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## The uses of artificial intelligence in the economic operations of the enterprise Marketing in Meta company as a model

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### Abstract:

This study aims to identify the uses of artificial intelligence in the economic institution and by determining each of the functions of the organization from production, marketing, human resources management, accounting and finance because of its great importance in achieving the desired goals of the major institution. This is due to the fact that artificial intelligence has become today an urgent necessity that cannot be ignored in light of the technological developments in the world, especially the dazzling development in the business world, as it was highlighted the uses of Meta Foundation for artificial intelligence and focus on its use in the marketing process.

This study found that Meta uses artificial intelligence tools and models in its operations, especially its marketing operations, in order to reach its goals by sweeping the platform market, technological development and research in the field of artificial intelligence, and to achieve huge revenues, especially in the field of advertising, particularly on the Facebook and Instagram platforms.

**Key words:** Artificial intelligence, marketing, platforms, advertising, Meta.

**Classification JEL:** M1,Q55.

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**introduction:**

In light of rapid technological advancements and the increasing amount of data available in the digital world, Artificial Intelligence (AI) has become a vital element to improve efficiency and enhance competitiveness in economic organizations, as it is one of the essential tools that transform how companies carry out their operations from finance, production, marketing, accounting, and human resource management. AI is one of the critical factors in enhancing organizational performance and achieving economic goals .

Meta is a trailblazer in applying AI technologies to optimize its operations and achieve its strategic goals. Meta relies on AI to support a wide range of processes from data analysis and content personalization to enhanced user security and more effective advertising.

Studies show that the use of AI in marketing can lead to a significant increase in revenue and reduced operational costs. As a pioneer in this field, Meta Apps' continuous innovation in this area has enabled the organization to maintain its leadership in the digital platform market and achieve sustainable revenue growth, especially through advertising on Facebook and Instagram.

**Hence, the following question can be posed:**

How is AI being used in Meta's marketing operations?

Based on the above, a set of sub-questions can be asked:

- What is artificial intelligence?
- How is AI used in the functions of an economic organization?
- How is artificial intelligence used to achieve the marketing goals of META?

**Research objectives:** The objectives of this research include the following:

- Identify the concept of artificial intelligence and its applications in the functions of an economic organization.
- Identify the uses of artificial intelligence in the Meta company.
- Identify the extent to which artificial intelligence contributes to achieving the strategic objectives of META.

**Methodology of the study:** In order to address the research topic from different aspects and try to answer the question, the descriptive method was adopted to clarify the concept of artificial intelligence and its uses in the different functions of the organization by referring to various references and sources, and the case study method to identify the uses of artificial intelligence in marketing at META and its contribution to achieving its strategic marketing objectives.

**The main axes:** The main axes in the study is:

Basic concepts about artificial intelligence and The Meta company is a model for using artificial intelligence in marketing

**Previous studies:**

Many researchers in the recent period have been interested in the topic of artificial intelligence, as there are many studies and research that have studied the relationship of artificial intelligence to the processes carried out by the organization, which we cannot mention all of them, and thus we will

address a group of studies, taking into account the order of the time factor from the most recent to the oldest:

*Table n°(01): Previous studies*

the study	Study objectives	Study results
<p>ZANG HENGYI, LI SHAOJIE, DONG XINQI, MA DANQING, DANG BO, Evaluating the social impact of AI in manufacturing: a methodological framework for ethical production, academic journal of sociology and management, No 01, vol 2, 2024.(ZANG, LI, DONG, MA, &amp; DANG, 2024, pp. 21-25)</p>	<p>This study is a scientific article that aims to provide a comprehensive framework to ensure production within an ethical framework using artificial intelligence in an integrated manufacturing environment. This is by clarifying the impact of artificial intelligence on the workforce, economic dynamics, and ethical issues. It also aims for a balanced approach that advances technological progress and embraces social responsibility.</p>	<p>She presented and analyzed the results of several case studies. These studies demonstrated the fact that despite the need for a theoretical framework, real-world applications present unexpected situations, and require adaptation, continuous learning, and looking to the future. Artificial intelligence will be adopted and exploited with the adoption of social responsibility. This paper makes an important contribution to the competitive intersection of AI and manufacturing that can take the industry to very sophisticated and advanced stages.</p>
<p>Shereen, Noranee; Abdul Kadir, bin Othman, understanding consumer sentiments: exploring the role of artificial intelligence in marketing, published today in Manajemen, No. 01, vol. 10, 2023.  (Shereen &amp; Abdul Kadir, 2023, pp. 15-18)</p>	<p>This study is a scientific article that aims to shed light on the importance of artificial intelligence in marketing, and to present the role of artificial intelligence in understanding consumer feelings and its impact on marketing strategies and decision-making. It discusses and reviews academic articles, industry reports, and conference papers; Data collection techniques were used through interviews with marketing specialists and experts. Who have had experiences in using artificial intelligence in marketing. The study focused on institutions that have succeeded in using artificial intelligence in marketing, where the data was analyzed using descriptive statistics and inferential analysis techniques.</p>	<p>The results of this study were presented in three sections: applications of artificial intelligence, challenges in adopting artificial intelligence, and perceived benefits and outcomes of implementing artificial intelligence. The results of this study emphasized the important role that artificial intelligence plays in revolutionizing marketing practice, and demonstrate the extent of the organization's need to adopt artificial intelligence to maintain its competitiveness in light of the current digital development, as it helps to understand customers, satisfy them, and improve marketing campaigns.</p>
<p>Daneil, gelinas; Arman, Sadreddin; Rustam, vahidov, Artificial intelligence in human resources management: Areview and Research Agenda, pactific asia journal of the association for information systems, No 06, vol 14, 2022.  (Daneil, Arman, &amp; Rustam, 2022, pp. 1-42)</p>	<p>This study is a scientific article, aiming to clarify the process of applying artificial intelligence in human resources management, and in this it depends on the human resources life cycle, which consists of six dimensions that reflect human resource management in most economic institutions, and to produce a research agenda to guide future research and this is through Reviewing 85 scientific articles on the topic, and classifying them according to the six dimensions of the human resources life cycle.</p>	<p>Among the findings of the study is that the term artificial intelligence has already been studied according to the six dimensions of the human resources life cycle, and a seventh dimension was highlighted, which is legal and ethical issues. The study indicated the importance of identifying restrictions related to the application of artificial intelligence in human resources management, in addition to Artificial intelligence should be viewed as a solution to many of the problems facing human resources management.</p>

*Source: made by the authors*

After reviewing previous studies that dealt with the topic of artificial intelligence in marketing, production, and human resources separately, it can be concluded that this study addressed, in the theoretical aspect, the uses of artificial intelligence in many management functions. This study was distinguished from other studies in terms of its general overview of the uses of artificial intelligence in the economic institution, as it was applied to the Meta Marketing as a model, which is considered a pioneering institution in the field of using artificial intelligence techniques.

## **I. Basic concepts about artificial intelligence**

Artificial intelligence is considered one of the fields that has attracted interest around the world, especially in the world of economics and business, in light of the rapid technological developments taking place recently.

### **1. Definition of Artificial Intelligence:**

The term Artificial Intelligence was first used in 1956 by Dartmouth College mathematics professor John McCarthy, who referred to it as "the science and engineering of making intelligent machines." Since then, research on artificial intelligence has spread in various fields of knowledge. (MATHIVET, 2014, p. 23) From this definition, it can be said that artificial intelligence is the science of making intelligent machines.

The International Dictionary of Artificial Intelligence also defines artificial intelligence as: "A field concerned with developing technologies that allow computers to behave in a way that appears to be an intelligent being like a human. Sometimes they achieve a percentage of intelligence that is slightly more than the creator of the technology expects." (Raynor, 1999, p. 13) Through this definition, it becomes clear that artificial intelligence is the field of computer development in order to reach an intelligence level that makes it appear like a human.

It is also defined as a term that describes the way in which computer programs or machines can imitate different types of human behavior and thinking, such as: movement and speech, and the ability to implement acquired intelligence to perform various actions with minimal human intervention. (Copeland, 2003, p. 3) From this definition, it can be said that artificial intelligence is the method by which the computer reaches the pace of human behavior and capabilities.

From the above, it can be said that artificial intelligence is a simulation between computer science and human intelligence, as it is considered an intelligent behavior that touches all fields, as it analyzes data and information to reach an intelligence similar to the intelligence of the human mind, and give a set of important conclusions that make an important difference to the user of this science.

### **2. Uses of artificial intelligence in economic institutions**

With the current technological development, these developments have been exploited in the field of business and wealth building, where the focus has been on using advanced artificial intelligence techniques to facilitate the economic operations of the enterprise, as it has been used in the following:

#### **2.1. Uses of Artificial intelligence in marketing**

Artificial intelligence is creating a major revolution in the world of marketing and business, by supporting various aspects of marketing. Artificial intelligence is used in the following:

- a) **Predicting customer behavior:** Using artificial intelligence algorithms, the strategic vision about customer behavior is improved. This is through developing plans to build customized content for customers according to the results of analyzing their data, identifying segments and their types, and organizing their own marketing campaigns to target them. By relying on artificial intelligence techniques, customer needs are predicted and innovative and modern ways of interaction are suggested. With them and automate business processes.
- b) **Customize content:** Artificial intelligence is developing the process of personalizing customer experiences, by analyzing human emotions and desires, and personalizing content without excessive personalization. Thus, a customization plan is developed that has an impact on the customer, which improves the customer experience and marketing results. (Alm & Alexander, 2024, p. 16)
- c) **Buying Media:** Artificial intelligence analyzes dynamic pricing, makes predictions, and develops thoughtful plans to constantly adjust prices to achieve maximum profit value. Artificial intelligence places experimental ads to measure demand and study prices accurately, and works to constantly improve the quality of ads and study their placement to reach the largest possible number of target audiences. This improves the return on investment through some platforms such as Google Ads. (Risebato, 2024)
- d) **Robots Chat:** Smart chat bots help serve customers 24 hours a day, and personalize conversations as if they had one customer who was their favorite. This leaves an attractive impression on the customer that enhances his loyalty to the brand. These robots reduce time, effort and cost for the organization. Which makes the marketing team focus on other strategies and tasks to gain customer trust. (Morsi, 2023, p. 261)
- e) **Writing Advertisements:** Artificial intelligence can create attractive ad copy, as well Bank acknowledges GeeB Morgan ChiIn his reports more Great By 450% in click-through rates using generated content In a good and subtle way By artificial intelligence Compared to content created by humans, this indicates that artificial intelligence improves the quality of ads and makes them distinctive by creating attractive content according to the preferences of target customers and creating keywords to improve search engines to ensure that the ad is clicked on.(borkakoti, 2024)

Artificial Intelligence is used in the marketing process in the process of predicting customer behavior, customizing advertising content, and supporting media buying technology, in addition to the use of smart robots to ensure customer loyalty to the brand, and it is strongly relied upon to create attractive and influential advertisements within the most powerful advertising campaigns.

## 2.2. Uses of Artificial Intelligence in accounting and finance

Artificial intelligence is revolutionizing in accounting and finance through various applications in accounting, which are as follows:

- a) **Financial data analysis:** Specialized AI algorithms accurately and quickly analyze error-resistant financial data to facilitate the process of identifying financial trends and patterns. (Garcia, 2023)
- b) **Providing financial forecasts:** Based on prior reports and data and studies of current economic factors and using smart analysis techniques; The process of forecasting future financial conditions is done accurately and based on these forecasts. (cook, 2024)
- c) **Automation of accounting processes:** Smart systems carry out all the routine processes that consume time and effort, such as processing invoices and classifying expenses. This is to reduce errors to a minimum percentage that sometimes becomes non-existent.

- d) **Improvements in auditing and oversight:** Intelligent automated systems are used in the process of maintaining control and work on continuous and accurate auditing, through comprehensive analysis, discovering errors, finding optimal solutions for them, and anticipating potential errors to ensure safe financial operations.(Madina, 2021, pp. 41-46)
- e) **Budget management:** The organization reaches alignment between financial goals and spending using artificial intelligence and machine learning techniques. Which prepares and manages budgets and tracks outstanding invoices very effectively. (Liao, 2023)
- f) **Improving the reporting process:** Artificial intelligence generates and creates highly accurate and transparent financial reports, which makes it easier for the organization to fully understand its financial situation and make the right decisions on which strategic decisions are based.(Bohra, 2023, pp. 65-67)

Provides artificial intelligence Accounting and financial management have many advantages, including accuracy, efficiency, and high ability to analyze data. Which improves decision making and reduces data security risks.

### 2.3. Uses of Artificial Intelligence in human resources management

Due to the importance of the human element in the organization and the necessity of managing it in a good manner, artificial intelligence is used in human resources management as follows:

- a) **Recruitment:** Artificial intelligence simplifies the selection process by analyzing the CVs submitted to it in the form of data, matching them with what is required in the job description, and facilitating the rapid evaluation process.
- b) **Performance reviews:** Artificial Intelligence monitors, tracks and analyzes employee performance and data and provides comprehensive reports for fair evaluations without any bias.(ALMESAFRI, pp. 1142-1145)
- c) **Staff development:** Artificial intelligence supports career growth by analyzing training needs and designing specialized training programs. It enhances participation, reduces internal conflicts, and seeks to find out their causes by analyzing their behaviors, and allocates growth opportunities.(Swati & Zohuri, 2021, pp. 412-413)
- d) **Manpower Planning:** after Artificial Intelligence analyzes employees' behaviors and discovers their talents, it determines the appropriate job for this talent, and provides guidance to them according to their job capabilities. It predicts needs according to changes in the labor market, and on this basis, the strategic planning process takes place.
- e) **Chat bots in HR:** Chat bots help new employees by answering all their questions, in addition to helping in the recruitment process by setting up an organized round of interviews, and informing candidates of the date and time specified for the interview. They work with artificial intelligence 24/7., In this way, it enhances the employee experience, gains his satisfaction, and preserves the rare and competent human element.
- f) **preparation:** Artificial Intelligence provides guidance to new hires through training systems and models; To increase efficiency and reduce stress for the new employee. (chevalier, 2023)
- g) **Predictive analytics:** Artificial intelligence predicts employee turnover and identifies employees who are not performing the job with the required efficiency and are considered at risk. It assists in employee retention efforts. (Makenzie, 2023)

The goal of using artificial intelligence in human resources management is to enhance the experiences of employees in the organization, improve tasks and divide them, in addition to reducing effort and routine work in a way that achieves the organization's goals in the shortest

possible time, in addition to raising the efficiency of employees. There are many smart applications used to effectively manage the human element in the organization.

## 2.4. Uses of artificial intelligence in production

The use of artificial intelligence in the manufacturing process is increasing with the aim of increasing efficiency. Among the most important areas of its use in production are the following:

- a) **Detecting defects:** Artificial intelligence systems detect errors and identify all defects during the production process, and carry out a set of checks to monitor the quality of manual work.
- b) **Predictive maintenance:** Artificial intelligence analyzes the data extracted from the sensor to predict the possibility of equipment and machinery malfunctions and some accidents. This enables proactive maintenance and avoids downtime for a period that is harmful to the production process. (Alisherovna, 2023, pp. 286-287)
- c) **quality assurance:** AI-powered computer vision systems catch errors, lapses and problems that the human eye misses and this ensures high product quality. (Bawmen, 2023)
- d) **Assembly line integration:** AI technologies are being integrated into Internet-connected data systems; This clarifies the vision for the organization, makes it comprehensive, and facilitates real-time adjustments and corrections.
- e) **Generative design:** Artificial intelligence algorithms give a set of design options according to their analysis of data and desires, thus improving the quality of the design. (Renner, 2020)
- f) **Improved extension chain:** AI helps streamline the supply chain by optimally managing inventory, predicting changes in prices of raw materials for production, and tracking orders.
- g) **Robots:** It relies on smart robots to automate repetitive routine operations and seeks to increase efficiency by reducing errors during the production process. (Bawmen, 2023)
- h) **Process improvement:** Artificial intelligence reduces waste, extravagance, and loss of raw materials, thus improving production processes to the maximum extent and seeking to improve overall efficiency.
- i) **Shop floor performance:** The industrial establishment depends on accessing customer experiences and sales performance on digital twins based on artificial intelligence, and from here the extent of the impact of the design and some other elements that require immediate modification to obtain the best customer experience is known. (Singh, p. 07)

Artificial intelligence enhances productivity during the production process, reduces costs, and improves the quality of products, thus developing the industry.

## II. The Meta company is a model for using artificial intelligence in marketing

In the current digital age, artificial intelligence is shaping up One of the essential tools that transforms how we implement...Institutions for its marketing operations. It is considered institution Meta is one of the pioneers in using artificial intelligence technologies to enhance its marketing strategies and achieve its business goals.

### 1. Introducing the Meta Foundation

Meta Platforms, formerly known as Facebook, is an American multinational technology holding company founded by Mark Zuckerberg in 2004, headquartered in Menlo Park, California. Specializing in the development of social media platforms, Meta is the parent company of Facebook, Messenger, Instagram, WhatsApp, and Thread. One of the most valuable organizations in

the world, it was renamed in 2022 to reflect its ambitions to create a virtual world where users can interact in digital environments. The organization generates the vast majority of its revenue by selling advertising investments to marketers, with a market capitalization of approximately \$945.99 billion. (meta, 2024)

## 2. Artificial Intelligence in Meta

Artificial Intelligence technologies play a vital and pivotal role in the Meta company, as they are used to enhance and develop a variety of digital services and products.

### 2.1. Uses of artificial intelligence in meta

Meta uses artificial intelligence in several areas, the most important of which are:

- a) **Content moderation:** Artificial intelligence detects errors and harmful content and eliminates them very quickly, such as content that incites hatred, violence, and extremist and misleading information. Machine learning models comprehensively examine all images, videos, and texts to set the standards of the virtual community. ((Meta's New AI System to Help Tackle Harmful Content, about.fb.com)., 2021)
- b) **Custom content:** Artificial intelligence algorithms organize personalized feeds according to the user's preferences and interaction with content such as posts, stories, and ads. This greatly improves the user experience with Instagram and Facebook. (How AI Influences What You See on Facebook and Instagram, 2023)
- c) **Natural language processing:** Meta language processing is used in natural language processing texts, this smart technology automatically translates content such as posts or the language of messages, it can be used through chat bots to understand the user's feelings and desires.(faggela, 2022)
- d) **Augmented reality and virtual reality:** AI technologies are improving user experiences on platforms like Instagram, By customizing content and studying their desires and behaviors through their interactions with virtual environments, Which is considered a virtual reality and this enhances immersion and continuous interaction, Meta has facial recognition technologies for augmented reality filters, In addition, it recognizes objects in interactive virtual reality environments.(Bosworth, 2022)
- e) **Advertisement:** Artificial intelligence seeks to target ads to audiences interested in the ad content, and they are displayed periodically to those interested. This improves the performance of ads and the quality of their display, as machine learning programs analyze the behaviors, desires, and preferences of meta users to reach the highest value of effectiveness for their ads.. (Clegg, 2023)
- f) **Research and development in the field of artificial intelligence:** The Meta company invests a significant budget in the field of scientific research in the field of artificial intelligence, as it plans to spend up to 40 billion dollars on artificial intelligence infrastructure in the year 2024, as it focuses on developing computer vision and neuro-linguistic programming, with the aim of making Meta reach leadership in the world of developing artificial intelligence and Exploiting it in developing its products, platforms, and virtual digital world, ensuring the best user experience and also ensuring its loyalty.(Our New AI System to Help Tackle Harmful Content, 2021)
- g) **accessibility:** AI tools make Meta's platforms more accessible by...Llama 3 This allows users to interact quickly such as automatic captioning of videos and text-to-speech feature. (Bosworth, 2022)
- h) **Security:** Advanced Artificial Intelligence programs have been adopted to reduce all forms of fraud and security breaches. This has put in place strict procedures that make the rate of account

hacking almost non-existent after the latest updates, including determining login patterns and preventing changing login information such as phone number or email from a newly used device, in addition to complete censorship. And always about suspicious activities of users. (Clegg, Meta Launches New Content Moderation Tool as It Takes Chair of Counter-Terrorism NGO, 2022)

Meta will greatly benefit from AI in a variety of areas to improve users' experience, ensure security, and provide personalized and efficient services.

## 2.2. Artificial intelligence models used by Meta company:

Meta utilizes several advanced AI models and focuses heavily on conversational and generative capabilities:

- a) **Model "Llama" (Large Language Model Meta AI):** This model was designed to compete with other powerful, leading models. It is an advanced model that has many advantages, including multilingualism in more than 8 languages. It allows reaching the largest target audience in the field of advertising. It is considered the largest model of open source artificial intelligence at Meta. It makes the applications supported by it witness great accuracy.(Meta AI) (oliviera, 2024)(Buchanan, 2024)
- b) **Model "META AI":** It is a model of artificial intelligence developed by institution Meta generated based on version developed Llama 3.1 has B7 to B65 parameters; These are the values that are trained to improve the model to perform specific tasks.(Expand your world with Meta AI)
- c) **Model "Chameleon":** They are mixed models that create and generate text and images, as it can deliver both the image and the text simultaneously. This model has many capabilities, such as multiple inputs and outputs..
- d) **Model "JASCO":** It is a model capable of accepting different inputs, including rhythm and strings, and thus has the ability to control the output of the music that has been created. This model integrates both symbols and sound and also converts text into music.(Releasing New AI Research Models to Accelerate Innovation at Scale)

Meta invests heavily in developing advanced AI models to improve various practical applications, whether in digital advertising or multimedia content creation.

## 3. Marketing process in Meta

Meta plays a leading role in the world of digital marketing, providing...Institutions And advertisers have unique opportunities to reach a broad and multi-category audience. Meta markets its products and services through several main strategies:

- a) **Targeted ads:** Meta relies heavily on targeted advertising to generate its revenue. The huge data it collects from its users is used to analyze their behavior and preferences, enabling it to deliver personalized ads with high accuracy. These ads contribute to increasing the effectiveness of advertising campaigns and attracting more advertisers.
- b) **Interact with users:** Meta encourages content sharing and interaction among users, which enhances content sharing across platforms and increases brand loyalty. This interaction takes place through algorithms that display the most interesting content and tailored to each user based on their preferences and behaviors.(Meta Platforms Inc (META), 2024)
- c) **Data analysis:** Meta leverages the vast amounts of data it collects to improve its services and products. Analyzing this data enables Meta to better understand user preferences, which

contributes to improving the user experience and providing personalized content that suits their needs.

- d) **Collaboration with brands:** Meta partners with several brands to provide syndicated content and joint promotions. These partnerships help strengthen the brand of both Meta and partners, in addition to expanding reach to new and diverse audiences...(cuafano, 2024)
- e) **Technology and innovation:** Meta invests heavily in developing new technologies such as augmented reality and virtual reality. These technologies help provide interactive and attractive experiences to users, which increases their interaction with the platforms and enhances their attractiveness.
- f) **Focus on security and user privacy:** Meta attaches great importance to the security and privacy of users' data, It relies on artificial intelligence technologies to ensure data protection and prevent any security breaches, which enhances users' confidence in the platform and increases their loyalty to it Through these diverse strategies, Meta continues to strengthen its position as one of the leading...Institutions. In the field of technology and social media, taking advantage of technological developments and innovations in the field of artificial intelligence to improve its services and products and attract more users and advertisers.. (Meta Platforms Inc (META), 2024)

Through these diverse strategies, Meta continues to strengthen its position as one of the leading...Institutions. In the field of technology and social media, taking advantage of technological developments and innovations in the field of artificial intelligence to improve its services and products and attract more users and advertisers..

#### 4. Uses of artificial intelligence in the marketing process at Meta company

Meta will make extensive use of artificial intelligence in its marketing operations to analyze user data and effectively personalize ads, which increases the accuracy of targeting of marketing campaigns and enhances user engagement.

##### 4.1. Artificial intelligence tools used in marketing Meta's products

Meta (Meta) uses a range of innovative tools in its marketing operations, including:

- a) **Synthesia:** Allows you to automatically create text and images;
- b) **AdCreative AI:** Allows you to create ads automatically;(Rotaru, 2023)
- c) **Hootsuite:** It allows managing social accounts and analyzing activity;
- d) **Semrush:** Provides accurate SEO analytics;
- e) **Frase:** Allows content creation SEO automatically;
- f) **Jasper AI:** Allows automatic content creation; (Christson, 2023)
- g) **Customers.ai:** Allows customization of marketing strategies using accurate analytics; (Rotaru, 2023)
- h) **DALL-E 2:** Allows you to create images automatically; (Christson, 2023)
- i) **Chatfuel:** Allows automatic creation of bots and connections; (Rotaru, 2023)
- j) **OwlyWriter AI:** Allows automatic content creation (Christson, 2023).

These tools help Meta improve user experience, improve marketing strategies, improve content, and improve analytics, which leads to achieving its marketing goals..

##### 4.2. The impact of the use of artificial intelligence on the marketing mix in the Meta company

Meta uses artificial intelligence in several aspects of the marketing mix:

- a) **Product:** Social media platforms provided by Meta such as Facebook, Instagram and WhatsApp. Focus company To develop these platforms and add new features to meet the needs of users.(Kissinger, 2023) and Meta uses artificial intelligence to analyze user data and identify their needs, which helps it develop its products and services to better meet those needs. (Benzinga, 2024)
- b) **Pricing:** Meta offers most of its platforms free to users, and relies on advertisements as the main source of revenue. You get up the company We set ad prices based on factors such as target, timing, and location.(kanton, 2024) and Meta uses artificial intelligence to analyze data and identify patterns of users' purchasing behavior, which helps it determine the prices of its products more accurately.(Benzinga, 2024)
- c) **Promotion:** Meta makes its platforms available online and smart phone applications, making it easy for users to access them anywhere and anytime. (Kissinger, 2023) and Meta uses artificial intelligence to personalize promotional content and ads for each user based on their preferences and behavior on its platforms.(fox, 2023)
- d) **distribution:** Meta uses a variety of promotion tactics such as digital advertising, influencer marketing, and content marketing to attract new users and retain existing users. (kanton, 2024) and Meta uses artificial intelligence to analyze user data and determine their usage patterns on platforms, which helps it improve the distribution of its products and services.(Agbetiloye, 2024)

Meta AI is used in multiple aspects of the marketing mix, your Analyze user data, develop products, determine prices accurately, customize promotional content and ads based on user preferences, and improve the distribution of services and products by understanding usage patterns..

### 4.3. The contribution of artificial intelligence tools to improving meta marketing strategies

The AI tools Meta uses contribute to improving its marketing strategies in several ways:

- a) LLaMA's large language model helps categorize texts and create more targeted and effective marketing content; (Benzinga, 2024)
- b) Chat bots planned for launch on Instagram will allow users to interact with virtual characters, enhancing audience engagement;(Kamath, 2023)
- c) The generative AI advertising tools developed by Meta will enable the creation of automated and dynamic advertising content that responds to changes in the market and behavior.:(smith, 2024)
- d) Big data analysis by AI tools provides accurate insights into user behavior and trends, which helps in customizing marketing campaigns;(sweeny, 2024)
- e) Artificial intelligence can be used to conduct marketing tests and experiments to predict user reactions to products and campaigns before they are launched. (smith, 2024)

Meta uses AI tools to improve its marketing strategies by classifying texts and creating targeted marketing content using a model LLaMA, boost audience engagement on Instagram through chat bots, create dynamic advertising content, personalize campaigns based on big data analysis, and conduct marketing experiments to predict user reactions.

The following table shows the use of artificial intelligence in the marketing process

**Table n°. (02): The use of artificial intelligence in marketing**

Statistics	Percentage of marketers who indicated that intelligence has changed how they	The expected percentage of marketers who will use artificial intelligence by the	Percentage of marketers who use artificial intelligence in their	Percentage who believe most content will be created with the
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	create content	end of 2024	operations	help of AI soon
Percentage	85%	72%	64%	63%

*Source: Prepared by the two researchers based on the following sources (carpena, 2024) and (The State of Marketing Report, 2024)*

It is clear from the above table that Percentage of marketers who use artificial intelligence in their operations (64%) and This percentage indicates that more than half of current marketers rely on artificial intelligence in their marketing operations. This reflects the growing increase in adoption of technology to improve efficiency and achieve better results.

The expected percentage of marketers who will use AI by the end of 2024 is 72%: This shows that AI adoption is expected to increase over the next two years. This indicates that the trend towards technology continues to grow, with the number of marketers adopting AI expected to increase.

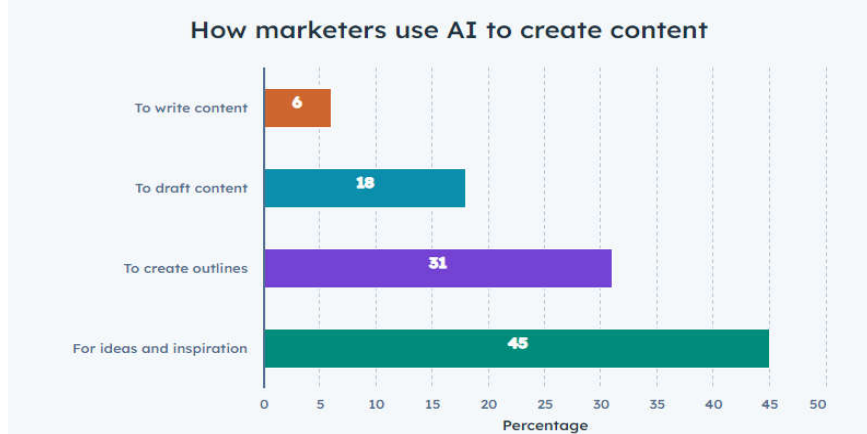
The percentage of marketers who indicated that AI has changed how content is created (85%) is very high, indicating a significant impact of AI on the content industry. This suggests that AI is not only being used for routine processes, but is redefining how content is created in more innovative and effective ways.

The percentage who believe that most content will soon be created with AI (63%) reflects optimism among marketers about the future of AI-assisted content creation. AI is expected to become an essential tool in content creation, enabling marketers to produce higher quality content in less time.

These statistics reflect the rapid growth in AI adoption in marketing. With the increased use of AI, marketers expect improved efficiency and innovation in content creation. Data shows that AI is reshaping marketing operations and driving radical changes in how content is created and managed.

Meta marketers use artificial intelligence to create content on platforms, and the following figure shows this:

**Fig n° (02): Meta marketers use artificial intelligence to create content**



*Source: (The State of Marketing Report, 2024)*

The previous figure represents how marketers in Meta use artificial intelligence to create content where it is used 6% of them use artificial intelligence in writing content, 18% of them rely on it to

prepare drafts of content, 31% of them use it in creating marketing plans, and the largest percentage of them, estimated at 45%, use it in deriving innovative ideas that support the marketing plan.

Ads on Meta platforms are also witnessing significant growth, as data showed the following:

**Table n° (03): Growth of advertisements on artificial intelligence-based meta platforms**

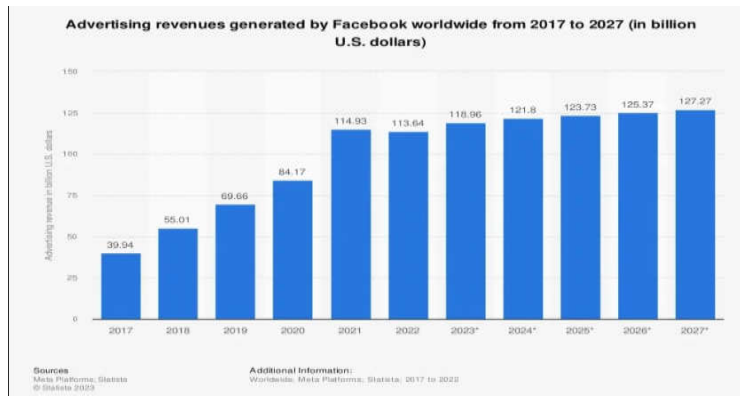
Statistics	Percentage increase in global Facebook ad reach from January to April 2023	Number of active advertisers on Meta platforms	Most used advertising platforms
Value	13%	More than 10 million	Facebook and Instagram

Source: Prepared by the two researchers based on the following source: (Shepherd, 2024)

AI technologies also help personalize ads and content based on users' preferences and behaviors, increasing the effectiveness of marketing campaigns and content performance. In addition, Meta provides advanced analytical tools to help marketers understand data and improve their strategies.

By relying on these advertisements, the company's revenues are constantly increasing, as shown in the following figure:

**Fig n° (03): Facebook advertising revenues achieved around the world from 2017 to 2027 in billion dollars**



Source: (Shepherd, 2024)

The figure represents the advertising revenue generated by Facebook globally from 2017 to 2027 (in billions of US dollars). The figure shows a steady increase in revenue over the years, with expectations for this growth to continue into the future.

- **2017:** Revenues amounted to \$39.94 billion.
- **2018:** It rose to \$55.01 billion.
- **2019:** It reached \$69.66 billion.
- **2020:** It saw a big jump to \$84.17 billion.
- **2021:** Revenues rose to \$114.93 billion.
- **2022:** It decreased slightly to \$113.64 billion.
- **2023:** It is expected to reach \$118.96 billion.
- **2024:** It is expected to reach \$121.8 billion.

- **2025:** It is expected to reach \$123.73 billion.
- **2026:** It is expected to reach \$125.37 billion.
- **2027:** It is expected to reach \$127.27 billion.

Facebook uses artificial intelligence technologies to analyze vast amounts of user data, which helps it accurately understand their preferences and effectively personalize ads. The platform relies on machine learning algorithms to deliver targeted ads, which increases their effectiveness and attracts more advertisers. In addition, AI improves user experience by personalizing content and ads according to their interests, and is used to detect fraudulent activities and protect user data, enhancing advertisers' trust in the platform. This approach is expected to drive continued growth in Facebook's advertising revenues thanks to ongoing innovations in AI technologies.

#### **4.4. The challenges that Meta faces in utilizing AI in marketing**

Meta faces several challenges in using AI in marketing, including:

- a) **Data privacy:** It raises concerns about how personal data is used, leading to regulatory pressure from data protection authorities in several countries. (Hafiz Sheikh Adnan Ahmed, 2021)
- b) **Users trust:** The lack of trust in AI due to previous unsuccessful experiments is affecting the acceptance of the technology by users.
- c) **High costs:** : AI technologies require significant computing resources, which can be a financial burden on organizations. (lindely, 2023)

Meta faces challenges in using AI in marketing, including data privacy concerns and regulatory pressures from data protection authorities, low user trust due to unsuccessful past experiences, and the high costs of AI technologies that require significant computing resources, which is a financial burden for organizations.

#### **Conclusion:**

The company succeeded in hiring The Artificial intelligence in its operations To achieve great progress. In investigation Leadership in the field of platform and technology development. Through Using many artificial intelligence tools and models, such as Model 1LLAMA 3.; It is considered one of the latest updates of the developed models for the language at Meta, as these models develop all its operations and applications.

AI has also played a crucial role in enhancing platform security and detecting fraudulent activities, increasing the confidence of users and advertisers alike. Thanks to continuous innovations and significant investments in the field of artificial intelligence, Meta remains able to maintain its leadership in the digital market and promote its sustainable growth..

It can be said that Meta's use of artificial intelligence in its marketing operations has brought about a radical shift in how people interact institution With its users and achieving its business goals. Through advanced data analysis and machine learning techniques, Meta is able to personalize ads and content in a way that achieves the highest levels of effectiveness and revenue. This customization improved the user experience and increased their interaction with different platforms such as Facebook and Instagram.

#### **Results:**

Through this study, a number of results were reached, including:

- Continuing innovations in AI support sustainable growth in Meta revenues and improved platform performance going forward;
- Meta's AI is used to detect fraudulent activities and protect data, enhancing the trust of users and advertisers;
- Meta company uses artificial intelligence programs and algorithms in several processes aimed at increasing the loyalty of its customers and their attraction to using its platforms exactly as they want.
- Artificial intelligence increases advertising revenue For the Meta company Thanks to artificial intelligence personalization of ads;
- By integrating artificial intelligence into the marketing process at the Meta company, the elements of the organization's marketing mix are developed.

**Recommendations:** From this a set of recommendations can be presented, which are follows:

- Invest in AI tools to analyze large data sets, improving personalized marketing strategies;
- Use AI algorithms content based on user behavior, increasing conversion rates;
- Apply machine learning to optimize ad campaigns, improving ROI through real-time data analysis
- Develop AI chatbots for personalized customer support, enhancing user experience and satisfaction.

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