Leveraging Artificial Intelligence Tools to Support the Marketing of Digital Banking Services: A Case Study of Al Rajhi Bank

Ahmed KHELIFA[*1] ،Manal HACINI [2]
[1] **University of Chlef (Algeria), a.khelifa@univ-chlef.dz**
[2] **University of Chlef (Algeria), m.hacini@univ-chlef.dz**

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Abstract:
This research aims to examine the role of artificial intelligence (AI) technologies in enhancing the effectiveness of digital marketing for banking services by analyzing how they are employed to improve customer targeting, personalize marketing campaigns, and boost engagement and satisfaction, with a focus on the experience of Al Rajhi Bank in the Kingdom of Saudi Arabia. The study highlights the strategic pillars relied upon by the bank—financial strength, a large customer base, and market dominance—and their role in supporting AI models and developing data-driven marketing. The digital results show significant achievements, including a +180% YoY growth in data-driven marketing revenues, an +80% YoY increase in digital customer engagement, and a 95% share of digitally active customers. AI technologies also contributed to enhancing digital personal financing experiences by 86% and raising the mobile app rating to 4.7/5. These results confirm that adopting AI-supported digital marketing strategies improves operational efficiency and marketing value for banks, aligning with the objectives of Saudi Vision 2030 to support digital transformation and innovation in the financial sector.
Keywords : AI, Digital Marketing, Banking Services, Customer.
JEL Classification : G21, M31, O33, L86

Introduction:

The banking sector is undergoing a rapid digital transformation driven by the continuous advancements in artificial intelligence technologies, which have become a fundamental pillar in enhancing the effectiveness of digital marketing for banking services. These technologies contribute to analyzing customer behavior, personalizing offerings, and improving the user experience, thereby enabling banks to achieve a competitive advantage. In this context, Al Rajhi Bank represents a leading model in the adoption of artificial intelligence within its digital marketing strategies. This orientation aligns with the objectives of Saudi Vision 2030, which seeks to build an innovative and digital financial sector. Accordingly, this study highlights the role of artificial intelligence technologies in supporting digital banking marketing and enhancing its efficiency and effectiveness.

- Research Problem:

To what extent do artificial intelligence technologies contribute to enhancing the effectiveness of digital marketing for banking services at Al Rajhi Bank, in light of the orientations and determinants of Saudi Vision 2030?

- Research Hypothesis:

Artificial intelligence technologies play a significant role in enhancing the effectiveness of digital marketing for banking services by improving customer targeting, personalizing marketing content, and increasing levels of customer engagement and satisfaction. This is evident in the experience of Al Rajhi Bank and is consistent with the objectives of Saudi Vision 2030 in supporting digital transformation and developing the financial sector.

* Corresponding author

- Research Objective:

This study aims to analyze the role of artificial intelligence technologies in enhancing the effectiveness of digital marketing for banking services by highlighting their contribution to improving customer targeting, personalizing marketing offers, and enhancing the customer experience. Al Rajhi Bank is adopted as an applied case study within the framework of supporting the objectives of Saudi Vision 2030, which seeks to develop an innovative and competitive digital banking sector.

- Significance of the Study:

The importance of this research lies in highlighting the pivotal role of artificial intelligence technologies in enhancing the effectiveness of digital marketing for banking services through improved targeting, personalization, and increased customer engagement. The study also has practical significance by analyzing the experience of Al Rajhi Bank as a leading model aligned with the objectives of Saudi Vision 2030 in supporting digital transformation and developing the financial sector.

- Research Methodology:

To address the theoretical aspect of the research, a deductive approach was adopted using descriptive and analytical tools. The applied aspect relied on a combination of the deductive approach for descriptive purposes and the inductive approach to analyze a set of indicators and values related to Al Rajhi Bank.

Previous Studies:

1-Awad, A., & Ghonim, A. (2025). Data-driven marketing in banks: The role of artificial intelligence in enhancing marketing efficiency and business performance. International Review of Management and Marketing, 15(5), 45-58 ; (Abdelrehim & Adel , 2025).

The study aimed to examine the role of artificial intelligence in transforming banking marketing strategies, with a focus on its impact on marketing efficiency, customer engagement, and business performance, using a mixed-method approach that included surveys and interviews conducted in Egyptian banks.

The findings revealed a statistically significant positive relationship between the adoption of artificial intelligence and marketing efficiency ($\beta = 0.632$), customer engagement ($\beta = 0.588$), and business performance ($\beta = 0.609$), with noticeable improvements in segmentation and predictive capabilities.

2-Nimbalkar, A., & Batule, R. (2024). A study of the impact of AI on digital marketing of banking services in Ahmednagar District. Library Progress International, 44(3), 210-223 ; (Atul & Batule, 2024).

The research aims to measure the impact of artificial intelligence technologies on the digital marketing of banking services in Ahmednagar District by surveying the opinions of 184 employees to assess the level of efficiency, targeting accuracy, and customer engagement.

The results indicated that 65–69% of the employees reported significant improvements in marketing efficiency, targeting accuracy, customer interaction, and customer satisfaction, with statistically significant evidence ($p < 0.001$) confirming the positive impact of artificial intelligence on banks' digital performance.

3-

SI Ahmed , Z., & Gourine, H. (2026). The Role Of Banking Governance Tools In Enhancing The Financial Performance Of Commercial Banks: A Case Study Of Al Rajhi Bank. Journal of Economics and Finance (JEF), 12(1), 287-306. (SI AHMED & GOURINE, 2026)

The study aims to examine the impact of banking governance tools on the financial performance of commercial banks, using Al Rajhi Bank as a case study. It focuses on key indicators such as profitability, efficiency, and sustainability.

The findings show that effective governance—through active boards, risk committees, and transparent reporting—improves ROA and ROE, strengthens customer and investor trust, and

enhances competitive position. Al Rajhi Bank exemplifies how robust governance ensures long-term financial stability and superior performance.

Axis 01: The Theoretical Framework of the Study

I- Artificial Intelligence (Concept, Importance, Benefits, and Impacts)

Artificial intelligence represents an integrated theoretical and technical framework that aims to simulate human cognitive abilities—such as learning, reasoning, and decision-making—through computer systems. The theoretical framework of artificial intelligence is based on a set of concepts and models, including machine learning, artificial neural networks, and natural language processing, which explain how intelligent systems acquire knowledge and apply it to problem-solving.

The technical framework is embodied in the applied tools and technologies that enable the collection and analysis of big data, the development of intelligent algorithms, and the creation of systems capable of prediction and adaptation to changing conditions. This integration between the theoretical and technical dimensions contributes to expanding the scope of artificial intelligence applications, particularly in service and banking sectors, thereby enhancing efficiency and effectiveness in performance.

1- Concept of Artificial Intelligence

- Artificial intelligence is the simulation of human intelligence processes by machines, particularly computer systems. Specific applications of artificial intelligence include expert systems, natural language processing, speech recognition, and machine vision (GOURINE & BENGHALIA, 2025).

- Artificial Intelligence (AI), in its broader sense, refers to the intelligence exhibited by machines, particularly computer systems. It focuses on automating intelligent behavior through machine learning, developing and studying methods and software that enable machines to perceive their environment and take actions that increase their chances of achieving specific goals, with the aim of performing tasks typically associated with human intelligence. These machines can be referred to as artificial intelligence (WIK, 2023).

- It is the technology that enables computers and machines to simulate human intelligence and problem-solving capabilities. AI, alone or in combination with other technologies (such as sensors, GPS, and robotics), can perform tasks that may require human intelligence or intervention

2- Importance of Artificial Intelligence:

Artificial intelligence is not only a tool for improving efficiency but also a pivotal factor in transforming data into real value. It opens new avenues for technological advancements and enhances innovation across various industries. (Gourine & Benghalia, 2025)**:**

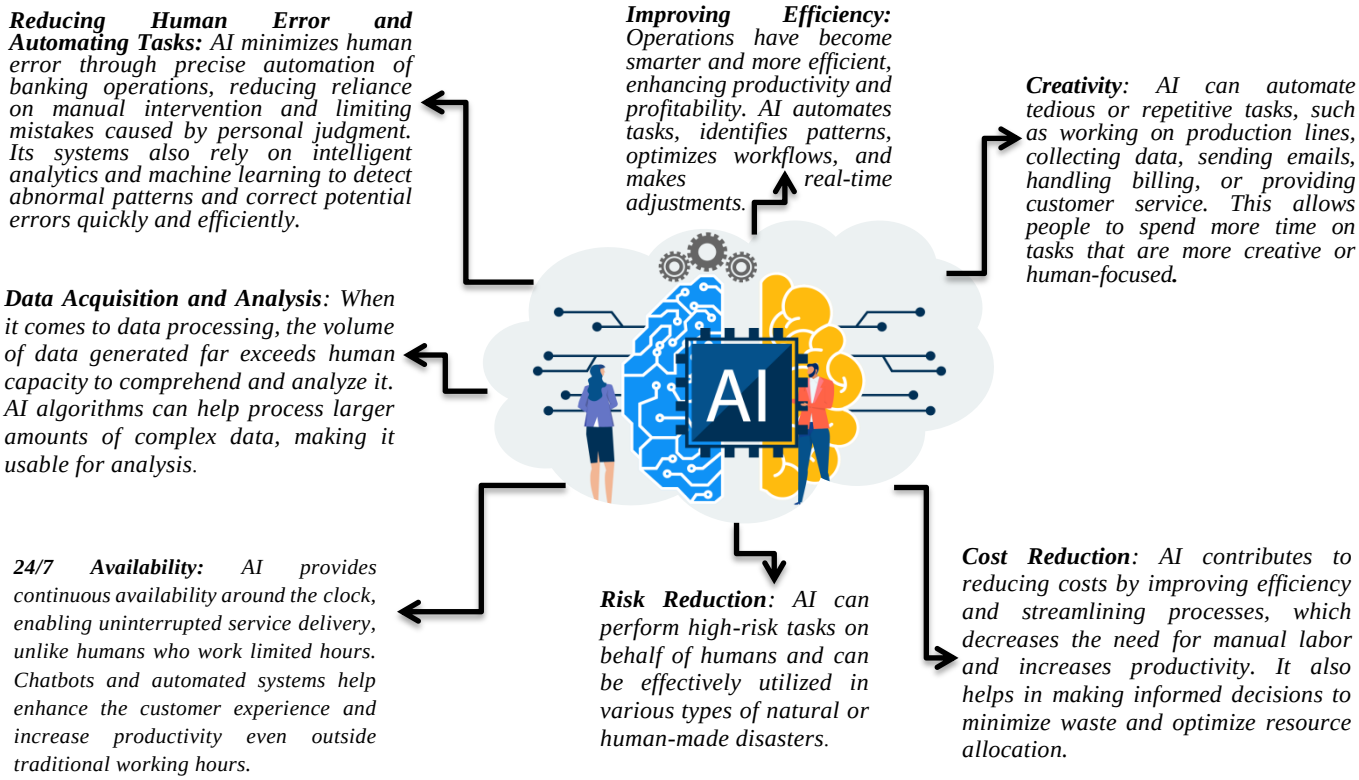
Feature / Concept	Description
Automating Learning and Pattern Discovery	AI automates learning and the detection of recurring patterns in data, rather than performing traditional manual task automation. This enables it to complete large-scale computational tasks reliably and without fatigue.
Enhancing Existing Products	AI enhances many products we already use, such as integrating Siri into modern Apple devices. AI can be combined with automation and robotics to improve user experience.
Adaptation through Learning Algorithms	AI allows data to guide programming, enabling algorithms to gradually learn and acquire new skills, thereby enhancing systems' ability to adapt and improve.
Remarkable Accuracy through Deep Neural Networks	AI achieves high accuracy through deep neural networks. For example, interactions with Alexa and Google rely on deep learning, and their accuracy improves with continued use.
Maximizing the Value of Data	With self-learning algorithms, data itself becomes a valuable asset that can be leveraged to develop systems and enhance long-term performance.

Deeper and Broader Data Analysis	AI can analyze massive amounts of data using deep neural networks with multiple layers, allowing for deeper understanding and more detailed analysis.

3- Benefits of Artificial Intelligence:

Artificial intelligence technologies provide numerous benefits for businesses and the economy, including improving operational efficiency, enhancing innovation, reducing errors, processing data, and other advantages.

Figure 01: Benefits of Artificial Intelligence



Source:(European Council, 2024) & (Tableau, 2024) & (Maheshwari, 2023) & (Duggal, 2024)

4- Impact of Artificial Intelligence : Artificial intelligence directly affects various activities and functions (Goodnight, 2023) :

4.1 Automating Learning and Pattern Discovery: AI enables the execution of repetitive tasks on a large scale with high efficiency, without fatigue or performance decline, making it a powerful tool for processing big data.

4.2 Enhancing Products: AI contributes to the development of many technologies we use daily, such as integrating the voice assistant Siri into Apple devices, as well as enhancing automation, chat platforms, and robotics through the analysis of massive amounts of data.

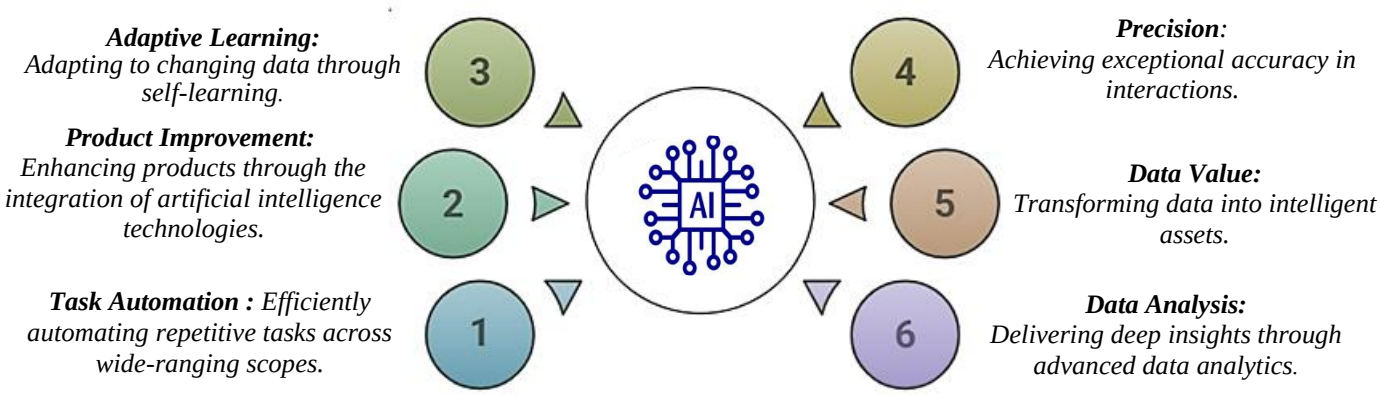
4.3 Adaptation through Learning: AI algorithms rely on self-learning, where data programs these algorithms, helping them acquire skills and improve performance over time.

4.4 Achieving High Accuracy: AI technologies, such as Alexa and Google Assistant, depend on deep neural networks, enhancing the accuracy of their interactions with users, and their effectiveness increases with frequent use.

4.5 Maximizing the Value of Data: When algorithms are capable of self-learning, data itself becomes a critical asset, enabling the development of smarter systems that can adapt to changing needs.

4.6 Deeper Data Analysis: Through the use of multi-layer neural networks, AI can process massive amounts of data with depth and precision, helping extract more detailed insights and improve decision-making.

Figure 02: Impact of Artificial Intelligence



Source: Prepared by the researchers based on(Napkin , 2025)

II- Digital Marketing in Banking (Concept, Importance, Strategies, and Techniques)

Digital banking marketing is practiced through leveraging digital channels, particularly the internet and mobile applications, with the aim of promoting banking services, attracting customers, and enhancing their loyalty by building sustainable relationships. Recent international studies also highlight the importance of aligning traditional marketing strategies with digital technologies, enabling more effective and personalized interactions with customers (Andri & Ridwan, 2025).

1-Concept of Digital Marketing in Banking

Digital marketing, in general, is defined as: "the use of digital technologies and electronic media to market and promote products and services, including the effective use of the internet, social media, email, online paid advertisements, websites, mobile applications, and other digital channels" (Damian , 2016)

Digital marketing in banking is defined as the use of digital channels such as the internet and mobile applications to promote banking services, attract customers, and build long-term relationships with them. Global research also emphasizes the importance of adapting traditional strategies with technology to achieve personalized and effective interactions (Sharon & Cherian , 2025).

Additionally, digital marketing in banking is defined as: "the strategic employment of digital technologies and electronic media to promote financial products—such as bank accounts, loans, and insurance—with the aim of attracting new customers and enhancing customer engagement and loyalty. It encompasses marketing efforts that rely on digital communication channels to promote and advertise the financial services provided by banking institutions" (Sakhri & Bouchenine , 2025).

2- Importance of Digital Marketing in Banking

Digital marketing in banking is a strategic tool to enhance banks' competitiveness, improve customer experience, and increase financial performance. Additionally, it expands access to banking services for unbanked populations, strengthens trust, and supports innovation through personalization and real-time interaction via digital channels. Its importance can be summarized as follows:

Importance	Content	Practical Implications in Banks
Strengthening Customer Relationships	Digital marketing enhances the strength of customer relationships, with a positive correlation of 0.946 as shown in the Audi Bank study, supporting customer retention and increasing	- Increase customer loyalty and retention- Enhance continuous digital engagement- Attract unbanked populations

	engagement levels across digital platforms. It also contributes to financial inclusion by targeting marginalized groups, as evidenced by Bangladesh's experience in expanding access to banking services.	
Driving Innovation and Performance	Digital marketing explains 66.2% of innovation in banking services by adopting digital marketing practices, with a direct positive impact on revenue and profitability according to international studies. It also helps transform business models and face competition, especially with the accelerated adoption of digital services during the COVID-19 pandemic.	- Develop innovative digital products and services- Improve financial performance and operations- Support the transition to digital business models
Achieving Competitive Advantage	Digital marketing enhances service quality and customer satisfaction, leading to a sustainable competitive advantage through data analysis and personalized marketing messages, as shown by studies in Iraq and Bangladesh. It helps attract new customers and retain them while improving brand image and institutional trust.	- Build a strong digital reputation- Expand customer base and market share- Strengthen trust and institutional loyalty
Expanding Financial Inclusion	Digital marketing plays a key role in promoting financial inclusion by providing fast and flexible access to digital services, as demonstrated by the Qatar Islamic Bank experience, which saw increased awareness and digital usage. It enables banks to target wider markets and reduce global financial gaps.	- Support geographic and digital service outreach- Reduce disparities in financial access- Enhance financial inclusion for excluded groups

Source: (Sakhri & Bouchenine , 2025) ،(Balouza, 2025)**.**

3 -Digital Marketing Strategies in Banking

To achieve success, banks must adopt a combination of digital marketing strategies tailored to their audience and objectives. The key strategies include (DevOptiv, 2025) ،(InvestGlass, 2025):

3.1 Social Media Marketing: Social media platforms serve as essential tools for real-time customer engagement. LinkedIn can be used for professional networking, Instagram for visual storytelling, and X for quick updates. Strategies include sharing financial tips, promoting products, and responding to customer inquiries. For example, a bank could launch an Instagram campaign to highlight its mobile banking app, using engaging visual content to drive downloads.

3.2 Content Marketing: This strategy focuses on providing educational and valuable content that positions the bank as a trusted authority. It includes articles, videos, webinars, and infographics, emphasizing customer needs, increasing engagement, and supporting search engine optimization (SEO).

3.3 Search Engine Optimization (SEO): SEO ensures that the bank's content and website appear at the top of search engine results by targeting relevant keywords, optimizing website structure, creating keyword-rich content, and obtaining backlinks from reputable sites. SEO also enhances user experience through fast-loading, easily navigable pages.

3.4 Email Marketing: Email remains an effective tool for personalized communication. Customers can be segmented based on demographic or behavioral characteristics to receive tailored offers, account updates, or financial advice. Personalization increases open and conversion rates while enhancing customer retention.

3.5 Pay-Per-Click Advertising (PPC): PPC allows banks to target specific keywords to appear at the top of search results, effectively attracting high-intent customers. Retargeting ads can re-engage visitors who did not convert initially.

3.6 Influencer Marketing: Partnering with financial experts or influencers expands the bank's reach, particularly among younger audiences, through credible content such as service reviews or financial tips, thereby boosting trust and credibility.

3.7 Mobile Marketing: With the increasing reliance on smartphones for digital banking, websites and apps must be optimized for mobile devices, ensuring fast loading and easy navigation. Strategies include dedicated apps for payments, transfers, and financial tools, as well as instant alerts and notifications to keep customers informed in real time.

4- Digital Marketing Technologies in Banking (Concept and Role)

Digital technologies are essential tools for banks to enhance the effectiveness of digital marketing by analyzing data, automating campaigns, and improving customer experience across various channels. The following table highlights the key technologies and their roles in improving targeting, engagement, and digital customer loyalty:

Digital Technology	Concept	Role
Data Analytics	Analyzing customer and transaction data to extract patterns, behaviors, and preferences	-Improve targeting of marketing segments. - Personalize digital messages and offers. -Measure marketing campaign performance.
Artificial Intelligence & Machine Learning (AI & ML)	Using intelligent algorithms to process data and predict customer behavior	-Provide personalized recommendations and services. - Automate digital marketing campaigns. - Operate chatbots for customer service.
Customer Journey Tracking	Tracking customer movement across websites, apps, and digital platforms	-Understand the customer's digital experience journey. - Improve digital touchpoints. - Reduce service abandonment rates.
Digital Customer Relationship Management (Digital CRM)	Databases and systems to manage customer information and interactions through unified channels	- Manage customer loyalty and retention. -Send targeted and personalized campaigns. -Enhance the quality of digital communication.
Engagement Platforms	Tools for interaction via apps, email, and social media	-Build continuous engagement with customers. -Publish educational and marketing content. - Enhance the bank's digital image.
Omni-Channel Marketing	Integrating digital channels such as websites, apps, email, and social media	-Provide a unified customer experience across all channels. - Ensure continuity of digital services. - Increase satisfaction and trust.
Paid Digital Advertising	Advertising campaigns via search engines and social media platforms	-Attract new customers to digital services. - Raise awareness of digital banking products. - Direct customers to the app and website.
Digital Identity & eKYC Technologies	Digital verification solutions and user identity management via electronic platforms	- Facilitate remote onboarding to services. - Reduce barriers to digital service adoption. - Support full operational transformation.

Source: (Khojimuratovna, 2023) ،(Balouza, 2025) ،(Andri & Ridwan, 2025)

III- Artificial Intelligence and Enhancing Digital Marketing in Banking

Artificial intelligence (AI) serves as a pivotal tool in advancing digital marketing for banking services, enabling banks to deliver personalized and effective customer experiences. It contributes to the analysis of big data, prediction of customer behavior, and automation of marketing campaigns to enhance engagement and loyalty. Moreover, AI supports innovation and improves operational performance, providing banking institutions with a sustainable competitive advantage in the modern digital environment.

1-The Most Effective AI Models in Banking Service Marketing

Figure 03: AI Models in Banking Service Marketing



Source: Prepared by the researchers

AI models have become a central element in enhancing digital customer services within banking institutions, contributing to improved service quality, faster response times, and an enriched user experience. Machine learning models such as K-Means Clustering, Random Forest, and Gradient Boosting Machines (e.g., XGBoost) are among the most effective, achieving high accuracy in understanding customer needs and predicting behavior. This enables the delivery of personalized and efficient digital services. Experiences from leading banks, such as ING and Wells Fargo, have demonstrated significant improvements in customer satisfaction and digital engagement, with increases ranging from 15% to 25%. The most commonly used models can be summarized as follows:

Model	Description / Role
K-Means Clustering	A clustering model used to segment customers into homogeneous groups based on digital usage patterns and interaction behavior with electronic platforms. It enables the design of personalized digital service paths, improves service relevance, and customizes digital interfaces.
DBSCAN	An advanced clustering model that focuses on detecting outliers and unexpected behaviors in digital data. It is used for identifying recurring issues, monitoring abnormal usage attempts, and enhancing the security and reliability of digital services.
Random Forest	A classification and prediction model that analyzes digital interaction data, complaint logs, and transaction records. It helps predict customer needs, guide them to the most suitable digital channel, and supports automated decision-making.
XGBoost	A high-precision gradient boosting model used to predict customers' future behavior in digital environments. It supports forecasting support requests, improving digital service management, and recommending the most appropriate service at the right time.
Neural Networks	Deep learning models used for advanced personalization (hyper-personalization) in digital services by adapting user interfaces, analyzing interaction history, and enhancing the overall digital customer experience.

Chatbots	Neural network-based applications for handling inquiries and providing instant, 24/7 services. They support digital customer service, reduce waiting times, and improve satisfaction levels.
Service Personalization	AI models used to adapt digital services according to each customer's characteristics and behavior, including customizing service steps, enhancing user experience, and increasing the effectiveness of digital channels.
Intent Detection	Deep learning models for understanding customer intent during digital interactions with intelligent systems. They improve response accuracy, speed up problem resolution, and support natural interactions with digital platforms.
Digital Churn Prediction	Predictive models that anticipate customer disengagement or cessation of digital channel use. They enable proactive interventions, improve service continuity, and reduce digital customer attrition.
Next-Best-Service Recommendation	Intelligent models that suggest the most appropriate digital service at the right time based on customer behavior and past interactions. They enhance service experience, increase usage efficiency, and support automated decision-making.

Source: Prepared based on (datrics, 2024) ،(TS, 2021)، (SuperAgi, 2025) ،(Tran, 2025) ،(renewator, 2025)

2-Benefits of Artificial Intelligence in Banking Service Marketing

Artificial intelligence (AI) is a pivotal element in developing digital marketing strategies for banks, enabling precise personalization, customer behavior prediction, and marketing campaign automation. Studies have shown that employing AI in digital marketing can increase campaign efficiency by up to 63.2% and significantly boost customer engagement. For example, banks such as ING reported a 15–25% increase in engagement and customer satisfaction metrics through the use of AI in predictive analytics and chatbot-powered personalized experiences (SuperAgi, 2025)..

2.1.Personalization & Segmentation: AI allows real-time customer segmentation based on behavioral data and digital transactions, enabling banks to deliver tailored marketing messages that improve customer retention. Studies indicate that 65.8% of banks have enhanced targeting strategies using AI. For instance, at Wells Fargo, customer behavior prediction led to a 15% increase in sales through individualized investment recommendations (Atul & Batule, 2024).

2.2. Predictive Analytics & Automation: AI leverages machine learning to forecast customer needs and optimize advertising campaigns, reducing operational costs and increasing ROI by up to 20%, according to McKinsey reports. Additionally, automation of email and social media campaigns provides instant and continuous interactions, enhancing marketing performance in both public and commercial banks (SuperAgi, 2025).

2.3.AI-Powered Chatbots & Conversational AI: AI-powered chatbots enhance engagement across digital channels by delivering personalized financial advice and transaction alerts, increasing customer satisfaction by 65.2% according to recent studies in the banking sector. In Islamic banks, AI supports international marketing strategies through rapid responses and culturally tailored personalization aligned with local values (Belbey , 2025).

2.4.Performance Enhancement & Innovation: AI transforms traditional marketing models by analyzing big data to detect trends and behaviors, fostering competitive innovation and reducing financial risks (Diab, 2022).

3- Challenges of Using Artificial Intelligence in Banking Service Marketing

The implementation of artificial intelligence (AI) in banking faces a range of significant legal and ethical challenges that impact trust and fairness in financial decisions. These challenges include algorithmic bias, data privacy, transparency, and regulatory compliance, necessitating robust governance frameworks to mitigate risks and discrimination, in line with legislation such as the GDPR and the EU AI Act (Martirosyan, 2025) ،(covisian, 2025) ،(Ngozi , Chinonso, & Adefolake, 2024):

3.1. Algorithmic Bias and Discrimination

- Biased training data can lead to discriminatory decisions in areas such as lending or recruitment, exacerbating inequalities against certain groups.
- "Black-box" models increase these risks due to insufficient transparency.
- Proposed solutions include regular audits and fairness metrics to ensure decision neutrality.

3.2. Data Privacy and Security

- AI relies on large volumes of customer data, increasing the likelihood of legal and security breaches.
- Compliance with laws such as GDPR requires explicit consent and full transparency in data collection and usage.
- Cyberattacks, including money laundering and identity theft, highlight the importance of implementing advanced security systems.

3.3. Transparency and Accountability

- The difficulty in interpreting traditional AI decisions challenges banks' accountability mechanisms.
- Explainable AI (XAI) is required to clarify decision-making processes to both customers and regulators.
- The EU AI Act imposes strict transparency standards, particularly for high-risk AI systems.

3.4. Regulatory Compliance and Legal Requirements

- Legislations such as the EU AI Act and Dodd-Frank Act classify AI systems according to risk levels.
- This imposes high compliance costs and necessitates modifications to legacy systems, with potential duplication of requirements.
- Non-compliance may result in legal penalties due to breaches of anti-discrimination and consumer protection laws.

Axis II: The Practical Framework of the Study (Case of Al Rajhi Bank)

I- General Introduction to Al Rajhi Bank

Al Rajhi Bank is the largest Islamic bank in the world in terms of market value and assets, and one of the leading pioneers of Islamic banking services in the Kingdom of Saudi Arabia. The bank's headquarters are located in Riyadh on King Fahd Road, operating under Commercial Registration No. 1010000096. It is a member of the Al Rajhi Bank Group and listed on the Saudi Stock Exchange (Tadawul) under the symbol 1120 (AlrajhiBank, 2025).

The bank was established in 1957 as a currency exchange center by the Al Rajhi brothers (Saleh, Abdullah, Sulaiman, and Mohammed bin Abdulaziz Al Rajhi). Its commercial and exchange activities were merged in 1978 under the name "Al Rajhi Banking & Investment Company." It later became a Saudi joint-stock company in 1988 and adopted its current name in 2006, fully adhering to Shariah principles in all operations (Wikipedia, 2024).

Al Rajhi Bank's assets amounted to SAR 808 billion (USD 216 billion) and later increased to SAR 1,039 billion, supported by Saudi Arabia's Vision 2030. The bank's paid-up capital stands at SAR 40 billion (USD 11 billion). Al Rajhi Bank employs over 20,000 staff, reaching approximately 24,000 employees (AlrajhiBank, 2025).

The bank operates an extensive network, including more than 500 branches, 4,300 ATMs, around 900,000 point-of-sale terminals, and 136 remittance centers, serving over 18 million customers. Its international presence extends to branches in Jordan, Malaysia, and Kuwait, reflecting its leading position in the global Islamic banking sector.

Al Rajhi Bank offers its clients a comprehensive portfolio of innovative banking products and services that combine the principles of Islamic banking with the requirements of fast-evolving financial markets, ensuring full compliance with Shariah law. The bank plays a pivotal

role in bridging the gap between contemporary 21st-century financial needs and established Islamic values through banking and investment solutions that integrate efficiency, innovation, and sustainability (AlrajhiBank, 2025).

Figure 04: Al Rajhi Bank's Service Products



Source :(AlrajhiBank, 2025)

II- The Use of Artificial Intelligence Technologies in Al Rajhi Bank

Al Rajhi Bank is a pioneer in adopting artificial intelligence (AI) technologies in the Kingdom of Saudi Arabia, leveraging vast data from over one billion annual logins to train AI models, while ensuring full Shariah compliance across all applications. The bank applies AI across digital marketing, customer service, risk management, and predictive analytics, supported by partnerships with IBM and Feedzai (AlrajhiBank, 2024), (Kitishian, 2025):

1- Digital Marketing: AI applications in digital banking demonstrate the bank's ability to significantly enhance operational and marketing performance. In digital marketing, Al Rajhi Bank employs an advanced AI system capable of processing real-time events—such as large transactions or declined purchases—to trigger personalized notifications through a library of hundreds of automated actions. This integration of data and analytics contributed to a 180% growth in data-driven marketing revenue in 2024, highlighting AI's effectiveness in improving marketing targeting and campaign efficiency.

2- Customer Service: In customer service, the bank relies on the "Rajhi" chatbot, which operates 24/7 using natural language processing (NLP) technologies, supported by generative AI to personalize loyalty offers based on each customer's local spending patterns. These tools provide a highly personalized and efficient banking experience, enabling customers to receive instant responses to inquiries, thereby enhancing customer satisfaction and strengthening institutional loyalty.

3- Risk Management: In risk management and fraud detection, AI models are employed to identify suspicious activities in real time, supported by Feedzai. The integration of APIs has expanded digital connectivity from 83 to 218 interfaces, enhancing the bank's ability to monitor financial risks efficiently and proactively prevent fraud. This ensures transaction security and maintains trust between the bank and its customers.

III- Banking Services at Al Rajhi Bank

Al Rajhi Bank operates within a comprehensive and diversified banking business model, aiming to meet the needs of different customer segments while strengthening its competitive position in the banking sector. This diversity reflects the bank's holistic and integrated services, promoting financial stability and supporting economic growth. The bank's operations can be categorized into the following main areas (Alrajhi Bank, 2025) ،(tahweelalrajhi, 2025):

1- Retail Banking: Retail banking is the cornerstone of Al Rajhi Bank's operations, offering integrated financial solutions including personal, home, and auto financing with Shariah-compliant flexible installment plans, as well as digital services to enhance customer experience and financial inclusion. The bank provides multiple packages tailored to various customer segments: Classic, Excellence (Platinum), Diamond Excellence (Signature), and Private Banking (Infinite), along with debit and electronic payment cards. Its rewards program allows customers to earn and redeem points with over 270 commercial partners in Saudi Arabia, enhancing customer value and experience.

2-Corporate Banking: Through corporate banking, the bank provides specialized financial services to businesses and institutions, including financing, cash management, and trade services, supporting business sustainability and improving operational efficiency.

3- Small and Medium Enterprises (SMEs): Al Rajhi Bank places special emphasis on the SME sector by offering flexible banking products and services that support entrepreneurship and stimulate economic growth.

4-Treasury Operations: This area focuses on liquidity management, investments, and financial risk management to ensure financial balance, stability, and profitability for the bank.

5- International Banking:

International banking reflects Al Rajhi Bank's global reach, providing cross-border banking services and supporting trade and investment at regional and international levels.

6-Digital Banking Services: The bank relies on the "Al Rajhi" mobile app for comprehensive account management, enabling features such as adding beneficiaries via QR codes, bill payments, standing orders, and card requests, along with dark mode and instant transaction alerts. The "Tahweel Al Rajhi" service allows local and international transfers to over 200 countries through 102 banks, with free personal and SWIFT transfer insurance to ensure speed and security. The telephone banking service operates 24/7 via the number 920000084, supporting multiple languages.

7-Corporate and Investment Services: In the corporate sector, Al Rajhi Bank provides comprehensive solutions through its subsidiaries, such as Neoleap, including commercial financing, liquidity management, and Shariah-compliant investment services. AI technologies are integrated to enhance operational efficiency and support precise financial decision-making. The bank serves over 18 million customers through 537 branches and 4,322 ATMs across Saudi Arabia, reflecting a robust network and infrastructure capable of meeting the needs of all customer segments, whether retail or corporate.

IV- Strategic Pillars of Al Rajhi Bank in Implementing Artificial Intelligence to Enhance Digital Marketing

The ability of any institution to dominate a highly technology-intensive field such as artificial intelligence (AI) relies not only on ambition but also on substantial resources, market reach, and strategic assets that can be leveraged to outperform competitors. Al Rajhi Bank, as a financial giant in Saudi Arabia and the Middle East, possesses these three essential elements: financial strength, a massive customer base, and market dominance. These form the strategic pillars upon which the bank builds its AI-driven future.

1-Financial Strength: Funding and Profits to Support AI Ambitions Developing and deploying enterprise-level AI solutions requires significant investments in technological infrastructure, data science teams, and long-term R&D. By 2024, Al Rajhi Bank's key financial metrics were (AlrajhiBank, 2024):

- Total assets: SAR 974 billion (~USD 260 billion)
- Market capitalization: SAR 378.6 billion
- Net income: SAR 19.7 billion (+19% YoY)
- Return on average equity (ROE): 21.06%
- Cost-to-income ratio (C/I): 24.87%, indicating high operational efficiency and enabling the bank to direct capital towards future digital initiatives, including the fourth strategic pillar: Digital & Data.

2- Massive Customer Base: Data Power from 18.5 Million Clients If capital drives AI development, data is its fuel. Al Rajhi Bank has the largest customer base in the Middle East (>18.5 million clients), providing dynamic, high-volume financial behavior data (Kitishian, 2025):

- Over 1 billion digital application logins in 2024
- Extensive physical network: 512 branches, 4,371 ATMs, 786,000 point-of-sale terminals

This multi-channel data foundation enables the development of highly accurate AI models for personalized marketing, fraud detection, and risk analysis.

3- Market Dominance: Share in Key Sectors The bank's large market share provides a unique competitive advantage in developing AI models (Kitishian, 2025):

- Retail banking: 41.3%
- Personal financing: 41%
- Mortgage market: 41.3%
- Auto financing: 43.7%

Additionally, the Net Promoter Score (NPS) reached 81 in 2023, reflecting strong customer loyalty and ensuring a continuous flow of high-quality data to train AI models accurately and efficiently. This financial and data dominance creates a self-reinforcing growth engine, enhancing market position and AI service performance.

4- Strategic Roadmap & Digital Transformation : In 2024, the "Group Unification Strategy" was launched to integrate all digital services, branches, and subsidiaries into a cohesive ecosystem, emphasizing a seamless, unified customer experience across all financial products. The Digital & Data pillar supports the other three pillars: B2C, B2B, and business support, enhancing data-driven decision-making and service efficiency (AlrajhiBank, 2024).

Key 2024 objectives focused on three main areas. First, expanding digital capabilities across the group, where the share of digital transactions increased from 94:6 in 2023 to 95:5 in 2024, reflecting near-complete digitization of operations (AlrajhiBank, 2024).

5- Technology Infrastructure & Strategic Partnerships (IBM, 2024) :

- Adoption of Generative AI and Machine Learning as the foundation for intelligent personalization.
- Advanced infrastructure with strategic partnerships, such as IBM for cloud computing and RATL Technology for blockchain-based financing.
- Partnerships reduce risks and accelerate access to advanced technology.

6- Alignment with Saudi Vision 2030 (ghazzawi, 2025):

- Supporting the Financial Sector Development Program (FSDP) to promote digital transformation and increase financing for SMEs.
- Leveraging Open Banking frameworks to enhance competitiveness.
- Collaborating with Saudi universities to develop local AI talent.

7- Global Leadership: Shariah-Compliant AI

- Islamic finance global market: USD 4.5 trillion, projected to reach USD 6.67 trillion by 2027.
- Applying AI to develop Shariah-compliant products (AlrajhiBank, 2024):
  - Automatic compliance with Shariah principles
  - Robo-advisors for Shariah-compliant investments
  - Risk assessment based on risk-sharing principles and asset-backed financing
- The Shariah-compliant customer database (>18.5 million clients) provides unique data to train AI models with precision.

V- The Use of Artificial Intelligence in Digital Marketing at Al Rajhi Bank (Tools and Achieved Results)

Al Rajhi Bank relies on an advanced ecosystem of artificial intelligence (AI) tools and technologies in its digital marketing of banking services, enabling tangible results in revenue growth, customer engagement, and digital transformation.

1- AI Tools and Technologies for Digital Marketing of Banking Services at Al Rajhi Bank

Al Rajhi Bank relies on an integrated ecosystem of artificial intelligence tools, including a real-time marketing platform, hyper-personalization and predictive analytics, the "Rajhi" chatbot, and campaign management and CRM systems with social media analytics, to deliver customized and effective offers and services across all digital channels. The bank further strengthens these efforts through partnerships with specialized providers such as Moneythor and IBM, enhancing financial recommendations, automating transactions, and improving the overall digital and investment experience for customers :

AI Tool / Platform	Concept / Function
Real-Time Marketing Engine	The bank relies on an event-driven real-time marketing engine that captures customer events such as card transactions, declined transactions due to insufficient funds, or app browsing behavior. It triggers pre-programmed automated responses from a broad action library, including push notifications, instant loyalty offers, credit limit increase suggestions, or personalized personal finance promotions, supported by machine learning algorithms and predictive analytics to maximize response rates.
Hyper-Personalization & Predictive Analytics	The bank uses machine learning models and behavioral analytics to build detailed customer profiles across all digital channels (mobile, online, cards, POS) with the goal of delivering tailored products and offers to each client. Propensity and Next-Best-Offer models are employed to determine the optimal product or offer for each customer at the right time, feeding digital campaigns via SMS, email, push notifications, and other CRM channels.
Rajhi Chatbot & Intelligent Conversational Services	The bank provides a digital assistant, "Rajhi," powered by natural language processing (NLP), to offer 24/7 self-service for account, card, and financing inquiries. It also functions as a marketing channel, delivering appropriate offers during conversations. This assistant reduces dependency on call centers and provides integrated marketing and customer service interactions.
Campaign Management & CRM Platforms with Social Media Analytics	The digital marketing team uses centralized campaign management and CRM systems to integrate all digital campaigns (SMS, push, email, etc.) into a single dashboard, tracking real-time click-through and conversion rates. Social media analytics are used to extract behavioral and engagement patterns, enhancing targeting strategies, particularly for younger segments and new digital products.
Partnerships with Specialized AI Providers	In Malaysia, the bank selected Moneythor as a machine learning-based Personal Finance Management (PFM) platform to deliver personalized financial recommendations and in-app messages based on real-time data and financial behavior. Additionally, "Al Rajhi Financial" leverages IBM AI and intelligent automation solutions to accelerate investment transactions and enhance the investment app experience, including digital marketing of investment products.

Source : (Lean Tech, 2025) ،(linkedin, 2025) ،(eyeofriyadh, 2023) ، (Kitishian, 2025) ،(AlrajhiBank, 2025) ،(arbaaa, 2025)

2- Digital Results Achieved from Using Artificial Intelligence in Marketing Banking Services at Al Rajhi Bank

Axis / Area	Indicator / Metric	Value / Growth	Detailed Description & Practical Impact
Digital Customer Engagement	Active Digital Customers	95%	Reflects near-complete reliance on digital channels and maximization of data to feed AI models, contributing to improved digital customer experience and enhanced loyalty.
New Customer Online	Digital Account	97%	Indicates the effectiveness of automated registration and digital verification processes, accelerating the growth of

Registration	Openings		the customer base at lower costs compared to traditional branches and enabling rapid integration into AI-driven digital marketing pathways.
Data-Driven Marketing Revenue	Data-Driven Marketing	+180% YoY	Significant revenue growth resulting from the activation of the real-time marketing engine and AI-powered hyper-personalization. Demonstrates the direct link between predictive analytics and financial returns, improving campaign accuracy, conversion rates, and customer value.
Customer Engagement with Digital Campaigns	Engagement Quality / CTR	+80% YoY	Large increase in engagement quality for digital campaigns, including improved click-through rates and targeting precision, due to behavioral analysis and personalization across SMS, push notifications, email, and social media, surpassing industry averages.
APIs	Number of APIs	+83% YoY (218)	Evidence of the bank's ability to build a flexible and integrated digital ecosystem, enabling seamless integration with partners and delivery of innovative services that enhance the digital customer experience.
Digital Personal Financing	Digital Financing Transactions	86%	High proportion of core financial products digitized through NewGen platforms, with rapid and accurate risk assessment and offer personalization, improving the quality of financing decisions and execution speed.
SME Account Openings	Online SME Accounts	+57% YoY	Reflects accelerated onboarding of corporate clients and improved registration experience via smart automation, enhancing the bank's attractiveness to the SME sector and supporting local economic growth.
Mobile App Evaluation	User Satisfaction	4.7/5 (from 3.2M ratings)	Reflects high-quality AI-supported digital user experience, with improved personalization, performance speed, and digital engagement, boosting customer satisfaction and loyalty.
Enhancement of Core Digital Product Experiences	Digital Personal Financing & Core Products	86%	A large portion of financial operations executed via digital platforms, integrating real-time and personalized promotions during the financing journey, enhancing campaign effectiveness and customer satisfaction.
Overall Financial Performance	Net Profit	18.4 billion SAR (+30% YoY)	Reflects the impact of digitization and AI on operational efficiency and increased returns from digital channels, providing a strong lever for the bank's strategic growth.

Source : (Lean Tech, 2025) ،(linkedin, 2025) ،(eyeofriyadh, 2023) ، (Kitishian, 2025) ،(AlrajhiBank, 2025).

The digital customer engagement metric indicates that 95% of Al Rajhi Bank's customers are active digitally, reflecting the bank's near-complete reliance on digital channels and its strategic use of data to feed AI models. This high level of engagement has enhanced the digital customer experience and strengthened loyalty, positioning digital channels as a central hub for banking interactions and services.

Online onboarding of new customers reached 97%, demonstrating the effectiveness of automated registration and digital verification processes. This efficiency allows for the rapid integration of new clients into AI-driven digital marketing journeys while significantly reducing costs compared to traditional branch-based onboarding.

Data-driven marketing revenues increased by **+180% year-on-year**, driven by the activation of the real-time marketing engine and hyper-personalization powered by AI. This reflects a direct connection between predictive analytics and financial returns, improving campaign accuracy, conversion rates, and overall customer value.

Customer engagement with digital campaigns, measured as **Engagement Quality / CTR**, rose by **+80%**, surpassing industry averages. This improvement is attributed to behavioral analytics

and personalized targeting across SMS, Push notifications, email, and social media, highlighting the effectiveness of data-driven digital marketing strategies.

API usage grew by **+83%**, reaching 218 endpoints, demonstrating the bank's capability to build a flexible, integrated digital ecosystem. This expansion enables seamless integration with partners and supports innovative services that enhance the overall digital customer experience.

Regarding financing products, **86% of personal digital loans** were executed through NewGen platforms, with rapid and precise risk assessments and offer personalization, improving decision quality and execution speed. Online account openings for SMEs increased by **+57%**, reflecting accelerated institutional customer journeys and enhanced registration experiences through smart automation, supporting SME growth and the local economy.

On the user experience front, the mobile application received a rating of **4.7/5** from over 3.2 million reviews, reflecting the high quality of AI-enhanced digital experiences, including improved personalization, performance speed, and engagement support, resulting in increased customer satisfaction and loyalty.

Finally, overall financial performance shows a **net profit of SAR 18.4 billion (+30% YoY)** in the first nine months of 2025, illustrating the impact of digitalization and AI in boosting operational efficiency, increasing returns from digital channels, and providing a strong lever for the bank's strategic growth.

VI-Challenges in Implementing AI Tools in Banking Services and Marketing at Al Rajhi Bank

Despite its leadership in AI, Al Rajhi Bank faces several key challenges in implementing AI tools for banking services and marketing, as highlighted by digital transformation reports and Saudi studies. These challenges include data privacy, algorithmic bias, talent gaps, and integration with legacy systems (Kitishian, 2025), (AlrajhiBank, 2024):

1-Data Privacy and Regulatory Compliance: Compliance with PDPL and SAMA regulations presents a significant challenge. Processing data from over 20 million customers raises security concerns and potential fines, requiring advanced encryption and regular AI audits. According to a Klover report, data privacy concerns slow down the deployment of hyper-personalization initiatives.

2-Algorithmic Bias and Transparency: Algorithms trained on historical data may reproduce biases, affecting marketing targeting and financial decision-making. Addressing this requires Explainable AI (XAI) models and ethical audits to prevent discrimination. Such challenges hinder the expansion of the "Rajhi" chatbot and real-time marketing efforts.

3-Talent Gap and Costs: The shortage of AI and machine learning experts slows implementation, with high costs for training and partnerships (e.g., IBM and ServiceNow), especially under the Saudi Vision 2030 framework. While the bank relies on external partnerships to bridge the talent gap, retaining skilled professionals remains a persistent challenge.

4-Integration with Legacy Systems: Integrating AI with traditional core banking systems is difficult, slowing the adoption of predictive and real-time campaigns despite the NewGen upgrade. This increases both costs and implementation time. Saudi studies emphasize the need for fully cloud-based infrastructures to enable efficient AI deployment.

These constraints illustrate that, although Al Rajhi Bank is a regional AI leader, successfully scaling AI-driven banking services and marketing requires ongoing investment in technology, talent, compliance, and infrastructure.

Conclusion:

Artificial intelligence (AI) technologies represent a fundamental pillar in enhancing the effectiveness of digital marketing for banking services by improving customer targeting, personalizing offers, and elevating the quality of digital interactions. The study highlighted that

leveraging these technologies contributes to enhancing the customer experience and increasing loyalty while achieving operational efficiency and sustainable competitive advantage for banks. The case of Al Rajhi Bank demonstrated clear success in integrating AI within its digital marketing strategies, aligning with innovation and digital transformation objectives. The research confirms that this approach is closely aligned with the goals of Saudi Vision 2030, which aims to build a smart and advanced financial sector. Accordingly, widespread adoption of AI technologies in banking marketing emerges as an indispensable strategic choice. Moreover, this field opens promising avenues for future research to examine the impact of AI on financial performance and financial inclusion.

1- Hypothesis Testing:

The study is based on the hypothesis that artificial intelligence (AI) technologies play a significant role in enhancing the effectiveness of digital marketing for banking services by improving customer targeting, personalizing marketing content, and increasing engagement and customer satisfaction. This impact is evident in the case of Al Rajhi Bank and aligns with the objectives of Saudi Vision 2030 in supporting digital transformation and developing the financial sector.

The study's findings indicate that Al Rajhi Bank's adoption of AI technologies has clearly contributed to more precise marketing targeting and higher digital engagement with customers. This is reflected in the growth of data-driven marketing revenues and an improved digital user experience. Accordingly, the hypothesis is accepted, confirming the positive and effective impact of AI technologies on enhancing the effectiveness of digital marketing for banking services.

2- Study Results:

- The study confirmed that artificial intelligence (AI) technologies contribute significantly to enhancing the effectiveness of digital marketing in banking services by improving customer targeting, personalizing content, and elevating the quality of digital engagement.
- AI enables precise analysis of large-scale banking customer data, allowing banks to predict customer behavior and future needs, thereby making marketing decisions more efficient and effective.
- The experience of Al Rajhi Bank demonstrates tangible success in utilizing AI technologies, such as predictive analytics, chatbots, and hyper-personalization, to increase digital engagement and improve the customer experience.
- The use of AI-powered real-time marketing systems at Al Rajhi Bank has contributed to growth in data-driven marketing revenues and notable improvements in campaign conversion rates and quality.
- Intelligent chatbots play a key role in supporting digital banking marketing by providing personalized, instant services around the clock, enhancing customer satisfaction and loyalty.
- AI strengthens banks' competitive advantage by improving operational efficiency, reducing marketing costs, and enabling better integration across digital channels.
- The adoption of AI in digital banking marketing aligns with the objectives of Saudi Vision 2030, particularly in promoting digital transformation, innovation, financial inclusion, and building a smart and sustainable financial sector.

3- Study Recommendations:

- The study recommends expanding the adoption of AI technologies within banks, making them a core element of digital marketing strategies rather than a mere supporting tool.
- Investment should be increased in big data analytics and machine learning systems, given their pivotal role in improving marketing targeting accuracy and personalizing banking offers.

- Banks should further develop the use of intelligent chatbots and generative AI technologies to provide personalized, interactive banking experiences that meet diverse customer needs.
- Integration of digital marketing platforms with AI-powered Customer Relationship Management (CRM) systems should be prioritized to ensure a unified customer experience across all digital channels.
- Ethical and regulatory considerations in AI usage should be addressed, particularly regarding data protection, privacy, and minimizing algorithmic bias, to enhance customer trust.
- Investment in training banking human resources through specialized programs in AI and digital marketing is essential to ensure effective and sustainable use of these technologies.
- Banks are encouraged to align their AI strategies with the objectives of Saudi Vision 2030 by supporting financial innovation, enhancing financial inclusion, and developing smart, Sharia-compliant digital banking services.

Bibliography:

1. Abdelrehim , A., & Adel , G. (2025). Data-Driven Marketing in Banks: The Role of Artificial Intelligence in Enhancing Marketing Efficiency and Business Performance. International Review of Management and Marketing, 15(5), 422-431.
2. SI AHMED , Z., & GOURINE, H. (2026). The Role Of Banking Governance Tools In Enhancing The Financial Performance Of Commercial Banks: A Case Study Of Al Rajhi Bank. Journal of Economics and Finance (JEF), 12(1), 287-306.
3. AL rajhi Bank. (2024). customer engagement and responsible banking-digital transformation. Consulté le 12 03, 2025, sur https://www.alrajhibank.com.sa/ir24/customer_engagement_and_responsible_banking/digital_transformation.html
4. Alrajhi Bank. (2025). Banking at Anytime & Anywhere . Consulté le 12 19, 2025, sur https://www.alrajhibank.com.sa/
5. AlrajhiBank. (2024). digital footprint and technology transformation. Consulté le 12 28, 2025, sur https://www.alrajhibank.com.sa/ir23/business_in_perspective/digital_footprint_and_technology_transformation.html
6. AlrajhiBank. (2024). Report Context: Strategic Direction. Consulté le 12 26, 2025, sur https://www.alrajhibank.com.sa/ir24/ar/context/strategic_direction.html
7. AlrajhiBank. (2025). al rajhi bank group. Consulté le 12 15, 2025, sur https://www.alrajhibank.com.sa/ir23/ar/overview/this_is_al_rajhi_bank.html
8. Andri , C., & Ridwan. (2025). Digital Marketing Strategy at XYZ Bank. Dinasti Accounting Review (DAR), 2(4), 166-171.
9. arbaaa. (2025). The Future of Marketing in Saudi Arabia: Innovation, Culture, and Technology. Consulté le 12 22, 2025, sur https://www.arbaaa.com/the-future-of-marketing-in-saudi-arabia-innovation-culture-and-technology/
10. Atul , N., & Batule, R. (2024). A Study of The Impact of AI On Digital Marketing of Banking Services In Ahmednagar District. Library Progress International, 44(3), 7783-7789.
11. Balouza, M. (2025). Integrating digital marketing for enhanced banking performance. Edelweiss Applied Science and Technology, 8(6), 6325-6334.
12. Belbey , M. (2025). The Role of Artificial Intelligence in Developing International Marketing Strategies for Islamic Banking Services: A Case Study of Kuwait Finance House. Journal of Information Systems Engineering and Management, 10(4), 2344-2358.
13. covisian. (2025, 09 25). AI in Financial Customer Service: overcoming ethical and regulatory challenges. Consulté le 12 19, 2025, sur https://covisian.com/tech-post/ai-financial-customer-service-ethics-compliance/
14. Damian , R. (2016). Understanding Digital Marketing: Marketing Strategies for Engaging the Digital Generation. UK: Kogan Page Publishers.
15. datrics. (2024). Leveraging AI and ML for Advanced Customer Segmentation in Banking. Consulté le 12 23, 2025, sur https://www.datrics.ai/articles/leveraging-ai-and-ml-for-advanced-customer-segmentation-in-banking
16. DevOptiv. (2025, April 30). Digital Marketing in Banking Industry: Strategies for 2025. Consulté le 12 22, 2025, sur https://blog.devoptiv.com/digital-marketing-in-banking-industry-strategies-for-2025/
17. Duggal, N. (2024, Mar 21). Advantages and Disadvantages of Artificial Intelligence [AI]. Consulté le Mar 25, 2024, sur simplilearn: https://www.simplilearn.com/advantages-and-disadvantages-of-artificial-intelligence-article
18. European Council. (2024). Benefits and risks of AI. Consulté le 02 01, 2025, sur fficial website of the Council of the EU and the European Council: https://www.consilium.europa.eu/en/policies/benefits-and-risks-of-ai/#benefits
19. eyeofriyadh. (2023, June 21). Al Rajhi Capital Taps IBM AI for its New Digital Application. Récupéré sur https://www.eyeofriyadh.com/news/details/al-rajhi-capital-taps-ibm-ai-for-its-new-digital-application

20. ghazzawi. (2025, 06 25). Open Banking in Saudi Arabia. Consulté le 12 22, 2025, sur https://www.ghazzawilawfirm.com/insights/open-banking-in-saudi-arabia/

21. Goodnight, J. (2023). Artificial Intelligence: What it is and why it matters. Consulté le Mar 21, 2024, sur SAS: https://www.sas.com/en_us/insights/analytics/what-is-artificial-intelligence.html

22. GOURINE, H., & BENGHALIA, K. (2025). Auditing Practices in the Light of Artificial Intelligence and Its Role in Enhancing Corporate Governance: Technologies, Requirements, and Challenges- (With a Proposed Model). National Forum on: The Reality of the Ethics of the Accounting and Auditing Profession in Algeria and Prospects for its Modernization. Algiers: University of Algiers 03.

23. Gourine, H., & Benghalia, K. (2025, March 5). The role of artificial intelligence in establishing the foundations of e-government to improve public services (requirements and challenges) A proposed model. Consulté le March 15, 2025, sur researchgate: https://www.researchgate.net/publication/389901061_The_role_of_artificial_intelligence_in_establishing_the_foundations_of_e-government_to_improve_public_services_requirements_and_challenges_A_proposed_model

24. IBM. (2024). Al Rajhi Capital's journey to Saudi Arabia's financial summit. Consulté le 12 05, 2025, sur https://www.ibm.com/case-studies/al-rajhi-capital

25. IBM. (2024). What is artificial intelligence (AI)? Consulté le Mar 24, 2024, sur IBM: https://www.ibm.com/topics/artificial-intelligence

26. InvestGlass. (2025, February 20). Top Banks Marketing Strategies to Boost Customer Engagement in 2025. Consulté le 12 15, 2025, sur https://www.investglass.com/top-banks-marketing-strategies-to-boost-customer-engagement-in-2025/

27. Khojimuratovna, M. M. (2023). IMPROVING THE USE OF DIGITAL MARKETING IN BANKS. European Journal of Economics and Management Sciences, 1-5.

28. Kitishian, D. (2025, July 24). Al Rajhi Bank's AI Strategy: Analysis of Dominance in Banking AI. Consulté le 12 19, 2025, sur https://www.klover.ai/al-rajhi-bank-ai-strategy-analysis-of-dominance-in-banking-ai/

29. Lean Tech. (2025). ARTIFICIAL INTELLIGANCE IN Banking. Récupéré sur https://www.leantech.sg/wp-content/uploads/2025/09/AI_in_Banking_A_Report.pdf

30. linkedin. (2025, octobre 24). Generative AI in Saudi Digital Marketing: Crafting Hyper-Personalized Campaigns. Récupéré sur https://www.linkedin.com/pulse/generative-ai-saudi-digital-marketing-crafting-hyper-personalized-zz01c/

31. Maheshwari, R. (2023, Aug 24). Advantages Of Artificial Intelligence (AI) In 2024. Consulté le Mar 25, 2024, sur forbes: https://www.forbes.com/advisor/in/business/software/advantages-of-ai/

32. Martirosyan, A. (2025). Strategy and Transactions Manager, EY Parthenon. TECHNOLOGY.

33. Ngozi , S., Chinonso, G., & Adefolake, O. (2024). Legal accountability and ethical considerations of AI in financial services. GSC Advanced Research and Reviews, 19(2), 130–142.

34. renewator. (2025, July 30). Optimize Banking Campaigns with Customer Segmentation AI. Consulté le 12 20, 2025, sur https://renewator.com/customer-segmentation-ai-for-multichannel-campaign-planning-in-banking/

35. Sakhri, M., & Bouchenine , L. (2025). The Role Of Digital Banking Marketing In Promoting Financial Inclusion: Insights From Bangladesh. Journal of Economic Integration, 13(2), 240-256.

36. Sharon, S., & Cherian , T. (2025). Exploring Digital Marketing Strategies in the Banking Industry: Effectiveness and Adaptations in a Changing Landscape. International Journal of Research Publication and Reviews, 6(2), 4227-4232.

37. SuperAgi. (2025, 06 29). 5 AI Tools Revolutionizing Customer Journeys in Banking and Finance: A 2025 Overview. Consulté le 12 28, 2025, sur https://superagi.com/5-ai-tools-revolutionizing-customer-journeys-in-banking-and-finance-a-2025-overview/

38. SuperAgi. (2025, 06 25). Dynamic Micro-Personalization in Banking: Case Studies on AI-Driven Customer Experiences. Consulté le 11 30, 2025, sur https://superagi.com/dynamic-micro-personalization-in-banking-case-studies-on-ai-driven-customer-experiences/#:~:text=For%20example%2C%20ING%20has%20used%20AI%20to%20personalize%20customer%20experiences%2C%20resulting%20in%20a%2015%25%20increase%20in%20cu

39. Tableau. (2024). What are the advantages and disadvantages of artificial intelligence (AI)? Consulté le 01 29, 2025, sur https://www.tableau.com/data-insights/ai/advantages-disadvantages#advantages

40. tahweelalrajhi. (2025). Tahweel Al-Rajhi IVR (Interactive Voice Response Banking). Consulté le 12 01, 2025, sur https://www.tahweelalrajhi.com.sa/en/transfer-channels/tahweel-al-rajhi-ivr

41. Tran, D. (2025, October 6). AI in Retail Banking: Top Use Cases You Need To Know. Consulté le 12 22, 2025, sur https://smartdev.com/ai-use-cases-in-retail-banking/

42. TS. (2021, 03 26). How banks can leverage AI customer segmentation. Consulté le 12 26, 2025, sur https://thingsolver.com/blog/customer-segmentation-in-banking/

43. WIK. (2023). Artificial intelligence. Consulté le Mar 25, 2024, sur wikipedia: https://en.wikipedia.org/wiki/Artificial_intelligence

44. Wikipedia. (2024, 01 13). Alrajhi Bank. Consulté le 12 20, 2025, sur Wikipedia, the free encyclopedia: https://en.wikipedia.org/wiki/Alrajhi_Bank.