

## Research Article

### A STUDY OF IMPRESSION OF UTILIZING ARTIFICIAL INTELLIGENCE IN E-MARKETING

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Received 12<sup>th</sup> November 2023; Accepted 13<sup>th</sup> December 2023; Published online 22<sup>th</sup> January 2024

#### ABSTRACT

The influence of technology on human existence has been substantial, especially in the utilization of artificial intelligence across diverse fields. This study specifically examines the effects of artificial intelligence on e-marketing within the context of Iran. Employing a descriptive-analytical methodology, the research explores three distinct aspects of artificial intelligence. The collection of data involved the distribution of a questionnaire to marketers and personnel, revealing a noteworthy correlation between artificial intelligence and its capacity to enhance e-marketing and confer a competitive edge.

**Keywords:** Artificial Intelligence, E-Marketing, Marketing Strategies, AI.

#### INTRODUCTION

The global community is currently witnessing swift advancements in technology and increasing interconnectedness, resulting in complex issues within the realm of commerce (Buhalis, *et al.*, 2020). Artificial intelligence, a contemporary discipline within computer science, is being implemented across diverse sectors including finance, banking, healthcare, and energy production (Enholm, *et al.*, 2022; Sun and Medaglia, 2019). In the context of commerce, it is imperative for enterprises to secure significant returns and establish a competitive edge in the international arena (Borges, *et al.*, 2020). E-marketing, also referred to as online marketing or internet marketing, is indispensable for organizations seeking to connect with online consumers and promote their products and services through digital platforms and other communication channels (Nasserddine, *et al.*, 2023) (Verma, *et al.*, 2021) (Aghion, *et al.*, 2019).

It enables companies to identify and reach potential clients through online channels, facilitating more effective communication with the audience. Tailoring the marketing approach according to the preferences of customers, it enhances brand visibility and facilitates the acquisition of qualified leads interested in the products or services offered.

Artificial intelligence (AI) applications are extensively utilized in e-marketing for the purpose of enhancing the effectiveness of advertisements, personalizing products, comprehending client needs, and offering recommended products (Campbell, *et al.*, 2020). These technologies also furnish a substantial amount of information regarding customer preferences, enabling marketing efforts to provide optimal services with minimal time and resources (Kumar, *et al.*, 2019). The primary objective of this study is to examine the influence of AI tools on e-marketing, with a specific focus on their pivotal role, efficiency improvements, and enhancement of competitive capabilities. The research adopts a descriptive-analytical approach and is structured into sections encompassing background information, research inquiries, methodology, sample selection and procedures, findings, and conclusions.

#### BACKGROUND OF THE STUDY

E-Marketing is a contemporary strategy in business that encompasses the promotion of products, services, knowledge, and concepts using the Internet and other digital channels (Jaas, 2022). Various scholars offer diverse interpretations of E-Marketing, emphasizing its distinction from Internet marketing, E-commerce, and E-business (Rajasekaran, *et al.*, 2019). The adoption of E-Marketing has the potential to transform the structure and characteristics of small businesses globally by generating prospects and mitigating risks through online transactions (Al Asheq, *et al.*, 2021).

Artificial intelligence (AI) is an emerging technology designed to replicate human intelligence by sensing, learning, and problem-solving through data analysis (Glikson, and Woolley, 2020). To operate effectively, AI systems require robust hardware and software capable of processing extensive datasets (McCarthy, 2019). While AI can execute routine tasks and enhance the capabilities of existing systems, it is not intended to supplant human involvement; rather, it aims to augment human productivity.

AI systems provide various benefits across diverse industries, such as minimizing human mistakes, operating continuously without breaks, maintaining impartiality and devoid of emotions, mitigating risks, and exhibiting superior speed and precision compared to humans (Chowdhury and Sadek, 2012; Khanzode and Sarode, 2020). AI is categorized into multiple divisions like machine learning, expert systems, natural language processing, and computer vision (Nasserddine and Arid, 2023; Zhang and Lu, 2021). These divisions enable AI to collect data and acquire knowledge through experience, replicate human decision-making and actions within specific domains, comprehend human language, and decipher information from images and videos (Abdulmajeed, *et al.*, 2023) (Zhao, *et al.*, 2020) (Kaddoura and Ahmed, 2022).

#### AI Functions in E-marketing

The article examines the utilization of artificial intelligence in electronic marketing across a range of applications. Chat bots, which are computer programs, engage with customers and offer support (Ma and Fildes, 2021). Dynamic pricing adapts price points according

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to demand and customer profiles by employing AI technology (Misra, et al., 2019). Targeted presentations utilize AI to deliver advertisements to consumers based on their previous interactions and specific criteria such as age and location (Berger, et al., 2019).

In e-marketing, artificial intelligence is applied to conduct data analysis, comprehend customer sentiments, and assess customer interactions on websites (Mihni, 2022). Through AI, it is possible to analyze customer data for the purpose of crafting impactful marketing messages and forecasting market fluctuations (Novak and Hoffman, 2019). Furthermore, AI has the capability to interpret real-time customer sentiments and assist in revising marketing strategies. Additionally, AI algorithms are able to scrutinize customer activities on websites in order to propose products that align with their preferences and requirements. In summary, AI enables marketers to develop more captivating content and services for their customers by leveraging their prior activities and searches (March and Max, 2020).

**Research Questions**

Artificial intelligence (AI) technology has emerged as a significant asset in contemporary marketing, and numerous managers acknowledge its capacity to enhance decision-making and competitive edge. Nonetheless, there is a lack of comprehensive comprehension regarding the optimal utilization of AI in e-marketing activities. The material prompts inquiries into the influence of AI on e-marketing approaches, its potential to reshape the industry, and the prospects it presents for more efficient marketing.

**Research Hypotheses**

This research investigates the influence of artificial intelligence on e-marketing and its competitive edge. It explores various aspects of artificial intelligence, including natural language processing and motion navigation, and their implications for e-marketing tactics. The findings indicate that the utilization of artificial intelligence applications significantly contributes to the development of e-marketing strategies.

**Process**

This research investigates the impact of artificial intelligence on e-marketing and its associated benefits. The study employed a questionnaire to gather responses from a convenience sample, which were subsequently analyzed utilizing statistical techniques. The questionnaire encompassed demographic details and 28 items pertaining to the variables under investigation.

**Table 1: Items in Questionnaire**

Variable		Number of items
Dependent	E-Marketing	7
	Natural language processing	5
Independent	Expert system	5
	Motions navigation	5
	Automate bots	6

**Sample**

The research sample consists of workers employed by marketing firms in Iran, encompassing three distinct categories: communications, electrical appliance, and clothing marketing companies. A survey was administered to 300 marketing company employees in Iran, yielding a total of 288 completed responses.

**RESULTS AND DISCUSSION**

Table 2 exemplifies the demographic circulation of the example selected from the advertising subdivision in Iran. According to this, an examination of some explanations is articulated as follows:

**Table 2 Demographic distribution of the sample**

3	Gender	Male	187	73
		Female	71	27
4	Service Length	Less than 5	39	15
		6-10	61	24
		11-15	59	23
		Above 15	99	38
5	Speciality	Marketing	22	9
		Artificial Intelligence	16	6
		Other	220	85
6	Title	Higher manager	36	14
		Middle manager	132	51
		Employee	90	35

The marketing industry in Iran is largely dominated by men, with the majority of professionals falling within the 31-40 age range and possessing university-level qualifications. A significant proportion of workers have accumulated more than 15 years of professional experience, and 85% lack specialized training in marketing. Additionally, middle management staff accounts for 51% of the workforce.

The paper examines the influence of various factors on e-marketing, such as natural language processing, motion navigation, automated bots, and expert systems. The study affirms that all these factors have an impact on e-marketing. Additionally, the paper presents statistical measures like mean, skewness coefficient, and kurtosis coefficient for each factor. It also notes that certain Iranian businesses refrain from utilizing automated bots to engage with customers due to limited availability of the technology.

The article presents findings from a research study on e-marketing, indicating a widespread consensus among marketers regarding the significance of e-marketing within their respective organizations. Furthermore, the study identifies that attaining a competitive edge and incorporating artificial intelligence significantly influence the success of e-marketing initiatives. The data analysis reveals a clustering of responses around the mean, with a left-skewed frequency distribution curve. Notably, the arithmetic mean is lower than the median.

The text demonstrates a significant positive correlation between e-marketing and several independent variables, including natural language processing, motion navigation, and automated bots. The strong correlations among these variables suggest that they all exhibit changes in the same direction. As a result, the hypotheses pertaining to these relationships are confirmed to be valid.

Each application has a substantial influence on the advancement of e-marketing, as indicated by beta values that demonstrate the specific correlation between each application and e-marketing. The natural language application is associated with a beta value of 0.29, the kinetic mobility application with a value of 0.19, the automated robot application with a value of 0.37, and the expert systems application with a value of 0.22, all statistically significant. This implies that the use of each application results in an increase in e-marketing by the corresponding unit value.

## DISCUSSION

All of the primary and subsidiary hypotheses were supported, indicating a substantial impact from the integration of artificial intelligence and e-marketing. It is crucial for marketing firms in Iran to leverage information technology and artificial intelligence in order to enhance e-marketing efforts and gain a competitive edge in global markets.

## CONCLUSION

The study examined the influence of artificial intelligence on electronic marketing. The researchers explored the utilization of AI tools in e-marketing and carried out a survey involving employees from e-marketing firms in Iran. Their findings indicated a substantial effect of AI on e-marketing, leading them to propose that companies should recruit e-marketing experts, integrate additional AI tools, and provide training for their staff in AI utilization. Furthermore, they recommended further research to gather data on consumer behavior to enhance targeting in marketing endeavors.

In the field of electronic marketing, emphasis should be placed on the segmentation of consumers and customization. Marketers must carefully select the appropriate platforms to engage their desired audience and utilize tools such as Google Analytics to collect data on site visitors. Targeted advertising can be implemented through social media, while ensuring a seamless online shopping experience for customers. Engaging with visitors through tactics like redirecting them to social media profiles and promoting an e-commerce blog is crucial. The use of automated robotic applications has the potential to enhance marketing efficacy and boost sales.

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