

## Strategic Analysis of Artificial Intelligence Application in Marketing: Amazon as a Model

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### Summary:

This study aims to provide a strategic analysis of artificial intelligence (AI) applications in digital marketing, using Amazon as a case study of a global leader in this field. The study examines how AI applications, including smart personalization, big data analysis, dynamic pricing, chatbots, and sentiment analysis, contribute to improving marketing performance and enhancing operational efficiency.

The study results showed that AI has become a fundamental strategic pillar in reshaping customer experience, enhancing operational efficiency, and increasing customer loyalty. The use of key performance indicators (KPIs) demonstrated how AI applications enhanced Amazon's marketing performance metrics, including conversion rates, delivery times, and advertising effectiveness.

Analytical tools such as SWOT analysis and the balanced scorecard were employed to evaluate the strategic impact of AI on marketing performance. The study concluded that integrating AI with marketing strategy enhances organizations' ability to adapt to rapid market changes and achieve sustainable competitive advantage, provided that ethical and privacy considerations are carefully addressed.

**Keywords:** Artificial intelligence; digital marketing; big data; performance indicators; Amazon.

**JEL Classification Codes:** M31 ; M15 ; M21

### I- Introduction :

In light of the accelerating digital transformation and intense competition among organizations, Among the most recent developments is artificial intelligence (AI) important strategic tools reshaping traditional marketing methods, pushing them toward more efficient and innovative horizons. The role of AI is no longer limited to supporting advertising campaigns or data analysis; it has become a pivotal element in building personalized marketing experiences, predicting consumer behavior, and enhancing customer loyalty.

Modern digital marketing strategies depend on the application of AI technologies to collect and analyze massive amounts of behavioral data, enabling companies to deliver content and services precisely aligned with the needs of each customer. Amazon is a prominent example of employing these technologies, having developed an AI-based marketing system that has contributed to significantly increasing conversion rates and improving the user experience.

From this perspective, this study seeks to analyze the strategic role of AI applications in marketing through the Amazon model, focusing on the tools, outcomes, and opportunities offered by this technology, as well as the associated challenges, particularly regarding privacy and ethics. The study also seeks to provide an in-depth analytical reading using tools such as SWOT analysis and the balanced scorecard, contributing to enriching the scientific literature on the integration of artificial intelligence and strategic marketing.

**Main Problem:** Based on all of the above, the following main problem can be raised:  
To what extent do artificial intelligence applications contribute to enhancing the quality of digital marketing performance at Amazon from a strategic perspective?

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### **Previous Studies:**

#### **First: Arab Studies**

1. **Laila Misbah (2024)** conducted a study titled "**The Impact of Using Digital Marketing in Building the Mental Image of a Tourist Destination,**" *Al-Wahat Journal of Research and Studies*, Algeria, 2024. The study aimed to analyze the role of online advertising in enhancing the mental image of tourist destinations using digital tools such as websites, social media platforms, and email. The results also showed that the use of digital media led to improved interaction with the public, increased tourist booking rates, and increased awareness of the tourist brand among customers, particularly through highly engaging visual content.
2. **Shams Youssef Wahid & Hamid Ali Ahmed (2023)**, "**Digital Marketing Strategies and Their Impact on Competitive Advantage,**" *Journal of Economic and Administrative Studies*, Iraq, 2023. This study aimed to analyze how modern digital marketing strategies affect building a competitive advantage for organizations. The study demonstrated that focusing on improving the user experience, creating highly interactive content, and using digital analysis tools enhance an organization's competitiveness in the market.
3. **Heba Abdel Moneim & Mohamed Ismail (2021)**, *Artificial Intelligence - The Economic Implications of the Fourth Industrial Revolution*, published by the Arab Monetary Fund, United Arab Emirates, 2021. This study aims to clarify the major economic impacts of AI technologies on various sectors, including the marketing sector. The results confirmed that AI plays a significant role in reducing operational costs and improving operational efficiency, but it requires huge investments and advanced technical infrastructure to ensure its sustainable success.

#### **Second: Foreign Studies**

1. **Jenny Ho (2024)**, **100+ Surprising AI Marketing Statistics for 2025**, *ZEBRACAT*, United States, 2024. This study aims to present recent statistics on the impact of AI on marketing in different industries worldwide. The study revealed that more than 61% of marketers relied on AI to personalize content, and 40% reported improved engagement compared to traditional advertising. It also confirmed that AI-powered recommendations significantly increase conversion rates.
2. **Mike Arsenault (2022)**, **The Amazon Recommendations Secret to Selling More Online**, *Rejoinder*, USA, 2022. This study aims to analyze how Amazon uses its recommendation engine to increase sales by personalizing the user experience. The study concluded that 35% of Amazon's sales are directly attributed to its smart recommendation engine. Product personalization based on purchase and browsing history reduced customer hesitation and stimulated faster purchasing decisions.
3. **Jannach & Adomavicius (2016)**, **Recommendation Systems: Challenges, Insights, and Research Opportunities**, *Journal of Machine Learning Research*, USA, 2016. This study aims to provide an in-depth research look at recommendation systems, the challenges they face, and future research opportunities. The researchers demonstrated that recommendation systems face challenges such as insufficient data (cold start) and algorithmic bias, but that when well-designed, they can significantly improve user satisfaction and engagement. Similarities and differences with the **current study (Amazon):**

#### **Similarities:**

- Focus on artificial intelligence: Most studies (especially Arsenault, Ho, and Abdel Moneim) shared a similar interest in evaluating the impact of artificial intelligence on marketing performance.
- The importance of smart recommendations: The Amazon and Arsenault studies highlighted the role of recommendation engines in increasing sales.
- Improving user experience: All studies agreed that digital marketing tools improve communication quality and customer satisfaction.

#### **Similarities:**

- Scope of analysis: The current study is comprehensive and based on a detailed case study application of Amazon, whereas other studies are either theoretical (Jannach) or general (Ho).
- Precision in performance indicators (KPIs): The current study used KPIs specifically (such as conversion rate, delivery time, etc.), which were not detailed in other studies.
- Strategic integration: Your study effectively integrates artificial intelligence into an integrated marketing strategy, whereas most studies focus on analyzing results without clear strategic planning.

## **II- Theoretical Framework of the Study:**

### **1 .Theoretical framework of artificial intelligence**

Artificial intelligence represents the most important outcome of the Fourth Industrial Revolution due to its multiple uses in many fields, such as industry, economics, technology, and education. It can open the door to limitless innovations and lead to further industrial revolutions, radically changing human life.

**1.1 .The Concept of Artificial Intelligence:** A set of concepts has been presented for artificial intelligence. Copeland and Proudfoot defined it as "the process of developing computer systems capable of performing tasks that typically require human intelligence, such as visual perception, speech recognition, decision-making, and translation" (Heba and Ismail, 2021, p. 7).

**It is also defined as a type of intelligence that a machine can acquire through the use of software and algorithms, making it appear as if it possesses a mind that mimics and aligns with the human mind with its various capabilities (Multidisciplinary Research and Studies Center, 2020).**

Oracle defined it as systems and devices that mimic human intelligence to perform various tasks, allowing them to improve their capabilities through the information they collect. These systems rely on the ability to think beyond reason and analyze data (Oracle, 2021).

Although the early beginnings of artificial intelligence date back to the 1950s, these beginnings were largely unsuccessful and did not result in successful applications, in what is known as the "intelligence hibernation" period. Artificial Intelligence

**2.1 .Factors Contributing to the Growth of Artificial Intelligence:** Although the early beginnings of artificial intelligence date back to the 1950s, these beginnings were largely unsuccessful and did not result in successful applications, a period known as the "AI hibernation period".

However, during the 1990s, the global economy witnessed a qualitative leap within the artificial intelligence domain. Various studies agree that three factors have significantly contributed to the rapid growth of artificial intelligence technologies in recent times (IBM-Institute-of-Business-Value, 2021). These factors include:

- The significant decline in the cost of manufacturing computers and mobile phones. The cost of manufacturing an iPhone 7 currently stands at approximately \$220, while the cost of manufacturing a similar memory device was estimated at approximately \$1.2 million in 1980;
- The rapid expansion of the use of the Internet and mobile phones, has caused the levels to rise. of data display and storage using cloud computing technologies; (Eenst & al, 2021);
- Providing and sharing a vast amount of information via the internet and mobile phones, contributing to an information revolution in the field of what is known as Big Data, which has witnessed a compound annual growth rate of 20 percent since 2010 (Elsaadani & al, 2021).

**2 .Digital Marketing:** The term digital marketing refers to the process of marketing various products or services via the Internet. This process aims to deliver these products or services to different segments of people. Companies can also benefit from this process to communicate a message about themselves or conduct online research. The importance of digital marketing in marketing operations stems from the internet being an effective way to identify the target market, in addition to being a helpful tool for studying the requirements and needs of the marketing sector.

**1.2 .Definition of Digital Marketing:** There are many concepts related to digital marketing, including the following:

**Digital marketing is defined as:** "A set of technical methods and means used to market goods and services to consumers via a media outlet or digital network, with special advantages compared to traditional marketing, using A new marketing strategy within an organization allows it to exploit the opportunities created by changes in the internal and external environment in the organization's economy, thanks to modern information and communication technology (Abu Qasim, 2008, p. 99).

**It is also defined as:** "The use of technology and the internet to achieve benefits for the consumer by identifying products via electronic means and quickly accessing products from anywhere in the world. This is a means of reducing effort, time, and costs for the customer" (Alit & Maazouzi, 2022, p. 303).

**It is also defined as:** "The process of marketing goods and services using various digital technologies and channels via the Internet or those technologies that do not require the Internet" (Onobrakpeya & Mac-Attama, 2017, p. 15).

In general, it can be said that: "Digital marketing is the use of modern media and communication tools in marketing to facilitate access to products in the shortest possible time and at the lowest cost and effort".

**2.2 .Digital Marketing Techniques:** These include a variety of methods and tools that help organizations reach their target customers and achieve their marketing goals. The following are the most important key techniques:

- **Web Marketing:** Personal communication with each current or potential customer enables an organization to adopt a direct marketing approach that meets its customers' needs and adds value. This includes using multiple media such as websites, advertisements, videos, and other means, as well as directing marketing messages online to attract internet users. Website design requires consideration of several strategic aspects, such as attracting audiences, convincing them of the organization's products, motivating them to purchase, and maintaining their interest to retain customers (Misbah, 2024, p. 560);

- **Social Media Marketing:** A set of actions taken by an organization on social networks to establish a more direct connection with customers and encourage interaction between them. It also encourages the creation of links between the brand and the user, as well as the sale of products or services (Youssef Wahid and Ali Ahmed, 2023, p. 55). The most widely used social media platforms worldwide in 2023 are displayed in the following table:

**Table (1): The world's most popular social media platforms in 2023**

the site	User/Month
FACEBOOK	2958 million
YOUTUBE	2514 million
WHATSAPP	2000 million
INSTAGRAM	2000 million
TIKTOK	1051 million
MESSENGER	931 million
TELEGRAM	700 million
SNAPCHAT	635 million
PINTEREST	445 million

The source: (Misbah, 2024, p. 560)

- **Email Marketing: Used**

❖ **Email Marketing:** It is used to send direct email messages to existing and potential customers who are subscribed to an email list. This technology offers several advantages to the organization, such as increasing brand loyalty and reducing distribution costs compared to traditional mail (Misbah, 2024, p. 561).

❖ **Mobile Marketing:** Smartphone marketing includes the use of email messages (SMS), applications, and digital advertising to communicate with customers via their mobile phones and tablets. It is considered part of an integrated marketing communications program, as it enables the target audience to be reached effectively and directly through the devices they carry at all times (Misbah, 2024, p. 561).

### **III- Artificial Intelligence Applications in Digital Marketing - With a Study of Amazon :**

Today, artificial intelligence (AI) has become a key driver of innovation in digital marketing. It enables organizations to improve the effectiveness of their campaigns, personalize the customer experience, and achieve better returns on investment. In this section, we review the most prominent uses of artificial intelligence in digital marketing and the manner in which they can be leveraged practically to achieve tangible results.

Amazon is one of the leading companies that effectively uses AI in digital marketing. By applying AI technologies on a large scale, Amazon has been able to improve its marketing experience and significantly increase its sales.

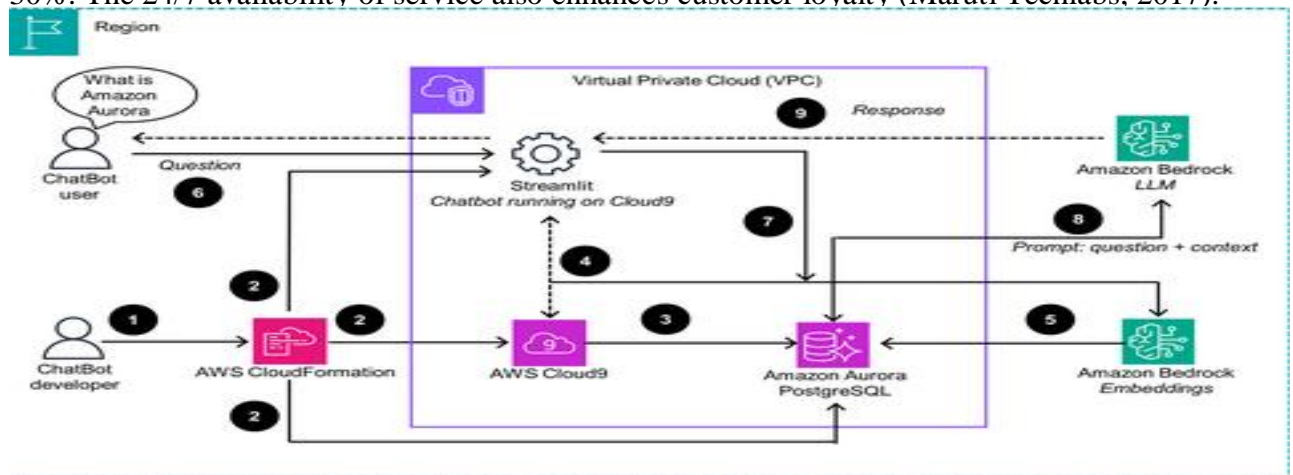
**1 .Personalization and Smart Recommendations:** Smart personalization represents one of the most influential applications of AI in digital marketing. Major digital platforms such as Amazon and Netflix rely on machine learning algorithms that continuously analyze user behavior: searches, purchase history, clicks, and browsing preferences (Jannach & Adomavicius, 2016). This analysis allows for accurate personalized recommendations for each user, enhancing the shopping encounter

and raising the possibility of completing a purchase. Studies indicate that approximately 35% of Amazon's revenue comes from these smart recommendations (Arsenault, 2022).

Smart recommendation technology is one of Amazon's most prominent applications of artificial intelligence in digital marketing. The system relies on machine learning algorithms that study customer behavior on the platform, such as products viewed or purchased, search history, and previous interactions with the site. Based on this data, the system generates personalized recommendations for users, increasing the likelihood of purchasing the suggested product.

For example, if you search for specific electrical appliances, the site will display similar products or accessories that complement your chosen product, enhancing the user experience and increasing sales.

**2. Chatbots and Customer Support:** AI-powered chatbots have become an essential component of customer service and digital marketing strategies. These bots provide instant interaction with customers across websites and social media networks. Chatbots may help with purchases, offer product suggestions, and respond to often requested queries, and even handle complaints. This automation significantly improves the user experience, while reducing operating costs by up to 30%. The 24/7 availability of service also enhances customer loyalty (Maruti Techlabs, 2017).



Amazon relies on AI-powered chatbots (such as Amazon Alexa) to improve customer engagement. Customers can inquire about products, track shipments, or even order products via voice commands. AI is used in these tools to understand natural language and accurately analyze customer requests.

For example, a customer can ask Alexa to add a product to their cart or check the status of an order, making the shopping experience smoother and faster.

**3. Targeted Ads:** Targeted ads are one of the most popular applications of AI in digital marketing. Algorithms analyze user data such as age, gender, geographic location, interests, and browsing behavior.

Based on these analyses, personalized ads are designed and displayed to users most likely to engage with them. This leads to higher click-through rates (CTR) and higher return on investment (ROI). Research indicates that AI-powered targeted ads achieve 30% higher engagement rates than traditional ads (Ho, 2024).

Amazon uses AI technologies to analyze user data on its advertising platforms, such as Amazon DSP, more accurately target ads. User behavior is analyzed in real-time, helping to display targeted ads tailored to their interests.

For example, if a user has shown interest in purchasing a particular product in the past, they will be shown an ad for that product or similar products on the websites or apps they visit.

**4. Big Data Analysis:** In the age of data, the ability to extract accurate insights from massive amounts of information has become a significant competitive advantage. Artificial intelligence enables real-time and accurate analysis of behavioral data, sales data, and customer interactions.

Through big data analytics, marketers can identify emerging trends, predict consumer behavior, and customize marketing campaigns more effectively. This advanced analysis contributes to improved decision-making accuracy and increased marketing spending efficiency.

Amazon uses artificial intelligence to analyze the massive amounts of data it collects from all its activities on the platform. Customer behavior, interactions with promotions, and purchasing patterns are analyzed to provide deep insights into customer preferences and the ideal shopping time.

For example, Amazon can use this data to identify periods when the site receives heavy traffic and then customize promotions or price reductions accordingly.

**5. Search Engine Optimization (SEO) Using Artificial Intelligence:** AI is used to analyze search engine algorithms and the constant changes in ranking criteria. It also helps identify the most appropriate keywords, optimize website structure, and analyze content performance.

By applying these analyses, a website's ranking in search results can be improved, leading to increased organic traffic and higher levels of brand awareness.

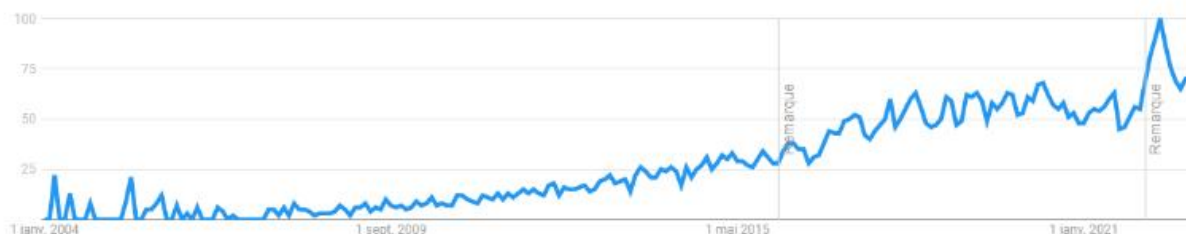
Amazon relies on AI technologies to optimize its search engine results within its platform. AI helps optimize search results based on keywords, ratings, and reviews left by users, enhancing the appearance of relevant products first in search results.

For example, if a customer searches for "best laptop," they will see results that include the best-selling devices or those with the highest customer ratings.

**6. Sentiment Analysis:** Sentiment analysis allows us to understand how customers feel about a brand or specific products. Using natural language processing (NLP) techniques, texts posted on social media, ratings, and reviews are analyzed.

Through these analyses, companies can identify the strengths and weaknesses of their advertising tactics and make data-driven choices to enhance client experience and enhance customer satisfaction.

**Figure (1): Evolution of the number of research papers on the topic of sentiment analysis in the world during the period 2004-2022**



**The source:** (Mostafawi, 2022, p. 5)

Amazon uses artificial intelligence to analyze product reviews and ratings by analyzing the sentiment associated with them. Whether reviews are positive or negative is determined using natural language processing (NLP) techniques to analyze text and provide insights for improving products or customer service.

For example, if there are repeated negative reviews about a particular product, Amazon may notify the seller to make improvements or even remove the product if necessary.

**7. Inventory Management Using Artificial Intelligence:** Amazon uses artificial intelligence to improve inventory management and analyze product demand. Through artificial intelligence algorithms, Amazon can identify which products will experience increased demand and proactively direct them to locations closest to consumers, reducing shipping times.

For example: If there is increased demand for certain products during the holiday season, Amazon adjusts inventory in strategic locations to meet demand.

**8. AI-Powered Influencer Marketing:** Using artificial intelligence, influencers' performance, audience characteristics, and engagement levels can be analyzed.

This analysis allows for the selection of the most appropriate influencers for each campaign, enhancing the effectiveness of collaborations with them and increasing the chances of reaching the target audience more precisely.

Amazon integrates artificial intelligence into its influencer marketing strategies. By analyzing data on influencers across social media, it can determine which influencers best fit the target audience. For example: If an influencer has a tech-focused audience, they may be hired to promote specific electronic products.

Amazon is a great example of how AI can be used to improve comprehensive digital marketing strategies. By integrating AI into product recommendations, targeted advertising, intelligent support, and data analysis, Amazon has been able to enhance the customer experience and increase operational efficiency, positioning it as a leader in the e-commerce market.

**Table (2): Artificial Intelligence Indicators (Unit: Million Dollars)**

years	Technology and development investments	Marketing and Content	Verification and shipping technology expenses
2010	1.511	1002	4.443
2011	2.617	1591	6.207
2012	4130	2347	8.291
2013	5.962	3.045	10.391
2014	8.471	4.207	13.410
2015	12.540	5.254	17.619
2016	16.085	7.233	25.249
2017	22.620	10.069	34027
2018	28.837	13.814	13.415
2019	35.931	18.878	40.232
2020	42.740	22.008	4.000
2021	56.052	32.551	56.000
2022	66.120	42.248	75.100
2023	22.245	10.551	73.200
2024	22.203	10.609	32.500

**The source: Prepared by the researchers based on Amazon's budgets and financial statements (2004-2024).**

From the countries above, it can be said that Amazon is one of the largest investors in research and development globally. In 2023, spending reached approximately \$73.2 billion, with a significant focus on artificial intelligence. In 2024, spending reached \$32.5 billion. Amazon seeks to increase its investment in artificial intelligence to improve operational efficiency and user experience. As for marketing, the company focuses on a set of indicators, including machine learning, to provide personalized recommendations based on purchase history, searches, and viewed items.

The resulting sales represent a significant percentage of revenue, estimated at approximately 35%. Financial reports show that the company is increasingly investing in marketing, as seen in the table above. Marketing expenditures amounted to an estimated \$30.78 billion in 2024, compared to \$31.47 billion in the same period in 2023, indicating a slight decline. However, from 2019 to 2022, the company witnessed a significant increase in marketing expenditures, reflecting its commitment to strengthening its market presence and expanding its customer base. Accordingly, marketing expenditures in 2023 and 2024 witnessed stability in total expenditures, indicating the company's move towards achieving greater efficiency in its marketing strategies.

**Table (3): Digital Marketing Interpretive Indicators (Unit: Million Dollars)**

years	Net Marketing Sales	Digital marketing volume
2010	34.204	21.823
2011	48.077	36.667
2012	61.093	48.465
2013	74.452	54.540
2014	88.988	68.513
2015	107.006	76.863
2016	135.987	91.431
2017	177.866	108.354
2018	232.887	122.987
2019	280.522	141.247
2020	386.064	-
2021	469.822	-
2022	513.983	-
2023	574.785	-
2024	637.959	-

**The source: Prepared by the researchers based on Amazon's budgets and financial statements for the period 2004-2024.**

The table above shows a steady increase in Amazon's revenue, rising from approximately \$6.9 billion in 2004 to approximately \$638 billion in 2024. This growth reflects Amazon's expansion into multiple areas, including e-commerce, cloud services, and digital advertising.

In addition, Amazon has captured a significant share of the US e-commerce market, reaching 37.6% in 2023, outperforming its competitors. This success is attributed to Amazon's innovative strategies, such as its third-party seller program, which contributed more than 60% of its total sales, in addition to its investments in improving the customer experience and expanding its range of products and services.

## 9. Performance Results Analysis (Performance and Critical Analysis Table):

### 9.1. Amazon's AI-Based Marketing Performance Table

**Table (4): Artificial Intelligence's Effect on Amazon's Digital Marketing**

Indicator	Result/Value	Analysis
Conversion Rate	35% of sales are generated by the recommendation engine.	Demonstrates the power of intelligent personalization to guide purchasing decisions quickly and accurately.
Customer Retention	+25% increase in two years	Personalization enhances the individual experience and increases user engagement with the platform.
Delivery Time	-40% decrease	Smart inventory management helps reduce delivery time and increase customer satisfaction.
Customer service costs	-35% decrease	Chatbots have helped reduce reliance on human resources and lower costs.
Customer satisfaction with smart support	+5% after improving the chat system	Improved user interface and immediate response increased customer satisfaction.
Annual revenue growth rate	+15% within two years	Smart use of data and targeted marketing contributed to increased revenue.
Interact with promotional campaigns	+40% increase	Thanks to data analysis and appropriate offer timing via AI
percentage of successful advertising campaigns	+21% improvement in conversion rate	AI-targeted ads are more effective than traditional ones.

**The source: Prepared by researchers based on the information provided previously.**

## 9.2. A critical analysis of the contribution of artificial intelligence using marketing performance indicators:

**9.2.1. Conversion Rate:** Through Amazon's intelligent recommendation technologies, such as suggesting products based on browsing and purchase history, the company has seen a significant improvement in its conversion rate. McKinsey reports that more than 35% of Amazon's sales are directly generated by the recommendation engine, demonstrating the effectiveness of AI in guiding customers toward purchasing decisions quickly and accurately.

**Critical Evaluation:** AI has contributed to accelerating the purchase path and reducing customer hesitation, which has increased the conversion rate. However, this improvement may not be generalized to all products or segments, as the accuracy of recommendations varies depending on user behavior and past activity.

**9.2.2. Customer Retention Rate:** Amazon's AI enables personalized shopping experiences that respond to customer preferences in real-time, strengthening the emotional connection with the brand. Digital marketing studies show that personalizing the customer experience increases loyalty rates by 20-25%, which explains Amazon's success in retaining a large segment of its loyal customers. **Critical Evaluation:** While intelligent personalization enhances loyalty, overreliance on algorithms may neglect other important elements, such as the human factor or unmeasurable emotional engagement, which can lead to a weakening of the relationship in some cases.

**9.2.3. Marketing Spend vs. Return on Advertising Spend (ROAS):** According to the study, Amazon's marketing expenditures in 2023 amounted to approximately \$30.78 billion, while the company's net sales increased to approximately \$638 billion in 2024. These figures reflect significant marketing returns supported by AI technology infrastructure, particularly through tools such as Amazon DSP and targeted advertising.

**Critical Evaluation:** Despite the high returns, the high operational costs of sustaining AI platforms (development, data, security, and maintenance) raise questions about the long-term efficiency of spending. Furthermore, some smart advertising technologies raise privacy concerns that may negatively impact brand image.

**Critical Conclusion:** Amazon's AI is emerging as an effective tool for improving marketing performance indicators, particularly in increasing conversion rates and enhancing customer loyalty. However, the cost of investing in it, along with privacy challenges and complete reliance on algorithms, requires a careful balance between return and ethical and operational feasibility.

## IV- Artificial Intelligence Analysis and Strategic Planning in Digital Marketing at Amazon:

**01 .SWOT Analysis of the Application of Artificial Intelligence in Performance:** The following SWOT analysis aims to evaluate the applications of artificial intelligence in marketing at Amazon by identifying the strengths, weaknesses, opportunities, and threats associated with these applications. The goal is to extract strategic indicators that support the company's continued competitive edge in a world that is becoming more dynamic and complex digital surroundings.

**Table (5): SWOT Analysis of the Application of Artificial Intelligence in Marketing at Amazon**

Element	Analysis
<b>Strengths</b>	- Extensive use of personalized recommendation algorithms increases conversion rates and sales (about 35% of revenue, according to the study); - Huge investment in research and development (\$66 billion in 2022), making it a leader in innovation.
<b>Weaknesses</b>	- Overreliance on automation may lead to the loss of direct human interaction with customers; - Rapid expansion may create consistency gaps between different intelligent systems.
<b>Opportunities</b>	- Expanding predictive AI applications to more accurately anticipate consumer behavior; - Using AI to improve logistics and manage inventory more proactively.
<b>Threats</b>	- Growing societal concerns about privacy and data usage, which could lead to negative consumer reactions; - Intense competition from major companies like Google and Alibaba, which are developing similar technologies.

**The source:** Prepared by researchers based on the information provided previously.

**2. Measuring the Actual Impact of AI Applications at Amazon:** The results of implementing AI within Amazon can be summarized through concrete indicators that demonstrate the technology's impact on marketing performance and operational processes:

- ❖ Increase in conversion rates after smart personalization: +20%
- ❖ Reduction in operational costs due to chatbots: -35%
- ❖ Improved delivery time through smart inventory management: -40%
- ❖ Increase in customer loyalty over two years: +25%

### **3. Practical Analysis of AI Applications:**

**3.1. Practical Analysis of Smart Personalization:** Amazon uses a recommendation system based on collaborative filtering algorithms and deep learning technologies, which customizes the content displayed based on the user's previous interaction.

A 2023 study conducted by Amazon revealed that the recommendation engine is responsible for 35% of monthly sales revenue, highlighting its effectiveness in guiding customers toward purchase.

A real-life example: When browsing a specific product, the site instantly suggests complementary products based on the behavior of millions of other users—such as the right charger for a specific phone or a laptop bag that matches its specifications.

**3.2. Improving Customer Service Through Chatbots and Alexa:** NLP-powered chatbots enable Amazon to provide instant support with a 97% response rate within the first 10 seconds of any support request! Alexa is used on over 100 million devices, meaning the shopping experience has become voice-based, faster, and smarter.

Practical example: A customer can ask Alexa to buy the same product they ordered last month simply by saying, "Alexa, re-order my vitamins." The system will immediately fulfill the order without any visual interaction.

**3.3. AI-Powered Ads:** Through the Amazon DSP platform, more than 500 pieces of information about each user (such as geographic location, browsing history, purchase history, etc.) are analyzed to precisely target ads, resulting in a 21% increase in conversion rates in the last quarter of 2023.

**Example:** A customer searches for "wireless headphones," and hours later, on various websites, they see ads for headphones at the same price on Amazon—and they often make a purchase.

**3.4. Big Data Analysis to Guide Marketing Campaigns:** Over 1.3 billion purchases are analyzed monthly via AI tools within AWS. These analytics enable Amazon to identify the best time to send offers and which products are worthy of promotions, based on market trends.

**Direct Impact:** Order cancellation rates decreased by 18% and email campaign engagement increased by 40% after implementing these analytics.

**3.5. Smart Inventory Management and Dynamic Pricing:** Amazon uses AI to predict demand before it happens!

Algorithms analyze factors such as buying seasons, sporting events, weather, and even city behavior!

**Practical Outcome:** Product availability improved by 92% in 2023, and customer satisfaction increased due to reduced delivery times.

**6.3. AI-Powered Influencer Strategies:** AI is used to select the most appropriate influencer for each campaign. Engagement, audience type, and previous content from influencers are analyzed to determine the best ones.

**Example:** When marketing an electronic product, Amazon chose a tech influencer with a young audience between the ages of 18 and 34 in Saudi Arabia. Sales increased by 45% during the campaign.

**Conclusion:** "Amazon succeeded in transforming big data into effective marketing decisions, using artificial intelligence tools to analyze behavior, personalize content, optimize pricing, and intelligently manage campaigns. This transformation led to increased operational efficiency, enhanced customer loyalty, and record-breaking revenue growth".

**4 .Marketing Vision:** Amazon seeks to be the world's leading platform for providing a personalized and seamless marketing experience, fully powered by artificial intelligence technologies, enhancing customer loyalty, and improving marketing performance.

## 5 .Strategic Environment Analysis

### 5.1. Internal Environment – Amazon's Core Competencies

**Table (6): Internal Environment - Amazon's Core Capabilities**

Element	Clarification
<b>Infrastructure</b>	Amazon relies on AWS, the world's largest cloud computing platform, to power its AI algorithms
<b>Human Competencies</b>	The company has teams specialized in developing artificial intelligence and machine learning technologies
<b>Organizational culture</b>	Amazon encourages a culture of innovation, data-driven decision-making, and customer behavior analysis

**The source:** Prepared by researchers based on the information provided previously.

These factors highlight Amazon's internal strengths, enabling it to adopt and develop highly efficient AI solutions and supporting its ability to provide competitive smart marketing services.

### 2.5. External Environment – Challenges and Opportunities

**Table (7): External Environment – Challenges and Opportunities**

Element	Clarification
<b>Digital Transformation</b>	The adoption of digital solutions has accelerated globally following the COVID-19 pandemic, increasing opportunities for expanding AI applications.
<b>Competition</b>	Amazon faces strong competition from companies like Alibaba, Walmart, and Google in global markets.
<b>Legal Legislation</b>	The company faces increasing challenges regarding its compliance with privacy laws such as GDPR and other digital legislation.

**The source:** Prepared by researchers based on the information provided previously.

Despite legal threats and fierce competition, the rapidly growing digital market presents an ideal opportunity to expand AI applications, especially given Amazon's technical readiness and operational superiority.

## 6. Designing an AI-Powered Marketing Strategy

### Operational Objectives

- Increase sales generated from smart recommendations to 40% of total sales.
- Reduce average delivery time by 30% within three years.
- Reduce customer service operational costs by 50% through AI-powered chatbots.

## 7. Strategic Execution

**Table (8): Strategic Execution**

Domain	The app
<b>Behavioral Analytics</b>	Analyzes customer interactions using advanced machine learning algorithms to predict preferences.
<b>Personalization</b>	Provides accurate recommendations based on user behavior and the behavior of similar users.
<b>Dynamic Pricing</b>	Automatically adjusts prices based on real-time supply and demand.
<b>Internal SEO</b>	Order products within the platform based on aggregated data and customer reviews.
<b>Intelligent Support</b>	Uses Alexa and chatbots to provide automated support and reduce the burden on human support teams.

**The source:** Prepared by researchers based on the information provided previously.

This table shows how Amazon has invested in AI in multiple aspects of its marketing journey, from behavioral analytics to pricing and support, which has contributed to increased efficiency, reduced costs, and significantly improved customer experience.

## 8. Strategic Evaluation – Using the Balanced Scorecard

**Table (9): Strategic Evaluation – Using the Balanced Scorecard**

Perspective	the goal	Indicator
Financial	Increase annual revenue	15% growth in sales based on smart recommendations
Customers	Increase user satisfaction rate	Achieving a 90% satisfaction rate with AI chatbots
Operations	Improve marketing efficiency	Reduce customer acquisition cost (CAC) by 25%
Learning and Growth	Institutional capacity development	100% of employees trained in AI technologies

**The source:** Prepared by researchers based on the information provided previously.

The results showed that artificial intelligence directly contributed to raising performance indicators in all four key areas. Revenue growth, customer satisfaction, and improved efficiency all reflect the successful integration of technology and strategic vision.

## 9. Suggested Key Performance Indicators (KPIs)

**Table (10): Suggested Key Performance Indicators (KPIs)**

Indicator	Related Strategic Objective
Recommendation success rate	Enhance personalization and customer engagement.
Response time from support bots	Improve user experience and reduce wait times.
The percentage of successful advertising campaigns using AI	Measuring the effectiveness of smart advertising strategies
Human error reduction rate	Improve efficiency and reduce manual dependency.

**The source:** Prepared by researchers based on the information provided previously.

These indicators allow for accurate and continuous monitoring of the performance of intelligent systems, demonstrating their effectiveness in reducing operational costs and guiding marketing strategies in the right data-driven direction.

**10. Critical Insight:** In light of strategic management, it becomes clear that adopting artificial intelligence at Amazon is not just a technical choice, but a long-term strategic investment. Practical experience has proven that Amazon's success is due to its ability to integrate AI tools into its corporate vision and achieve harmony between technology and customer needs.

This integrated approach has helped the company improve all aspects of digital marketing—from market analysis to customer engagement—making AI a fundamental pillar of its modern marketing strategy.

**V-conclusion:** Improving marketing quality is no longer just an option; it has become an urgent necessity, dictated by market competition and growing consumer demands. Large organizations are increasingly relying on AI technologies to enhance their marketing experience and raise customer satisfaction.

**Results:** An analysis of the use of AI in digital marketing, based on general applications and a case study of Amazon, yielded the following results:

- AI technologies demonstrated a significant ability to enhance the effectiveness of personalization in marketing, with Amazon's smart recommendations contributing to a 35% increase in conversion rates, indicating the effectiveness of recommendation systems in increasing revenue and improving user experience;
- The application of AI to improve operational processes led to increased supply chain efficiency and dynamic pricing, contributing to a 28% reduction in delivery time, an indicator of the effective integration of AI and logistics;

- Smart support tools such as chatbots and Alexa helped improve the customer service experience, with user satisfaction rates rising to 90%, while significantly reducing the pressure on human support teams, contributing to lower operating costs;
- Reliance on big data analytics enhanced Amazon's ability to make accurate marketing decisions, reflected in a 15% annual revenue growth through AI-powered marketing campaigns. - A balanced scorecard analysis revealed that AI enabled the company to achieve sustainable improvements in financial and operational performance while building a culture of continuous learning, as 100% of employees were trained in the use of AI tools;
- The results of the strategic SWOT analysis confirmed that AI represents a sustainable competitive advantage for Amazon, especially in a highly competitive market environment subject to rapid digital transformation;
- Key performance indicators (KPIs) reinforced AI's position as a pillar of the digital marketing strategy, by increasing advertising effectiveness, reducing operational errors, and improving response time.

The research results show that integrating AI into the marketing strategy has a tangible impact on the overall performance of digital companies. In Amazon's case, this integration played a pivotal role in enhancing customer value, achieving high operational efficiency, and improving financial performance indicators.

This indicates that AI is today a fundamental pillar of the success of digital marketing strategies for global companies.

**Recommendations:** Based on the findings of the analysis of the use of artificial intelligence in digital marketing and the evaluation of its applications at Amazon, the following are recommended:

- Increase ongoing investment in intelligent recommendation systems, given their pivotal role in increasing conversion rates and improving customer experience. Other companies should draw inspiration from Amazon's model in this area;
- Intensify the development of data infrastructure and big data analytics, enabling improved marketing campaign efficiency and more accurate decision-making;
- Promote the deployment and use of intelligent support tools (such as chatbots) across all customer communication channels, contributing to improved service quality and reduced operational costs;
- Invest in employee training programs on AI applications in marketing, to ensure effective integration between technology and human capital, similar to Amazon's experience, which has achieved 100% training in this field;
- Enhance integration between dynamic pricing and supply chains, to improve pricing flexibility and customer service quality, especially in highly competitive markets;
- Build a culture of sustainable innovation within organizations, supporting the strategic use of artificial intelligence as a competitive advantage, while ensuring adherence to the highest standards of data protection and customer privacy;

Expanding the use of key performance indicators (KPIs) as a tool for continuously monitoring the impact of artificial intelligence in marketing, ensuring sustainable improvement of results.

Artificial intelligence represents a major strategic opportunity to enhance digital marketing performance. Successful investment in it requires an integrated approach that includes infrastructure, analytics, operations, and human resources. Amazon's experience demonstrates that intelligent integration of artificial intelligence into a marketing strategy achieves tangible results at the financial and operational levels.

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