

Using AI for an Excellent Customer Relationship Management in Some Mobile Telecommunication Companies

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Abstract:

The increasing reliance on AI for Customer Relationship Management CRM is key for high performance in mobile telecommunications market that witnesses severe competition. In this regard, this study aims at finding out the extent to which these companies use AI, and the fields of its use. In addition, the study shall build a frame that matches AI with excellence in managing relationships with the customers, based on the assumption that using AI in managing the relationship with customers fosters excellence.

Keywords: AI, CRM, excellence, mobile télécommunications

Jel Classification Codes : M30, M33

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1. INTRODUCTION

The use of AI in mobile telecommunications is a prominent change that reshaped the sector and influenced competition, as it is an engine for creativity and a better customer experience. Thanks to Machine Learning, Big Data, and Natural Language Processing, AI allows companies to provide customized interactive services, respond to the market needs, and improve the customer experience. In this context, in 2024, NVidia Company found out that 90% of telecommunication companies use AI and that 48% of them are still in the experimental phase while 41% actively provide solutions. In addition, 53% of internet providers believe that AI-based solutions allow for a better competitiveness (O'Brien Keith, & Downie Amanda, 2025) .

The introduction of AI in telecommunications was a giant leap in service delivery, as services are more based on digitalization, self-support, and fast online interaction (Campbell; Collin & Sands, Sean & Ferraro, Carla & Tsao, Hsiu-Y, 2020). Besides, many scholars highlighted the role of AI in customizing and improving services, interaction, and excellence in CRM (Chen et al, 2021) thanks to the analysis of data and preferences, and in fostering customer satisfaction and loyalty (Ledro et al, 2022), mainly that the face-to-face interaction between customers and employees turned into virtual (Borua, et al, 2018).

Based on what was said, this study shall investigate the role of AI for an excellent CRM in telecommunication companies to provide an integrated perspective of AI as a motive and facilitator of the relationship with customers and of relationships management to achieve excellence. In addition, the study shall predict the effect of AI on a dynamic environment that witnesses high competition, and explain how it can turn into a real value in CRM in telecommunication companies. In so doing, the study reviews modern literature from Elsevier, Scopus, and Science Direct from 2018 to 2025 and provides some examples and cases of known companies to find out how they used AI in CRM.

2. THEORETICAL FRAME:

2.1 The Study Terms:

2.1.1 Artificial Intelligence:

It is a branch of computer and information sciences that has highly influenced the organizations' actions and outputs, as it increases productivity and saves time. It uses systems and algorithms that mimic the human intelligence and can rapidly and exactly collect and analyze data to take correct decisions. Legg & Hutter state that "artificial" designates any actions and operations that do not need human intervention, and that "intelligence" refers to the ability to understand, perceive, and learn to manage and solve complicated problems (Legg, S.; Hutter, M., 2007, pp. 17-24). Besides, Minsky defines AI as a tool that integrates robots with computer programs to make complicated tasks that need high mental processes that cannot be made by humans (Minsky, 1960).

The most common definition is that AI is a technique that allows machines to mimic the diverse and complicated human skills, as it mimics the human intelligence in learning and automatically solving problems. AI can be used in many fields, including data analysis, automation of commercial tasks, and developing and innovating products. Thus, it is one of

the most dynamic and influential technological tools (Judijanto, Praja, Pakaya, & Al-Amin, 2024, pp. 732-745). In addition, it improves administration, human resources, and services, and facilitates information storage, procession, use, and retrieval. Moreover, AI helps periodically monitor activities and focus on the most important (Elgamdy, 2024).

2.1.2 Customer Relationship Management:

Buttle (2009) defines CRM as all the measures taken to manage the organization’s interaction with its customers, including sales and services. It is an integrated system to identify, gain, and keep customers. Mendoza, Marius, Pérez & Griman (2006) define it as a work strategy that involves technological activities, and as a process that helps the organization take and execute decisions to develop and consolidate relationships with the customers. Furthermore, (Peffer & Rogers, 2011) see it as a wide business strategy to manage relationships with customers, improve revenues, and achieve goals (al Tai, 2018, p. 62). Besides, it fosters customer satisfaction and loyalty and customizes relationships (Gartner Glossary, 2022 CRM).

Besides, it is seen as a strategy to achieve value for the customers. In this context, Zablah et al. believe it is a strategy that allows directing the customer thanks to the identification of his needs and preferences, and to their satisfaction to gain his loyalty and make revenues. Zablah, Bellenger & Johnston (2004, p. 476) stated that there are about 45 different definitions to CRM that explicitly or implicitly focus on 05 axes, namely the fact of being a process, a strategy, a philosophy, a capacity, or a technology (Zablah, Bellenger & Johnston, 2004, 476). In this context, Day & Van and Reinartz stated that it is a process, Tan, Yen, & Fang saw it as a strategy, Hasan and Firhurst believed it is a philosophy, Peppers, Rogers, & Dorf considered it as a capacity, while Shoemaker and Gefen & Ridings thought it is a technology.

2.1.3 Excellence in CRM:

Despite the lack of specialized references on this question, we managed to find some information, as shown in the table below:

Table 1. Scholars’ perspectives of excellence in CRM

Scholar and year	Perspective of excellence in CRM
Plakoyiannaki & Tzokas (2002)	CRM requires a knowledge-based method with customized values and goals to learn from customers and achieve a sustainable relationship.
Payne & Frow (2005)	Excellent CRM is a strategic process that aims at providing value to the customer thanks to coordination between people, processes, and techniques.
Dionisio, Leal & Moutinho (2008)	The organization excels in managing relationships with customers when it can satisfy or exceed their expectations.
Buttle & Maklan (2019)	Excellence in CRM is about the strategic employment of tools and techniques to establish excellent experiences with long relationships.
Al Harbi (2020)	The integrated use of the organizational resources leads to excellence in CRM if it fosters interaction and exceeds the ordinary service.

The Educational Center for Business Management (2025)	Excellent CRM requires integrating the human knowledge and technology to provide customized proactive services based on the advanced analysis of behaviors.
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Source: By the authors based on (Payne & Frow, 2005) ; (Plakoyiannak & Tzokas, 2002) ; (Dionisio, Leal & Moutinho 2008) ; (Daftara, 2025)

Most scholars see that excellence in CRM is strategic, long-term, and not only related to daily actions. Besides, the excellence is based on (information) analysis, (offers) customization, and (uniqueness) innovation. These differences show the division of the concept into technology, organization culture, and human relationships, as the contemporary organization is supposed to excel in its relationship with the customers, not in the products. Therefore, it should find the suitable methods.

2.2 Integrating AI in CRM:

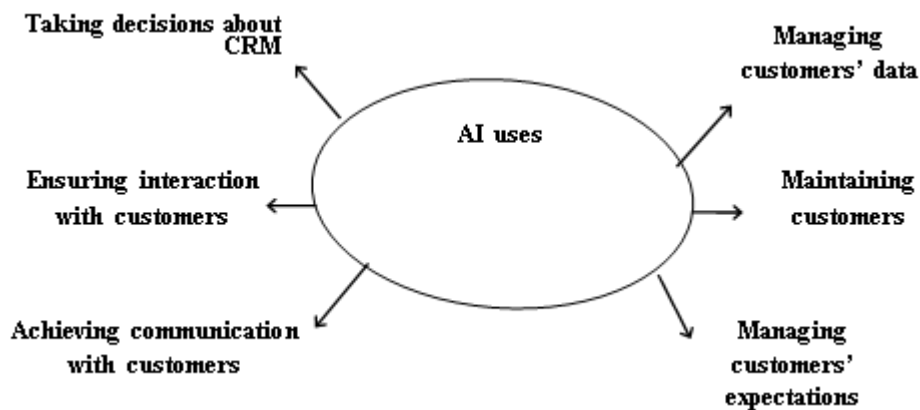
2.2.1 The Importance of AI in CRM:

Organizations integrated AI with CRM to understand and predict the customers’ needs, design strategies, satisfy customers, and maintain loyalty. Besides, the data security and protection ensure privacy and the performance of high-value tasks that require relative exactness, such as data extraction, classification, and interpretation for decision-making. In this context, AI, mainly the generative, is used in sales, communication, after-sale services, and customer satisfaction measurement.

2.2.2 AI-based Customer Relationship Management:

Integrating AI in CRM aims at substituting human employees with machines to understand the nature and content of the human behavior. Figure 01 shows the advantages of using AI in the customer-organization relationship.

Fig.1. (AI uses in the customer-organization relationship)



Source : (Ibrahim; Khater & Abd al Aziz, 2023)

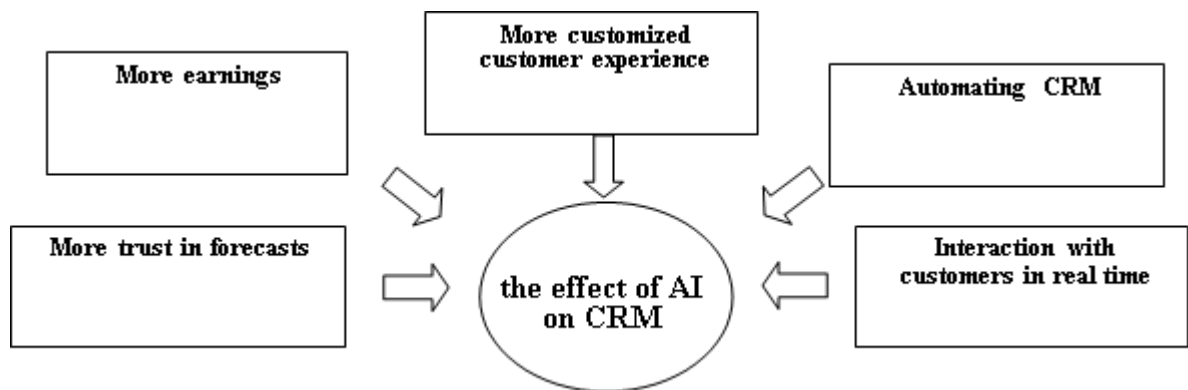
Intelligent systems can continuously perform tasks based on logical programs that allow for customers’ data analysis, expectations management, and continuous interaction and communication to maintain them and take correct decisions. This caused a revolution in CRM and customer service thanks to the machines’ ability of learning, reasoning, interaction, and problem-solving (Sadhu, Parfenov, Saripov, Muravev, & Reddy, 2024). The automation of

CRM using AI relies on self-service portals, databases, and chatbots to allow the customers to get fast replies, independently solve problems, and monitor delivery services without human intervention all along the day for a more positive experience (Sadhu, Parfenov, Saripov, Muravev, & Reddy, 2024, p. 106).

2.2.3 AI Uses in CRM:

This section shows how AI improves CRM. In this context, AI creates a value added and improves profitability and efficiency thanks to the analytical forecasts, electronic communications via email, market researches, and customers' data collection. Figure 02 illustrates the effect of AI on CRM

Fig.2.The Effect of AI on CRM



Source : (Shaikh, et al, 2023, p. 473)

The following lines shall show the effect of AI on CRM.

Interaction with customers in real time: AI fosters interaction with users thanks to the revolution in the methods of creating, sharing, improving, and customizing interactive content based on the quantitative analysis of data and the information on customers' preferences and behaviors (Fastercapital, 2024).

Improving customer-service through chatbots: Through automatic replies, Machine Learning, and Neural Language Programming, AI can understand the human language and learn from interaction with customers. Chatbots ensure replies to users' questions, provides information on products, deals with many customers and inquiries without decrease in quality, saves efforts and costs, and reduces mistakes (Drail, 2024).

Improving Customer Experience with AI:

AI brought about many positive changes in customer experience and improved perceptions and feelings resulting from interaction with the organizations. Besides, it analyzes behaviors and suggests products based on the collected information and the virtual assistance in marketing. In addition, it improves customer experience thanks to forecasts. Moreover, voice recognition facilitates communication with the organization and ensures a quality and rapid service (Arabi, 2024).

2.2.4 The Role of AI-based CRM in Consolidating the Customer Relationship:

Many organizations aim at consolidating their relationships with customers thanks to the modern technologies, such as AI, which help build better experience. Thus, we shall discuss how AI affects CRM.

Effect on Sales: Generative AI positively affects sales and pushes customers to go on dealing with it. Thanks to the continuous direct communication with the organization, AI can

customize the customers' experience all along their relationship. It serves as a sales agent thanks to the chatbots that provide exact evaluation of products and services in real time, and customizes experiences and accelerates the sale cycle (Deloitte, 2023).

Creating Offers that Focus on Customers: AI can be used to improve targeting customers by shifting attention from production to comprehensive solutions to get quality services, reduce waiting time, accelerate delivery, and shift towards more customer-based offers (Deloitte, 2023, p. 25).

Exactness in Targeting Customers and Speed in Generating Potential Customers: AI allows for more exactness in targeting strategies to get more potential customers, recognize them, and direct sellers towards more important customers thanks to the identification of their priorities, management of relationships, and analysis of interaction (Deloitte, 2023, p. 35).

Simplifying Marketing: AI in sales simplifies and increases sales, helps maintain customers, allows for making more than product searches, downloading images, and asking for recommendations. Besides, it facilitates looking for products thanks to natural language recognition and the customized responses with videos, images, and texts (Deloitte, 2023, p. 36).

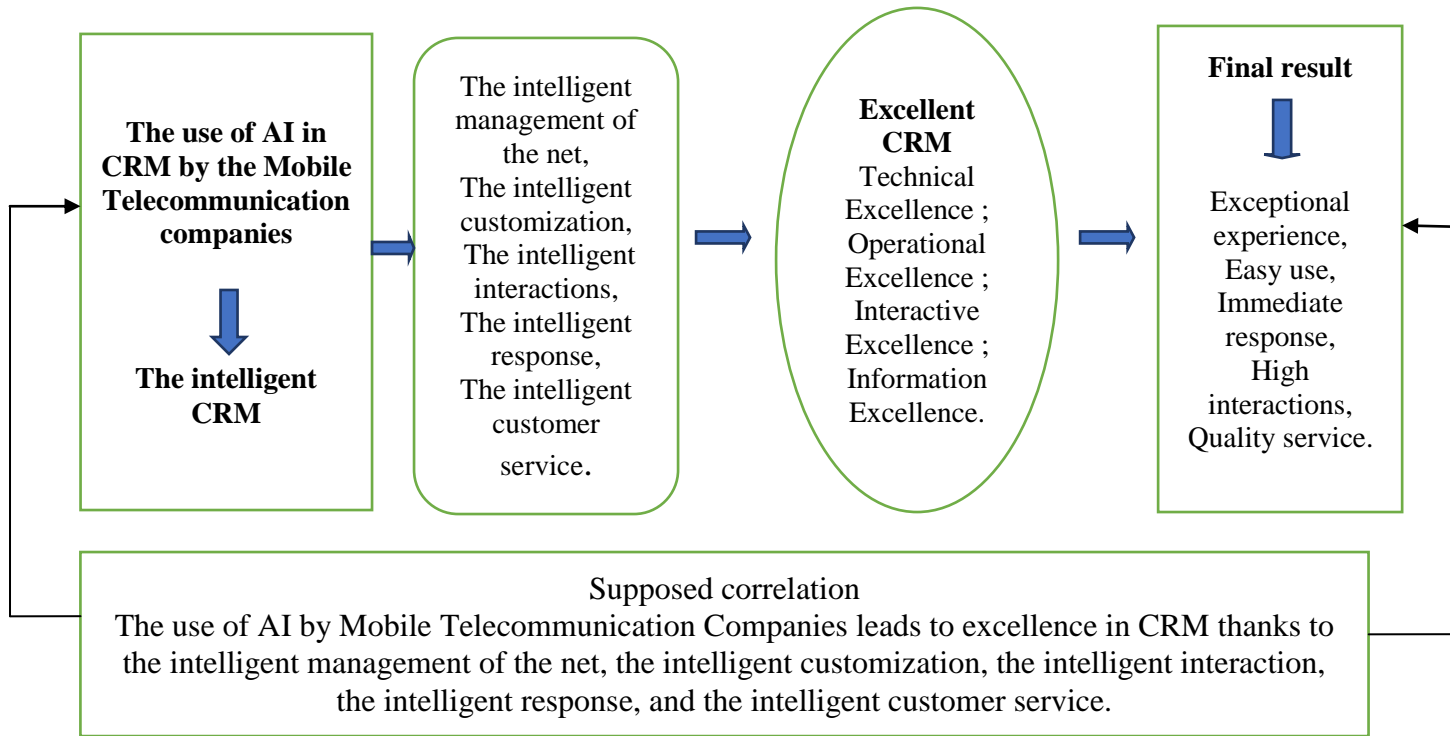
Fostering Relationship with Customers Thanks to Quality Services: AI allows for solving customers' problems rapidly, providing exact self-services, achieving communications with customers, saving time, and improving experience thanks to the rapid shift from voice to actions. In addition, it ensures fast and continuous service with features that simplify discussions and save time needed to find the needed information. Furthermore, it monitors recommendations and requirements about the extra features of products and services and provides bigger value in less time. Additionally, it helps the organization focus on the more valuable activities by reducing the rate of customers' loss and predicting the future behaviors and intentions (Deloitte, 2023, p. 44).

3. STUDY OF THE CASE OF THE MOBILE TELECOMMUNICATION COMPANIES:

3.1 Methodology, hypotheses, study companies, data collection method, and study model:

The study uses the analytical descriptive method that relies on case studies and sheds light on famous international telecommunication companies, such as Ooredoo, Vodafone, Orange, and STC. For data collection, the author used their reports and papers in the field and hypothesized that AI fosters excellence in CRM thanks to interaction, response, and unique experience. Figure 03 shows the study model.

Fig.3. The study model



Source: By the authors

3.2 The specificities of CRM in Telecommunications:

CRM in this field is different due to the nature of the services and data, as shown in this table.

Table 02. The specificities of CRM in Telecommunications

Field	Specificity	Description
Data and content	Big size of data	<ul style="list-style-type: none"> • Dealing with trillions of data • Big numbers of daily records • Movement inside and outside the net, calls, messages, and data.
	Sensitivity of data	<ul style="list-style-type: none"> • Vocal calls, geographical positions, personal information, and very sensitive financial information.
	Diversity of data	<ul style="list-style-type: none"> • Net information (signal and quality) • Data on preferences, behaviors, demography, and patterns of use.
Customers	Diversity of users' categories	<ul style="list-style-type: none"> • Prepaid subscribers • Management of subscriptions and balances • Postpaid subscribers • Management of monthly bills • Partnerships • Specialized offers and conventions
	High loss rate	<ul style="list-style-type: none"> Relative decrease of loyalty Sensitivity to prices and promotional offers Transmission of numbers of competitors

Services	Diversity of provided services	Digital services Complementary services Financial services
	Quality	Quality management Maintenance of an acceptable level
Technology	CRM complementarity with other systems	Complementarity with the billing system Complementarity with the net management system Complementarity with digital services platforms
	Digital transformation	Use of smartphone applications Use of chatbots to achieve automatic support
Data security	A system for identity checking	Protection of personal data Detection of fraud
	Security and regulatory challenges	Commitment to communications secrecy Achievement of cyber security of the net and the system

Source: By the authors based on the specificities of telecommunications sector.

The table sums up the specificities of CRM in telecommunications, mainly the big number of subscribers and their categories, data, and sensitivity; what requires commitment to their protection

3.3 CRM System in Telecommunications Sector:

It is a system that deals with the unique specificities that face the users. Unlike the other systems, this one fully manages the life of users, automates the process, and fosters complementarity with the other systems, such as billing and net system (Ahmed Fuad, 2025). The following table shows the functions of CRM in telecommunication companies

Table 03. the functions of CRM in telecommunication companies

The functions of AI-based CRM	Importance in telecommunications
Management of the user life	It allows for the full monitoring the subscriber since the chip activation until cancellation.
Getting numbers in real time	It provides an interactive presentation of measures in due time, such as the number of subscribers, the growth, the residency, and the types of lines.
Support system	It monitors and handles the customers' inquiries, identifies the priorities, and controls the level of service provided.
Stock management	It allows monitoring the stock of chips and phone numbers and its distribution on the different sale points and agencies
Multi-channel support (phone, email, social media, and chat)	It supports customers' interaction through different channels and collects information
Information analysis	It provides detailed reports on the subscribers and the value achieved from everyone to take decisions

Source: By the authors based on (Ahmed Fuad, 2025)

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The main functions of AI-based CRM in telecommunications include the management of the subscribers' life cycle, as they are dealt with as relationships, not phone numbers. This allows for predicting subscription cancellation to launch promotional offers and helps avoid repeating information when dealing with many departments. In this regard, this improves experience and enhances employees' competency. Besides, it allows for the good division and

targeting of users, such as launching offers for those who use much internet to maximize revenues. In addition, the system allows for the management of phone numbers and stocks and the automation of routine tasks, such as sending bills to the postpaid users, or activating new services. In addition, it allows the employees to show a common file and to record calls to improve services after analyzing complaints. Furthermore, the system provides information on distribution channels, after-sale services, and value of commercial transactions, and provides future visions to the users based on the analysis of historical data.

3.4 The Benefits of AI-based CRM in Mobile Telecommunications:

It changes the relationship between the operators and subscribers from short-term relationships into continuous ones that last for the life cycle. Thus, this relationship ensures that the subscriber remains loyal to the company because gaining a new subscriber is very difficult in a saturated environment that witnesses maximum density levels. Thus, telecommunications sector faces many challenges, such as the high rate of customer shift towards competitors, loss of customers, complicated billing, and continuous technological development. Therefore, CRM helps reduce these challenges based on the customers' data, which facilitate contacting them and marketing products (Shah, 2022).

The following table sums up the problems solved by AI-based CRM in mobile telecommunication companies.

Table 04. The Problems Solved By AI-Based CRM In Mobile Telecommunication Companies under study

Problem	The role of CRM	Gains for mobile telecommunication companies
Weak development due to low sales	Monitoring the potential subscribers, analyzing their behaviors, and customizing offers	Increasing sales of chips and suggested offers
Inability to make exact predictions of sales	Estimating the future demand based on historical data	Improving planning and fostering marketing
The rate of customers loss	Understating the causes and providing proactive solutions	Reducing loss and fostering loyalty
Difficulty of access to data	Collecting the subscribers' data in a centralized database	Fast access to each customer's data in a given file
Weak analysis of subscribers' remarks	Collecting and analyzing the subscribers' remarks and suggesting development fields	Improving the quality of services and fostering customers' experiences
Weak management of	Management of ticketing to	Increasing customer

complaints	accelerate complaints procession	satisfaction and improving the image and reputation of the company
The risk of losing customers' data	Maintaining all data in Cloud	Ensuring work continuity and operations' coordination

Source: By the authors based on (Musipatla, 2022) ,(Mohammed, Emam, & Haggag, 2022) ,(CRMKO, 2023) ,(Tecno-Soluciones, 2025)

To show the importance of CRM solutions in handling problems that face mobile telecommunication companies, we take these examples:

- **Ooredoo-Qatar** relied on CRM in managing targeted campaigns, resulting in an increase of 18% in transfer rate (Ooredoo Group, 2024).
- **STC** used CRM to predict the size of seasonal demand on its offers and achieved an exactness of 92% (STC, 2024).
- **Zain Company** in Kuwait reduced customer loss rate with 14% thanks to analytical CRM (Zain, 2023).
- **Ooredoo-Tunisia** accelerated handling complaints with 25% thanks to CRM (Ooredoo Group, 2024).
- **Zain-Bahrain** used CRM and text analysis system to analyze the customers' comments.
- **STC** used Cloud to manage customer relationships and avoid losing their data when substituting employees (STC, 2024).
- The table shows that CRM is a nexus between the technological marketing and regulatory dimensions that helps achieve the following advantages (Michell, 2024).
- Managing chips, including activation, reactivation, deactivation, and suspension to ensure a smooth entry and exit experience.
- Managing the subscriptions through automation to transfer numbers, recharge balance, register in offers, and send bills and payment notifications.
- The subscribers can use the self-service in their subscriptions to reduce support demands.
- AI-based customer service and immediate personal assistance reduce the operational costs and foster satisfaction.
- The analysis of the subscribers' data after collecting data on payments, consumptions, used devices, use of promotional offers, and retrieval rates helps customize offers, identify the sale chances, and maintain customers.

3.5 The uses of AI in CRM in mobile telecommunication companies:

The international mobile telecommunication companies highly rely on AI for CRM, analysis of behaviors, fostering interaction, improvement of the net, detection of defects, acceleration of the center call response, customization of offers, and development of loyalty programs. The following table shows the fields where mobile telecommunication companies use AI for CRM.

Table 05. The fields where mobile telecommunication companies use AI for CRM

Fields of using	Applications in mobile	Examples of used AI	Practical examples of
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AI	telecommunication companies	tools	companies that use it
Smart management of the net	<ul style="list-style-type: none"> • Analysis of data movement in the net • Prediction of the pressure on the net • Control of the net quality 	<ul style="list-style-type: none"> • AI driven network optimization • Machine learning for big data, QoS 	<ul style="list-style-type: none"> • Huawei uses a smart management of 5G net • Ooredoo uses AI for smart capacity planning
Smart customer service	<ul style="list-style-type: none"> • Use of robots • Self-registration and smart tickets 	<ul style="list-style-type: none"> • Self-service portal 	<ul style="list-style-type: none"> • Free Mobile cooperates with IPM France to provide chips in interactive booths in more than 2000 sale points
Smart and predictive maintenance	<ul style="list-style-type: none"> • Predicting the net problems • Controlling, diagnosing, and fixing problems when they happen without human intervention 	<ul style="list-style-type: none"> • IoT analytics sensors • Predictive models • Self-learning AI • Machine learning models for failure prediction 	<ul style="list-style-type: none"> • Ericson Company managed to reduce net issues with 35% • Vodafone Company fixes problems online
Smart customization	<ul style="list-style-type: none"> • Customizing offers, packs, prices, sizes, data, promotional offers, and fidelity programs 	<ul style="list-style-type: none"> • AI driven • Deep learning for customer profiling segmentation 	<ul style="list-style-type: none"> • Orange provides customized recommendations via Orange Data
Smart interaction	<ul style="list-style-type: none"> • Vocal facades, robots that reply to the customer and interact with him 	<ul style="list-style-type: none"> • Conversational AI • Chatbot • Voice assistants 	<ul style="list-style-type: none"> • Ooredoo provides smart vocal assistants and chatbots to interact with customers
Analysis of feelings and behaviors	<ul style="list-style-type: none"> • Analysis of feelings and impressions on the digital channels to recognize the customer's feeling 	<ul style="list-style-type: none"> • Text analytics • NPL • Chat GPT like 	<ul style="list-style-type: none"> • Vodafone analyzes customers' feelings on Facebook thanks to a smart system
Voice analysis	<ul style="list-style-type: none"> • Analysis of the voice pitch during calls to know the emotional state 	<ul style="list-style-type: none"> • Acoustic AI • Speech emotion recognition 	<ul style="list-style-type: none"> • STC uses AI to evaluate the vocal support experience
Self-service and support	<ul style="list-style-type: none"> • AI-powered applications for immediate recharge, watching films, reading texts, online payment of bills, chatbots 	<ul style="list-style-type: none"> • Applications powered AI • Generative AI • NPL • Chatbot 	<ul style="list-style-type: none"> • STC uses My STC assistant • Ooredoo uses My Ooredoo Application
Detection of fraud	<ul style="list-style-type: none"> • Controlling any fraud attempts on the mobile phone 	<ul style="list-style-type: none"> • AI fraud detection • Graph AI 	<ul style="list-style-type: none"> • Orange uses Orange Cyber Defense and STC uses STC Pay for payments

Source: By the author based on (IPMFRANCE, 2025), (GSMA, 2025), (O'Brien & Downie, 2025), (ITU, 2024), (Orange, 2025)

AI allows for proactive interaction, predictive analysis, smart and immediate service, and analyses of feelings, voices, images, and comments. The companies that integrated AI increased customer satisfaction with 15% to 25% within 03 years (Mckinsey, 2025). Based on table 05, we can summarize the effects of using AI on excellence in CRM, as follows:

Table 06. The effects of using AI on excellence in CRM in mobile telecommunication

Field of using AI	Effect on excellence in CRM	Measure f excellence in CRM after using AI
Smart management of the net	<ul style="list-style-type: none"> • Improvement of services • Improvement of the final experience of the customer 	<ul style="list-style-type: none"> • Net quality index: it measures the net stability to reduce complaints and increase satisfaction
Smart customer service	<ul style="list-style-type: none"> • Creating comfort for customers • Fast response to increase customer satisfaction • Easy access to services 	<ul style="list-style-type: none"> • Service quality index: it measures the customers' acceptance of services and what is needed for improvement
Smart and predictive maintenance	<ul style="list-style-type: none"> • Improvement of customer satisfaction to maintain him and increase loyalty thanks to trust in the net 	<ul style="list-style-type: none"> • The index of operational efficiency of the infrastructure: It measures the number, time, and frequency of problems in the net
Smart customization	<ul style="list-style-type: none"> • Anticipating the customers' needs and preferences to create a feeling of interest and gain new customers without additional efforts • Creating a personal experience 	<ul style="list-style-type: none"> • Satisfaction index: It measures the customer's satisfaction with the products, offers, packs, and services. • Loyalty index: It measures the extent of purchasing offers and packs thanks to customization
Smart interaction	<ul style="list-style-type: none"> • Fostering trust through continuous and rapid interaction • The customer's feeling of the company's interest 	<ul style="list-style-type: none"> • Fast response index: It measures the time taken by the company to reply to him and the quality of immediate interaction
Analysis of feelings and behaviors	<ul style="list-style-type: none"> • Fostering satisfaction • Fostering reputation and image of the brand • Developing offers and improving packs 	<ul style="list-style-type: none"> • Complaints' rate: It measures the dissatisfaction • It improves the customer experience • Loyalty index: It measures the customer's attachment to the company
Voice analysis	<ul style="list-style-type: none"> • Improving the interaction and adaptation quality • Solidarity with the customer • Gaining more experience in service 	<ul style="list-style-type: none"> • Efficiency index: It measures the employees' efficiency in solving the customers' problems from the first call • The index of customer satisfaction with the provided solutions
Self-service and support	<ul style="list-style-type: none"> • Reducing the operational efforts • Gaining time and accelerating service delivery • 24/24 services 	<ul style="list-style-type: none"> • Response time: It measures the speed to get support services from the company • The index of satisfaction with

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		the digital channels used by customers in mobile telecommunications
Detection of fraud	<ul style="list-style-type: none"> Fostering trust in the company and its platforms Fostering the brand image The customer's feeling of security and his importance for the company 	<ul style="list-style-type: none"> The index of security and trust in the company: It measures the customers' trust in the company Loyalty index

Source: By the author based on table 05

The use of AI in CRM fosters 05 axes, namely:

- Proactivity in understanding the customers' needs, requirements, and wills before they mention them;
- Customization of offers, packs, and services;
- Operational efficiency in smart operations;
- Fast response and interaction with the customer to foster the relationship;
- Achievement of an exceptional experience and feelings of pleasure in dealing with the company thanks to the immediate and continuous analysis of the experience.

These aspects lead to an excellent CRM through the 05 dimensions of the study model, namely the technical, operational, interactive, information, and service excellence, which are the pillars of excellence in mobile telecommunications.

3.6 Advance in using AI for CRM in some mobile telecommunication companies:

Using AI for CRM requires many activities and aspects that show the companies' advance in the field. In this section, we want to show the advance in applying some dimensions of smart CRM, with focus on some mobile telecommunication companies.

Table 07. The advance in applying some dimensions of smart CRM in some mobile

Dimensions of smart CRM	Aim	Mobile telecommunication company	Degree of advance	Field application of dimensions
Customer Segmentation	Achievement of the good understanding for wide categories Good ,customization of offers and services	Vodafone STC Ooredoo Qatar	Very high	Vodafone designs exact use plans, Ooredoo segmentation of customers is based on value and use
Smart Customisation	Reliance on subscribers' data and customization of offers and content	STC Etisalat Orange	High	STC uses AI personalization Engine, Orange adjusts marketing messages with AI
Self-Service	Empowering subscribers to manage their services without the intervention of the company	Ooredoo Qatar Zain	High	Ooredoo launched My Ooredoo for digital experience, Zain launched Zain Dashboard and Quick Pay
Omni Channel	Unifying data through different channels, Ensuring common experience on all platforms	STC Vodafone	High	STC: high complementarity for CRM on all digital platforms, Vodafone: the digital assistant program to unify the customer's journey My Vodafone application
Smart	Improvement through	Etisalat		Orange: e-care

complaint Management	immediate and efficient complaints	Orange	High	My Service Space, Etisalat : mechanisms to submit complaints Customer Service Charter
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Source: By the authors based on (CRMKO, 2023, (Vodafone, 2023), (Group, 2023), (Orange, 2019), (Etisalat, 2025), (Gartner, 2024)

The table shows examples of international mobile telecommunication companies in the Gulf and Europe, where digitalization is very advanced, allowing for the application of the dimensions of smart CRM. Besides, the use of AI, service intelligence, and predictive analysis facilitates the application of these dimensions and increases loyalty to companies with 12% to 18% (GSMA, 2024).

4. RESULTS AND RECOMMENDATIONS:

4.1 Results:

Findings show that AI had made a revolution in mobile telecommunications, mainly in maintenance, prediction, customization, interaction, response, and operational efficiency. In addition, it is a cornerstone for excellence and the application of CRM to gain and maintain customers and foster their loyalty. Moreover, AI has reshaped the concept of companies' relationships with customers and turned it into a smart concept based on high interaction, fast response, prediction, and behavior analysis. In this regard, mobile telecommunication companies witnessed a remarkable improvement in the net quality and stability thanks to the reduction of complaints and the increase of customer experience index with 15%. Besides, the companies take less time in repairing issues and offer better customized packs to encourage customer consumption. This helped increase revenues from each customer from 05% to 15%.

Regarding the use of AI for CRM, the study found out:

Ooredoo Company: the annual financial report of 2024 showed that the Company adopted AI in many fields of CRM and achieved a growth of 15% in earnings, reflecting the power of AI in its operational actions.

- During the 03 first terms of 2024, the revenues increased with 2% to reach more than 17 Billion Qatari Rial.
- Thanks to the smart experience of customers, the database exceeded 146 million subscribers.
- The Company invested more than 03 billion Qatari Rial to develop the infrastructure and AI techniques.
- The Company invested in fostering the customer experience by improving the self-service, support, and predictive models to identify the leak causes and cases and find solutions. Besides, it used robots, smart booths, and customized applications.

Vodafone Company: It implemented many AI projects in CRM and made partnership with Microsoft Company. Besides, it won the award for the best solution to integrate customers. It shall invest 1.5 billion USD to develop its digital infrastructure and foster the digital transformation. In addition, its revenues in Egypt witnessed an increase of 45%.

- It automated customer service and accelerated response to inquiries and provision of customized recommendations. In addition, it analyzed big data to segment customers, customize offers, increase interaction, improve experiences, and achieve a sustainable development.
- In Egypt, it launched 5G and many solutions for a smart management of the net to ensure a high performance, mainly in peak hours in Alexandria and Cairo.
- It used chatbots to improve customer service. Besides, AI increased customer satisfaction with 20% thanks to the smart customization of offers, and increased revenues from each

customer with 08%.

For Orange: It made many innovative initiatives and launched smart solutions for technical support and improvement of customer service. Moreover, it used smart chatbots on many channels.

- It launched an interactive platform in Egypt, “Orange Business Talk”, for entrepreneurship and digital transformation.

- It used AI in analysis, customization, suggestion of exact services, and marketing campaigns. This fostered exact targeting, increased maintenance rate, and improved revenues.

- It integrated AI in CRM to analyze behaviors, feelings, and reactions on social media. Thus, it improved the response of its support teams and turned more efficient.

For STC: It adopted smart solutions in analyzing and predicting the customer behaviors, predicting their needs, and directing efforts to gain more valuable customers.

- Thanks to widening the customer base, chatbots were used in call centers to reduce waiting time and achieve efficiency in solving problems since the 1st call. Chatbots helped automate more than 70% of routine inquiries.

- Fostering the efficiency of sale teams with AI and segmenting customers in databases positively affect transfer rates.

- The analysis of big data and the use of natural language help understand texts and voices during immediate interaction with customers. This fosters interaction and the quality of replies.

- The increase of sale chances and extra sale thanks to the direct direction of robots to customers based on data, preferences, and behaviors. In this regard, statistics show an increase in satisfaction rate with 25%, and in revenues with 12% after one year of use thanks to AI.

- The use of AI in CRM improved the quality of services and digital interaction.

From these results, we find out that all companies under study use AI very well to improve their interactions and responses to customers and customize packs and offers.

Besides, they excel in delivering services and solving problems. This improved experiences, reduced customer loss, fostered loyalty, and saved time and effort.

4.2 Recommendations:

The mobile telecommunication companies took advantage of AI for a good CRM thanks to its ability to deal with data, information, interactions, and communications, and for diversifying offers and services. Thus, the future trends to apply smart CRM will witness radical and unprecedented changes. Upon this study, we managed to find out the main excellence trends in CRM, as follows:

- **Using AI for the service of subscribers:** Machine Learning and Generative AI may be used for predicting the causes of calls and of contract cancellation, and for generating automatic replies and directing customers towards the suitable employee. For example, the US Verizon managed to predict the causes of its customers’ calls with a rate of 80% thanks to Gen AI (Mukherjee, 2024).

- **Achieving high customization based on big data:** This helps achieve customer satisfaction and increase transfer rates. For instance, Vodafone developed Smart Price initiative, which relies on data for behavior analysis and provision of immediately changing offers (Vodafone, 2017).

- **The shift towards omni-channel experience:** Mobile telecommunication companies grant the subscribers complementary experiences by unifying the contact points through applications, agencies, and call centers. For example, Orange could develop Cognitive Omni-channel Experience to direct the customer towards the optimal channel automatically. Thus, it managed to reduce procession time with 30% and managed to design a good customer

experience through a complementary digital platform (Orange, 2025).

- **Integrating the net data with CRM systems:** In Asia, the big telecommunication companies integrate 5G and Qos metrics data. In this regard, China Mobile made a giant leap in the number of subscribers and reached 552 million subscribers in 2024 (China Mobile, 2024).

- **The ethical governance of subscribers' data:** Protecting data and privacy is an ethical condition for CRM. In this regard, Telefonica Company integrated privacy terms with AI for customer service. This improved the automatic replies with 25% without effect on data secrecy, and increased trust and competitiveness (Telefónica, 2024).

- Widening the scope of customer service quality: This is through 3D videos applications, Virtual Reality, Cloud, easy touristic services, and smart services (ITU, 2025).

- **Fostering the tasks of modern telecommunication companies:** This is through developing the wide range and IoT that requires tens of millions of connected devices. AI ensures reliable communications and immediate processes in brief time. In addition, it is necessary to automate net administration and reduce human intervention, mainly with the launch of 5G (Balmer, Levin & Schmidt, 2020).

- **Contributing to sustainable development and customer welfare:** This is through building smart houses and cities, analyzing smart transportation systems, and controlling vehicles and traffic (ITU, 2025).

5. CONCLUSION:

AI is a key tool for CRM in mobile telecommunication companies, as it turned into an engine that fosters excellence. Findings show that it positively affects the measures and indices of CRM, as it fosters the service quality, improves response and interaction, increases satisfaction, and consolidates loyalty. Its transformative and predictive abilities, all along with the deep understanding of customers, create unique smart relationships and establish a new model of marketing excellence based on an excellent relationship with the customer. This model incorporates knowledge, intelligence, innovation, and humanity to yield a future smart and digital competitive model.

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