investments, and cognitive economic initiatives such as Vision 2021, which was intended for the UAE to be limited economically by resource-driven development, an economy towards innovation and a knowledge-based economy, also to a certain extent (Bayzid et al., 2020).

Table 1: Real GDP Growth in the UAE (%)

	2019	2020	2021	2022	2023
Overall GDP	1.11	-5.0	4.4	7.9	3.1
Non-oil GDP	2.7	-5.4	6.5	7.2	5.9
Oil GDP	-2.6	-3.8	-1.1	9.5	-3.4

Source: Focus economics [online], accessed 20 May 2024

The continual advancement of non-oil sectors demonstrates the success of the UAE's diversification strategy which is resulting in an economic environment that is more stable, sustainable, and knowledge and innovation based (Ewers et al. 2022). The UAE's commitment to advancing progressive economic policies and a diverse, resilient economy can be characterized by the growing significance and nature of the non-oil sectors. Growth in non-oil sectors has also provided context to the UAE's ability to market itself as a world business center while buffering the volatility of the oil market. The increase in non-oil sectors has also led to an increase in demand for skilled workforce professionals, and hence, the UAE has gone to great lengths in terms of investment to develop the workforce and attract local and international talent (Cherian 2020). Furthermore, the strong performance of the banking sector has also serviced employment through developing the financial structure for businesses to grow and flourish, and in doing so, created job security and stability in the UAE's economy (Tavares 2024).

The UAE is one of the highest penetrated countries in the world in terms of Internet and population that can often be described as tech-savvy, making it one of the most favorable places to adopt AI technologies, (digital report, 2024). Some of the delivery apps including "Talabat, Deliveroo, and Zomato, have the implementation of AI-powered chatbots, to ensure the increase in the number of queries by customers is manageable. While there are increased efficiencies and reduced costs promised for the organizations, many challenges still remain, particularly with the capability to deal with complex, contextual queries requiring characteristics of human-like understanding (Mustafa 2024).

AI chatbots are now integral for improving customer service as businesses seek to follow up with their clients efficiently and promptly. For example, in sectors affiliated with delivery services, chatbots are considered the first point of contact for users as they assist them with question answers, problem solving, and order processing (RAFI 2022). Chatbots enhance user engagement and satisfaction mainly because they are so fast--in fact, would argue any company looking to improve customer experience would find they are absolutely essential. However, there continues to be an inconsistency in the user's engagement with AI chatbots overall. Some users claim chatbots are useful and effective, while others have reported ineffective speech responses and differences in functional issues (Jabbour Al Maalouf & Sarkis 2025).

In the UAE, private banks are actively striving to apply digital innovation in combination with personalized service and engagement with clients to advance retention and engagement in the competitive market and rapidly evolving customer requirements (Abdulwahab and Iyer 2025). These banks use AI-based data analytics and client segmentation to send clients tailored offers, open account and provide cash management advice or unsolicited consumer insights, which ultimately offers clients a streamlined and relevant experience in digital and in-person interactions (Mohamed, 2025). Moreover, qualified advisors, good customer service and loyalty programs will eventually build the continued trust that will encourage the clients to be loyal and active with the bank despite the emergence of attractive fintech competitors, or a disruption of the market (Awad et al., 2025).

The aim of the study is to explore the use of "AI-driven chatbots" to improve "customer retention and engagement" in private banks in the UAE. It explores the role that chatbots can play in service efficiency, customization, and responsiveness to enhance customer loyalty and customer satisfaction. Through an investigation of the capabilities of AI chatbots to meet customers' needs, answer questions, and provide seamless banking services, the study aims to apply chatbots as a strategic benefit to the organization to help with competitive advantage. Ultimately, the study attempts to explore if added value and longevity can be achieved through the implementation and use of chatbots and customer relationships to benefit long-term relationships with customers to maintain and optimize retention in the UAE banking market.

The study is divided into major parts: introduction with identification of the role of AI in the banking industry; conceptual background review with study on chatbots and customer engagement; research methodology with descriptions of mixed methods and sampling; data analysis providing statistical outcomes; discussion with the interpretation of the results; conclusion with a summary of implications; limitations, recommendations on what to do in future studies, and the final references.

Conceptual Background

The introduction of Artificial Intelligence (AI) into financial technology (FinTech) is gaining recognition as a major force of transformation in "customer engagement

and loyalty" in banking. Study has shown that AI-enabled chatbots enhance customer experience as a result of their features of "real-time responsiveness," personalization, and efficiency. El-Shihy and colleagues (2024) found a direct, and significant relationship between "chatbot service quality and customer loyalty," when customer satisfaction was mediator. Likewise, Salem (2024) note that 24/7 availability and timely support improved customer experience at Palestinian banks, but privacy and accuracy were challenges. Lakshmi, Kalaiselvi and Noorjahan (2024) commented on chatbot and virtual assistants' ability to deliver customized adapted with efficient services in banking. Bhattacharya and Sinha (2022) indicated that AI application in Indian banks improved transactions in the front office and back office leading to greater customer trust.

Expanding on these examples, personalization emerges strongly in the study on AI-enabled customer engagement. For instance, Jabbour Al Maalouf and Sarkis (2025) point out that because of cultural differences in the Middle East, customer engagement that is human-AI driven must be personally meaningful and culturally specific. Kaluarachchi and Sedera (2024) also discuss how AI-enabled customer engagement boosts operational efficiencies and allows banks to provide customized best practice solutions through the analysis of large datasets on consumer behavior. Almasafri (2022) demonstrated in the UAE that customers were more satisfied and loyal due to receiving quality service, confirming their expectations, and mitigating risks while being familiar with FinTech. Lastly, El-Shihy et al. (2024) found that creating and personalizing the chatbot's dialogue and presents an opportunity for personalizing interactions through bots across many digital channels that connect the bank and customer. As a whole, these instances suggest that personalization is not simply another dimension of AI, rather personalization is the fundamental means through which AI encourages customer satisfaction and loyalty amidst competitive and culturally diverse financial markets.

Customer satisfaction has been proven to be the mediator between AI-driven banking services and loyalty outcome. For example, Almasafri (2022) exhibited that satisfaction made via confirmation and mere exposure increased loyalty and financial performance from banks located in the United Arab Emirates. In a related instance, Bhattacharya and Sinha (2022) detailed the means by which AI augmented both internal processes and customer-facing service interaction in an attempt to build further trust from Indian customers. Alzoubi and Ahmed (2024) also extended this argument by describing that AI improves supplier-customer relationships based on effective communications, learning and feedback. Shafi et al. (2023) suggest improved fraud detection and personalized services due to AI improves engagement and satisfaction. Collectively, this line of study indicates AI's effects on loyalty, whether building long-term relationships or short-term engagement, can best be explained through a satisfaction-driven model, whereby service quality and lower risk, generate emotional and relational benefits associated with creating long-term trust in financial institutions.

Tanveer, Kumar, and Hema (2023) drew attention to the natural language understanding challenges of chatbot systems, which results in limitations for dealing with customers effectively. Salem (2024) documented customer fears regarding data privacy and an absence of empathy in service, which would likewise be recommended more security and transparency from AI implementations at Lakshmi et al (2024). Kediya et al (2023) to the class depth, speculative psychological disruption due to the impact or potential outcome of AI being superseded by human task completion in banking. Boualleg, Khedri, and Ammari (2024) emphasized the UAE's National Strategy for Artificial Intelligence 2031, to regulate AI's inclusion in banking services as well as data management and customer service. In conclusion, all sources highlighted that while AI has the opportunity for unparalleled efficiency, banks will need to accommodate ethical, empathetic, and regulatory suitability with it as they innovate to keep their customer's trust and loyalty.

Shafi et al. (2023) emphasized that the emergence of AI-powered personalization, fraud detection, and transactional capability has changed digital banking into a more customer-centered environment. Egbuhuzor et al. (2021) claimed similar expectations due to the use of cloud-based, AI-integrated customer relationship management systems to enhance omnichannel engagement and predictive analytics. However, issues surrounding data privacy and cybersecurity risks were also raised. El-Shihy et al. (2024) also noted customer loyalty models would need to reflect technology-enabled service distinctions. Jabbour Al Maalouf and Sarkis (2025) also pointed that organizations that do not engage in personalized AI techniques will lose their competitive advantage due to the marketplace changing. Altogether, the implications of the study suggest the future of AI in banking will likely be contingent on balancing personalization with data privacy, innovation with regulation, and automation with empathy. Banks that are willing to establish transparent and accountable governance principles as well as data privacy principles that prioritize customer satisfaction can adopt and employ AI to not only support the effectiveness of service delivery, but also to build loyal and sustainable customers.

One possible study gap is the lack of a more specific understanding of the role of AI chatbots for retention and engagement in the private banking field in the UAE because there is some global evidence about the positive aspects of chatbots in dissemination and different sectors. Most previous study covers technical issues, ethics, and general customer satisfaction with chatbots, but there has been a demand for study that: assesses the unique cultural, regulatory, and competitive factors of UAE banking; evaluates the specific, measurable changes of AI chatbots on retention and engagement metrics for UAE private banks; and discusses the challenges and best practices in that context. Another gap lies in the lack of comparative analysis between AI-enabled services and traditional human banking interactions to determine their relative influence on customer loyalty. In addition, most study findings are largely generalized and do not consider the cultural, regulatory, and regional context that may influence customer responses. This opens the path for

more context-specific, long-term customer retention strategies.

Research Methodology

The study uses a mixed-method approach by integrating qualitative and quantitative methods to investigate the impact of AI-based chatbots in improving customer retention and engagement in private banks of UAE. The study uses a descriptive and exploratory study to understand the effectiveness of chatbots, while at the same time establishing a statistical validity of the findings. The study was conducted in the United Arab Emirates with the target population of employees from private banks. A "stratified random sampling" design is utilized to obtain representation across different levels of departments and positions in the banks. There were 200 respondents from the entire sample, as participating in the study.

Data Collection and Analysis

Data gathered by "primary and secondary sources," while the main study instrument was a structured questionnaire. The researcher used statistical tools - MS Excel and SPSS version 27 to analyse the data with the appropriate techniques, "mean, standard deviation, correlation and regression" to show the significance of the relationships between independent variable—"AI-based chatbots" and dependent variables—"customer engagement and customer retention."

Conceptual Model

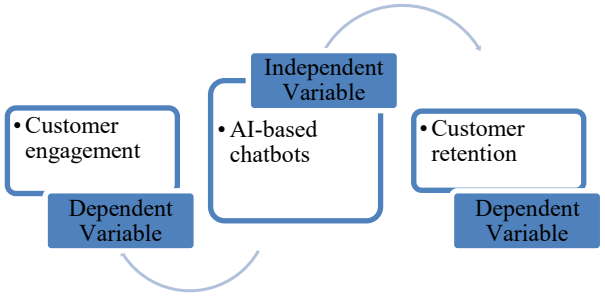

Figure 1: conceptual framework

Source: Authors own compilation

Data analysis and interpretation

Table 2: Demographic profile of the respondents

S.NO	Demographic variables		N	%
1	Age	18-24 years	34	17
		25-34 years	37	18.5
		35-44 years	45	22.5
		45-54 years	44	22
		Above 55 years	40	20
2	Gender	Female	112	56
		Male	88	44
3	Education level	Bachelor's degree	47	23.5
		Doctorate	49	24.5
		High school	48	24
		Postgraduate degree	56	28
4	Occupation	Student	39	19.5
		Self-employed	39	19.5
		Professional	43	21.5
		Private sector employee	42	21
		Public sector employee	37	18.5
5	Banking tenure	Less than 1 year	52	26

		1-3 years	50	25
		4-6 years	56	28
		More than 7 years	42	21
6	Frequency of bank interaction	Frequently	42	21
		Occasionally	56	28
		Rarely	55	27.5
		Very frequently	47	23.5

The table displays a demographic overview of 200 respondents. The largest group of respondents are aged 35-44 years (22.5%), followed closely by those aged 45-54 years (22%) and age 55 and above (20%). Additionally, a significant majority of respondents are female (56%) rather than male (44%). Higher education is postgraduate education (28%), followed by a doctorate (24.5%), high school education (24%) and undergraduates (23.5%). In terms of occupation, the largest groups are professionals (21.5%) and private sector workers (21%), while both students and self-employed account for 19.5% respectively. In terms of banking tenure, the majority of respondents were at their bank for 4-6 years (28%) and 26% across the one-year mark. Engagement interactions represent 28% occasionally, 27.5% rarely, 23.5% very frequently, and 21% frequently, which identifies the various levels of engagement with their respective banks.

H1: AI-based chatbots have a significant positive effect on customer engagement in private banks of the UAE.

Table 3: Descriptive statistics

Descriptive Statistics			
	Mean	Std. Deviation	N
AI- based chatbots	24.3200	4.76246	200
customer engagement	21.9750	5.24135	200

The descriptive statistics table provides a summary of how responses from 200 participants appear in terms of AI-based chatbots and customer engagement. The mean score for AI-based chatbots indicates a score of 24.32 and a SD of 4.76, suggesting that respondents have a relatively high and consistent level of perception or usage for these services. In comparison, the mean score for customer engagement is lower, at 21.98, but has a higher standard deviation of 5.24 when compared to AI chatbots. This indicates that respondents show more variability in their perception or experience of customer engagement behavior. Therefore, the narrower spread of responses for chatbot services indicates more consistency in how respondents feel about these services. Thus, the increased variability in the scores for engagement could reflect differing levels of satisfaction or frequencies of interaction with banking services offered. Generally, the data indicates a favorable view of activity in both variables, with AI-based chatbots viewed slightly more favorably.

Table 4: Correlations

Correlations			
		AI- based chatbots	customer engagement
AI- based chatbots	Pearson Correlation	1	.637**
	Sig. (2-tailed)		.000
	N	200	200
customer engagement	Pearson Correlation	.637**	1
	Sig. (2-tailed)	.000	
	N	200	200
**. Correlation is significant at the 0.01 level (2-tailed).			

The correlation table demonstrates a positive moderate relationship between AI-based chatbots and customer engagement, with a Pearson correlation coefficient of 0.637 which indicates that with an increase in the effectiveness or usage of AI-based chatbots, customer engagement increases too. The significance value ($p = 0.000$) indicates the correlation is statistically significant at the 0.01 level, which means there is a less than 1% chance this is due to random fluctuation of outcomes. Given the sample size of 200 respondents, the data is reliable and shows that AI chatbots have a substantive contribution to customer engagement in banking services. This underlines the potential for chatbot technologies to foster better customer relationship experiences.

H2: AI-based chatbots significantly improve customer retention in private banks of the UAE.

Table 5: Model summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.488[a]	.238	.234	4.24598
a. Predictors: (Constant), AI- based chatbots				

There is a moderate correlation between consumer engagement and chatbots powered by artificial intelligence. An R-value of 0.488 indicates a somewhat favorable link between the independent variable (chatbots powered by AI) and the dependent variable (client engagement). With an R-squared value of 0.238, chatbots powered by artificial intelligence account for 23.8% of the variation in consumer engagement. An explanation based on the number of predictors utilized as a model was supported by the Adjusted R Square value (0.234). The standard error of the estimate, which is 4.25 on average, is the sum of the discrepancy between the actual and anticipated values; it shows the remaining variability that the model did not account for. The model shows that AI chatbots have a pretty strong and meaningful effect on consumer engagement.

Table 6: ANOVA

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1114.264	1	1114.264	61.806	.000[b]
	Residual	3569.611	198	18.028		
	Total	4683.875	199			
a. Dependent Variable: Customer retention						
b. Predictors: (Constant), AI- based chatbots						

To determine the AI-based chatbots are a significant independent variable in predicting client retention, the ANOVA table takes into account the regression model's significance. There is a strong likelihood that the correlation between AI-based chatbots as the independent variable and customer retention is not due to random chance, as indicated by the degree of significance of 61.806 (p-value.000). This suggests that the model is significant at the 0.01 level. There is a substantial amount of variation in the regression model that describes customer retention, as shown by the regression (sum of squares) value (1114.264) and the residual (sum of squares) value (3569.611). Having 199 total observations and a single predictor, the analysis implies that AI-based chatbots have a substantial influence on customer retention and are therefore strategically applicable to the banking operations.

Table 7: Coefficients

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	12.391	1.566		7.912	.000
	AI- based chatbots	.497	.063	.488	7.862	.000
a. Dependent Variable: Customer retention						

The coefficients table indicates the influence of AI-driven chatbots on customer retention. For AI-driven chatbots, the unstandardized coefficient (B) is 0.497, suggesting an increase in customer retention of 0.497 units for every one unit of increase in chatbot effectiveness or use. The t value of 7.862 with a significance level (p = .000) suggests the relationship is highly significant. The standardized coefficient (Beta = 0.488) suggests AI-driven chatbots moderately positively influence customer retention. The constant value of 12.391 indicates customer retention is predicted at this level when chatbot usage is zero. Overall, the findings suggest AI-driven chatbots have a statistically significant and positive role in increasing customer retention in the banking industry.

H3: There are identifiable strategies and best practices for AI-based chatbot deployment that can enhance customer engagement and retention in private banks of the UAE.

The implementation of well-organized AI chatbots is becoming the increasingly popular way of enhancing customer relationships among the private banks in the UAE. Rather than merely automating their responses, the leading banks are combining chatbots with CRM, providing multilingual support and 24/7 availability - the three features relevant to the diverse and digitally active customer population of the region (Ofuani, et al., 2024). The strategies do not only make the delivery process of the services more efficient but also enable the human being to interact in real time, which is crucial in increasing the customer satisfaction and loyalty. Making chatbots respond to personalized recommendations or in an empathetic way makes customers feel that the service is not only intelligent, but also human, which leads to a more powerful interest in the brand (Venkata, 2024).

In addition to the engagement, the well-thought-out chatbot practices helps to retain the customers in the long term, as well. There is improved adaptation of AI systems to the needs of the users over time when the banks continuously train their systems based on customer feedback and behavior analytics. The aspects of data security, human handover in complex cases, and consistent tone of communication are all aspects of trust that is a huge ingredient of client retention in the field of private banking. It is no longer focusing on the very existence of a chatbot but its deployment. The table below

highlights some of those successful practices witnessed among the UAE private banks and how they drive customer interaction and customer retention according to current data trends (Alsheroa, & Iyer, 2025).

Table 8: AI chatbot strategies and their impact on engagement and retention

Best Practice	Observed Impact on Engagement	Observed Impact on Retention
24/7 Availability	High	Moderate
Multilingual Support (Arabic, English, etc.)	Moderate	Moderate
Personalized Recommendations	High	High
Human Handover for Complex Queries	Moderate	High
Integration with Customer Profiles (CRM)	High	High
Regular Updates Based on Feedback	Moderate	High
Secure and Compliant Data Handling	Low	High

Source: Wang, et al., (2017).

Discussion

Chatbots, which are based on Artificial Intelligence (AI), have become revolutionary tools in the contemporary banking environment and, to be more precise, in the environment of the private banking institution in the UAE (Parthiban, & Adil, 2023). These chatbots are available 24/7 customer support, so the clients can get instant customer service without the constraints of the standard working hours in the traditional banking environment (Vashishth, et al., 2024). The concept of AI chatbots in a fast-tracked and customer-focused area implies that banks can stay technologically relevant by providing real-time responses to their clients (Madasamy, & Aquilanz, 2023). These bots improve customer satisfaction with the solution of simple account questions by consulting the user with more complicated financial operations (Alonge, et al., 2021). They are also able to handle large numbers of interaction at the same time, which exclude wait times and enhance the consistency of the services (Dewasiri, et al., 2024). This ability to respond cultivates trust and dependability in a context in which the customer experience is a deciding factor in customer loyalty (Mohamed, et al, 2023). To respond to the needs of high-net-worth and everyday customers, AI chatbots will become essential to scaling personalized banking services for consumers in an electronically connected and fast-paced world (Alonge, et al, 2023).

Along with providing at-the-moment assistance, AI-enabled chatbots aid in creating a deeper level of customer engagement by providing for the unique personalization of the banking experience (Oyeniyi, et al., 2024). Chatbots have the capability to follow the behavior of customers, their preferences, and transaction history through the combination of advanced data analytics and natural language processing (Sheth, et al., 2022). This enables them to propose their own products to a client, like the appropriate credit card, investment, or saving, based on the financial behavior and objectives of a client (Machireddy, 2023). This kind of data-driven personalization is also beneficial to the UAE private banks, which make ordinary banking experiences worth upgrading (Saxena, & Muneeb, 2024). Chatbots can be used to improve the emotional and functional relationship between customers and their banks by actively engaging in the process of the relevant conversations and anticipating customer needs (Rane, et al., 2024). Such a degree of involvement stimulates the clients to communicate with the digital channels offered by their bank more, enhancing brand loyalty and customer loyalty (Monferrer, et al., 2019). Besides, Ayyadurai, (2018) measured by timely payments of bills, promotions or monetary tips to customers, chatbots augment their role in the day-to-day financial operation of the customer (Zerin, & Karim, 2024). This clever interaction policies ensure that the customers feel that they are heard, and they feel that they are appreciated which are two major elements of retaining them in the long run (Adekunle, et al., 2023).

Besides improving customer experience and interaction, AI-powered chatbots are important in enhancing the efficiency of operations of private banks (Nguyen, & Le, 2025). Conventional customer care processes are not only laborious but also expensive to administer particularly in the event of large number of calls and frequent questions (Walia, 2025). Chatbots enables the banks to redirect these redundant activities to more value-added and complex activities like relationship management or financial consultancy (Pandey, 2025). This two-fold solution, automated regular service and customized human service, allows the private banks to offer greater standards of service without raising the cost (Mehrotra, 2019, April). Additionally, chatbots are actively evolving due to machine learning and are becoming more responsive to the language patterns of customers and more useful with every use (Aslam, 2023). They are capable of dealing with several languages such as Arabic and English to support the multicultural customers of the UAE (Patel, & Trivedi, 2020). Strategically, this digital effectiveness is enabling the private banks to scale their services, minimize operational risks, and stay agile when working in a highly regulated and competitive environment (Bueno, et al., 2024). In the end, it leads to cost-effectiveness and consistency of the customer service experience (Ali Alqararah, et al., 2025).

UAE market and people are competitive and critical of the services provided to them, which favors the strategic adoption of AI-based chats in order to develop an improved operational model in the sector (Abdulsalam, &

Tajudeen, 2024). The applications are used to improve the service delivery; however, they distinguish the banks in the competitive market where clients are an overriding factor that considers the digital innovation (Sousa, et al., 2024). With the introduction of chatbots in the digital strategy, banks can now stay viable amid the new technology and keep pace with the strategic vision of a smart, digitally led economy (Abdulquadri, et al., 2021). As an increasing number of customers seek more personal, streamlined, and technologically driven communication, Artificial Intelligence (AI) Chatbots provide a phenomenal number of options that may be able to meet the expectations and security and compliance rates (Al-Aamri, et al., 2026). They also produce valuable customer insights that banks may apply in order to streamline their products, create superior marketing opportunities, and enhance customer experiences (Pala, 2024). Long-term, this smart systems cease being a system of support and transform into systems of relationship management (Ozay, et al., 2024). In this way, AI chatbots can deliver value in terms of retention and engagement, as well as ensure the acquisition of a new definition of customer-centric banking in the UAE (Bayyapu, et al., 2021).

Conclusion

The study concludes by stating that AI-driven chatbots have emerged as an effective instrument in enhancing customer interaction, retention, and operational efficiency in the context of private banking in the UAE. The study's findings showed that chatbots are significantly satisfied due to their ability to provide feedback in real time, personalization, and allow ongoing communication. This results in better emotional bonds and functional connections between customers and banks. Therefore, private banks can provide personalized financial advice, predict customer needs, and have services that remain largely consistent, which can foster customer loyalty and long-term relationships. From the statistical analysis, we can affirm that chatbots are effective and have a significant positive relationship on engagement and retention, which enhances the strategic importance of chatbots in the transformation of digital banking landscapes. Moreover, AI technology reduces services costs, promotes efficiency, and provides the access that is aligned with the vision of a smart and innovative-based economy in the UAE. Therefore, AI chatbots do not only bring the customer interaction up to date but also assets of a long-term competitive advantage, customer confidence, and future-proof banking work.

The below are the Implications, limitations and future research directions study respectively,

The results of the study have significant implications to banking practitioners and policymakers in the UAE. The AI chatbots have been useful in enhancing the interaction and retention of customers through an efficient and personalized interactive experience with a customer. In the case of private banks, the presence of chatbots as a strategic component of CRM systems can promote trust, loyalty, and satisfaction and ensure the most optimal use of costs on the service. These understanding can be used by policymakers to present AI governance standards that would safeguard data, offer ethical transparency, and adhere to the standards. In addition, chatbot analytics can also help financial institutions to learn more about the behavior of consumers and provide adaptive services according to consumer expectations. On the academic level, the analysis is a contribution to the body of knowledge on the digital transformation of financial services, which proves the practical value of AI-mediated interaction in maintaining customer relationships in the new markets, specifically in the culturally and technologically advanced economies such as the UAE.

Nevertheless, there are a number of limitations in the study even though it is informative. The study population was also confined to 200 participants in the UAE private banks, and this limits its externalization to other financial institutions or geographical areas. The study was based on self-reported information, thereby creating the possibility of response bias or perceptional differences. The current technologies in the field of AI develop fast, which means that the existing discoveries might not be completely able to reflect the future developments in the aspects of chatbot functionality. In addition, the quantitative framework did not examine emotionally and human empathies, which are crucial in gaining customer trust. The cross-sectional type of the study restricts it in the observation of the long-term changes in customer engagement and retention behavior. Finally, the cultural aspects of AI acceptance in the Middle East banking setting should be discussed in more qualitative depth as the statistical findings may be complemented with the insights into the attitudinal undertones of digital transformation acceptance.

Further studies ought to be broadened to include longitudinal and cross-cultural designs to determine how customers are changing their attitudes towards AI chatbots in banks. The comparison of the two types of banks, i.e., of the public and the private ones, or the comparison of the GCC countries would be informative. External validity can be enhanced by the inclusion of more and more varied samples. Furthermore, the analysis of hybrid models combining automation of chatbots and human emotional intelligence may give neutral perspectives on technology-human synergy in the quality of services. The ethical and psychological aspects of AI use such as data privacy, trust, and perceived empathy should also be evaluated in future studies. It may be improved by integrating complex analytical methods such as SEM and sentiment analysis of real-time chat bot communications to provide a better understanding of behavioral dynamics. Furthermore, the combination of qualitative interviews with customers and banking professionals could provide richer information to personalization, satisfaction, and the processes of long-term loyalty

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