

Evaluating the Impact of Customer knowledge on the performance of Artificial Intelligence Applications: An Exploratory Research on a Group of Chat GPT users

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Abstract:

The research aims to understand how companies can leverage knowledge of customer to inform artificial intelligence programs, thereby enhancing the accuracy of responses to customer inquiries. To this end, the research issue has been delineated by a primary question: The present study aims to investigate the impact of knowledge of customer in accuracy of responses from artificial intelligence applications. The primary research hypothesis posited that knowledge of customer exerts a significant influence on the efficacy of artificial intelligence applications. To empirically validate this hypothesis, a comprehensive set of data was meticulously collected via an electronic questionnaire designed for this study. This questionnaire was administered to a cohort of users of the preeminent artificial intelligence program, ChatGPT, the data collected by online survey designed for this purpose then analysis using SPSS statistical program. The most salient findings indicate that knowledge of customer dictates the nature of information fed to AI programs by companies, thereby influencing the precision of the programs' responses to human inquiries. This underscores the significance for organizations to disseminate accurate information that emulates potential customer inquiries via AI applications, with the objective of fostering positive relationships in the future

Introduction:

The technological transformations witnessed by the world today and the change in the psychology of the individual have established a new challenge in the business world in front

of competing companies to survive, grow and maintain their market position and image in the minds of their customers, and with the spread of people's use of artificial intelligence applications whose answers are fed by the information provided by these applications, it has become a double effort for companies to share clear and accurate information about their activities and products so that the user gets adequate and accurate answers. These applications have become a double effort for companies to share clear and accurate information about their activities and products so that the user gets adequate and accurate answers, and this justifies the choice of the research topic to show the importance of knowledge of customer, which is one of the basic things for organizations, as consumers are seen as active creators with the organization. Consequently, organizations must demonstrate the ability to recognize and adapt to these shifts. This shift underscores the need to develop management strategies based on the accuracy of the information generated by AI applications, as the integration of artificial intelligence (AI) into business entities on a global scale is an inevitable future trend. Emerging trends in AI-based automation point to fundamental changes in the adoption of artificial intelligence (AI) by organizations is influenced by the reorientation of ideas, interests, and investments in this field. The researchers specifically selected users of the Chat GPT application as the most popular and widely used. The research includes four axes, the first of which is the research methodology, the second is the theoretical aspect, the third includes the analytical aspect of the data and the findings of the research, and the fourth axis concludes the conclusions and recommendations.

1- Methodology:

1.1. Research problem: With the spread of artificial intelligence and its transformation from a limited-use technology to applications available to everyone, and its transformation into a basic tool in many fields, but the accuracy of its tools depends on the quality of the information it receives, and this raises a set of questions that summarize the research issue, namely:

- How does the level of knowledge of customers affect the accuracy of the response of artificial intelligence applications?
- Does the chat GPT application provide adequate information to the user?
- Does the flow of information using chat GPT depend on the type of information provided by companies about their activity?

- Does the company's fame and brand affect the accuracy of the information provided by Chat GPT?

1.2. Research objective: The research aims to identify how companies can use knowledge of customer to feed information to artificial intelligence programs to answer customer questions more accurately, and how they can use feedback to learn about customer psychology more accurately.

1.3.The importance of research : The spread of artificial intelligence tools and its common use by the general public and their reliance on it sometimes in providing information about anything, is an important signal for companies to go deep into understanding the work of these applications and how to deal with them to achieve satisfactory results in their favor, from this point of view the importance of the research is summarized to draw attention and deal seriously with these applications and the information they provide and lead them in the interest of the company.

1.4.The research hypotheses

The main research hypothesis: knowledge of customer has an impact on artificial intelligence.

Based on this main hypothesis, the following sub-hypotheses are put forward:

- There is an impact of “knowledge from customer” on artificial intelligence.
- There is an impact of “knowledge for customer” on artificial intelligence.
- There is an impact of “knowledge about customer” on artificial intelligence.

1.5.Hypothetical model

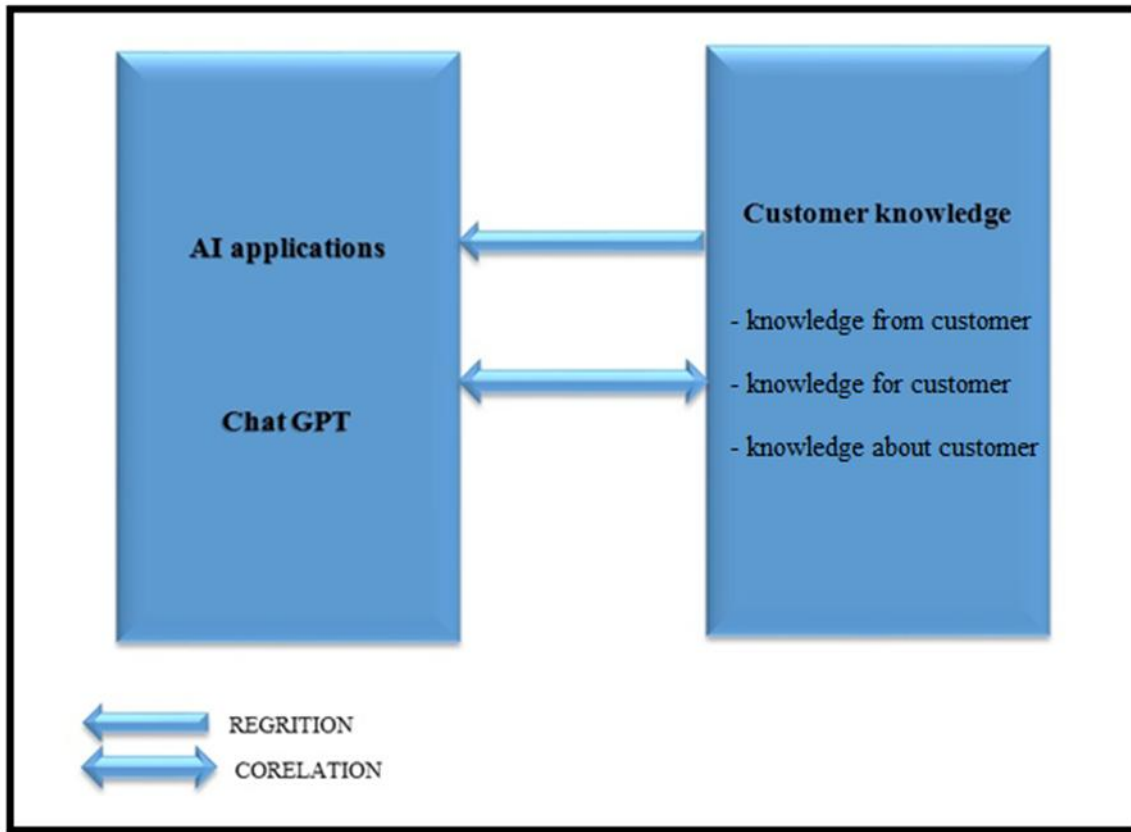


figure (1) Hypothetical model of research

Source: by researchers

2- Literature review

2.1 . Knowledge of customer

An understanding of customers is a critical asset for organizations, and consumers are in a constant state of change. Consequently, organizations must demonstrate the capacity to discern these shifts and adapt to them. Consumers are viewed as active co-creators with agency. This shift underscores the necessity for management strategies. (Ourzik,2020:1384)
 “It is an ongoing process that generates and utilizes knowledge of customer within the organization and between the organization and its customers” (Alsiede, 2005: 14)
 Knowledge of customer Management (CKM) can be defined as a set of exchanges between a customer and an organization regarding their needs, desires, and knowledge. These exchanges are characterized by the utilization of competencies and expertise, resulting in the organization's acquisition of valuable insights from the customer. These insights are subsequently processed and transformed into offerings that meet the customer's needs, thereby creating value for both the organization and the customer. (abdulwahid & Ibrahim,

2022: 215) This knowledge is characterized by the utilization of the customer database, which serves as the current knowledge regarding the development of The products and services have undergone a comfortable, integrated, and synchronized diversification. The marketing strategies that have been instituted by the institution's management with the objective of creating new marketing opportunities. The possession of knowledge. This comprehensive understanding is a key factor in enabling organizations to achieve a competitive advantage. The utilization of customer purchasing behavior, the discernment of product preferences, and an investigation into the factors that contribute to brand loyalty is imperative. It is imperative to acknowledge that the effective management of this knowledge is paramount to achieving the organization's objectives. This administration is of paramount importance, It is the most valuable and effective means of gaining a The possession of a competitive advantage, particularly in the face of intensifying competition and the growing complexity of goods and services. This necessitates a comprehensive understanding of the customer base, the market dynamics, and the competitive landscape. A robust understanding of these elements is paramount for the effective management of this knowledge. (Najat,2017: 176)

2.1.1. Important of knowledge of customer

The management of knowledge of customer is instrumental in facilitating the establishment of robust and mutually beneficial relationships between organizations and their customers.

The objective of knowledge of customer obtaining a comprehensive understanding of the organization from multiple position. The organization must get customer data to found and cultivate useful relationship with these (Najat, 2017: 177), the researcher (Vasireddy, 2016:35) view the importance of costumer knowledge:

- 1- innovate existing products. A comprehensive understanding of customer utilization patterns and preferences can serve as a catalyst for enhancing the efficacy of products and services.
- 2- Extend products or services by adding value, services based on knowledge. This will create more competitive environment.
- 3- improve success in cross-selling: Customer knowledge presents opportunities for the establishment of cross organizational relationships.
- 4- Know what customers want to know: effective CKM captures customer buying behavior and reveals crucial aspects of their decision-making.
- 5- Segment the customer base based on past purchases.

- 6- CKM helps organizations identify valuable customers and allocate resources to meet their needs.
- 7- CMK allows organizations to customize knowledge and offers for target customers
- 8- CKM's emphasis on customer satisfaction fosters customer loyalty.

2.1.2 The dimension of knowledge of customer

In the following section, we propose a conceptual model that delineates the multidimensional nature of knowledge of customer. This model encompasses three distinct components: (1) knowledge get from customers, (2) knowledge collected about customers, and (3) knowledge build up for customers. (Ourzik,2020:1388)

1- knowledge received from customers: The knowledge gleaned from customers serves to illustrate the interactive relationship between the enterprise and the customer. To date, there has been significant expansion in the fields of information and marketing, either by presenting information in a specific form to assume the customer or by collecting customer information and applying it to innovative value. This comprehensive approach encompasses all forms of customer-related information and data, which are instrumental in the formulation of effective marketing strategies and the cultivation of strong customer relationships. The enterprise's capacity to act on this knowledge, particularly the value of listening to the customer and taking their feedback seriously, has been demonstrated to foster enhanced customer loyalty. This accumulated, informed material possesses economic value when utilized effectively, and it can be obtained through various means, including visits, customer meetings, complaint systems, and the analysis of habits and beliefs. Additionally, measures of customer loyalty and satisfaction can be employed to assess the effectiveness of this knowledge application. (abdulwahid & Ibrahim, 2022: 217)

2- knowledge collected about customers: This encompasses a comprehensive set of customer-related data, including but not limited to the customer's name, contact information, social connections, historical transaction records, requirements, expectations, post-purchase issues and complaints, and personal preferences. The gathering of this comprehensive customer data is instrumental in elucidating customer motivations and facilitating organizations in providing personalized interactions. This encompasses not only existing customer data but also insights into probable customers and target customer segments. This can be achieved by leveraging external sources, such as collaborations with

market research organizations. Organizations employ a variety of methods to collect and analyze customer data. These include business intelligence (BI) and knowledge management (KM) tools, which aim to work on the net profitability of customers of the organization. (Vasireddy, 2016:20)

3-knowledge created for customers: means the information that the customer wants to achieve from the company, which enables him to identify the product or service that wants to buy or interested to buy and how to use them. Through the information about them and the market and the resource, and has grown the interest of companies in this aspect of knowledge, especially after the awareness of many of the importance of the customer in the marketing process, which makes them hire all the energies to know and understand his preferences and needs and give him information he needs is relatively abundant (Najat, 2017: 178)

2.2 Artificial intelligence:

The integration of Artificial Intelligence (AI) into business entities on a global scale is an inevitable future trend. Emerging trends in AI-driven automation are indicative of fundamental changes in the AI landscape, as evidenced by the reshaping of ideas, interests and investments in AI taking on by organizations. The technological sophistication of AI systems, with their capacity for facial recognition and object detection, has implications for various business domains (Haleem & et.al, 2022, 120). The pace of research on digital and technological evolution in marketing has rushing greatly, with researchers seeking to explore the ways in which technological developments affect the cognitive capabilities of organizations in the context of customer management. In recent years, research has focused on the intersection of artificial intelligence (AI) and marketing, with recent research calls encouraging further exploration of topics related to AI and its roles in marketing. Vlačić translates the AI as "computer agents that behave intelligently", "concept that departs from previous views that AI is only limited to machines that can exhibit human-like intelligence". (Vlačić & et.al, 2021:2) and the other opinion show that the term 'artificial intelligence' (AI) is used be a sign of computer systems that have ability of performing complex tasks that only a human could do , such as reasoning, making decisions, or solving problems (Kagada, 2024:152).

2.2.1. The importance of Artificial intelligence

“The economic impact of artificial intelligence is contingent on whether AI technologies not only transform the production of goods and services, but also augment the process of innovation. AI-assisted scientists have been shown to discover 44% more materials, which possess superior properties, thus demonstrating that the model also improves quality. This influx of materials has resulted in a 39% increase in patent filings and, several months later, a 17% rise in product prototypes incorporating the new compounds. Accounting for input costs, the tool has been shown to boost R&D efficiency by 13-15%. These results have two implications. Firstly, they demonstrate the potential of AI-augmented research. Secondly, they confirm that these discoveries translate into product innovations, which are not fully bottlenecked by later stages of R&D”. (Rodgers,2024:1). that make AI important part of marketing applications. This technology is a wide term encompassing natural language transformation, machine learning, deep learning, computer vision, and numerous others. Machine learning (ML) has had a profound impact on the digital marketing landscape due to its capacity to analyze data and provide analytical tools. Specifically, it facilitates the execution of needs-based analyses by marketing teams. AI tools have been shown to contribute to significant time savings for businesses, allowing them to allocate resources towards other facets of digital marketing. It is imperative to acknowledge the profound and continuous nature of this technological evolution, which is accompanied by far-reaching consequences. To maintain competitiveness in the digital marketing landscape, businesses must adopt AI strategies to foster innovation and enhance productivity in the coming years. Marketing professionals leverage AI to gain deeper consumer insights, facilitating a more nuanced understanding of consumer behavior and the effective guidance of customers through their journey, ensuring a superior experience. Marketers stand to increase their return on investment (ROI) by leveraging consumer data and aligning their efforts with customer needs, thereby ensuring a more effective and efficient use of resources. (Haleem & et.al, 2022:120. The integration of AI has been instrumental in empowering marketers to discern customer needs, thereby enhancing the overall customer experience. This technological advancement has been particularly impactful in contexts where rapid response times are paramount, such as in marketing endeavors. By leveraging data and customer profiles, AI tools facilitate the delivery of personalised messages to customers in a timely manner, ensuring optimal efficiency and minimizing the need for manual intervention by marketing team members. (Kumari, 2021:1)

Opinions have been expressed regarding the efficacy of artificial intelligence in enhancing the marketing process within organizations, thereby prompting heightened awareness concerning the utilization of this technology as a pivotal component in the pursuit of competitiveness and success within the contemporary business landscape, marked by intensified competition to excel and maintain relevance. This underscores the significance of this technological advancement in achieving cost reductions and enhancing the probability of success when employed judiciously. It is not merely a fleeting phenomenon, but rather a transformative shift with long-term ramifications, particularly in the domains of business and marketing.

2.2.2. Types of Artificial Intelligence

AI systems represent a major technological innovation in modern times. The confluence of rapid advancements in computing and data storage has rendered the development of systems capable of simulating human abilities in learning, analysis, and interaction a realistic prospect. The spectrum of AI patterns encompasses both traditional systems, which are capable of performing specific tasks, and more sophisticated systems that are based on deep learning techniques and neural networks. The most prominent types of industrial intelligence systems are summarized: ((Kagada, 2024:154), (Amita,2024:204)

- 1- interacting Machines in the domain of artificial intelligence, interacting machines are at the fundamental level. These machines are devoid of any historical knowledge, instead, they respond solely to the present moment. Consequently, these machines are capable of performing only a limited range of sophisticated tasks within a constrained scope. These robots are designed to study the present circumstances and respond in the most optimal manner possible.
- 2- Limited Memory: The capacity for machines to process and retain information is inherently limited due to their memory constraints. They are capable of interacting more extensively with their environment than reactive machines. Nevertheless, the capacity for machines with limited memory is constrained in its ability to comprehend the entirety of reality, due to its inability to recall a broad spectrum of past events, which can only be used in a limited time frame.
- 3- Theory of mind is defined as the cognitive ability to understand others' thoughts and emotions, as well as to make inferences about their intentions, feelings, and beliefs. Machines that possess represent an early form of artificial general intelligence. Such

machines are capable of representing the world around them and possess an understanding of other entities within that environment.

- 4- Self-Awareness: Self-aware AI is defined as a system that has evolved to resemble the human mind and attained self-awareness. The ultimate aim of AI research is to create this form of AI, which can recognize and generate feelings in collaborators as well as possess distinctive emotions, objectives, and beliefs.

The accelerated development of artificial intelligence (AI) has become a tangible reality, compelling companies to adopt AI technologies as integral components of their operations. This adoption is crucial for organizations seeking to enhance customer understanding and respond to customer needs, which have become pivotal factor in achieving success. Consequently, AI applications are increasingly being integrated into marketing strategies, marking a significant evolution in the field.

2.2.3. AI applications in customer understanding

“The impact of artificial intelligence on digital marketing is substantial. A substantial proportion of consumers, specifically 76%, anticipate that companies will be able to comprehend their needs and expectations. The utilization of AI in marketing enables marketers to process an extensive volume of marketing data analytics from various sources, such as social media, emails, and the web, with greater efficiency. Consequently, the integration of AI marketing strategies is imperative for contemporary business enterprises.”
(Nalini & et.al,2021:3161)

The impact of artificial intelligence (AI) on the customer's understanding process manifests in several forms:

- 1- Chabot : Artificial intelligence (AI) software known as "chatbots" has been developed to emulate human conversation. These programs employ natural language processing technology to comprehend and interpret user input, and subsequently generate responses based on preprogrammed rules or machine learning algorithms. These programs have found extensive application in domains such as sales and customer service. The appeal of chatbots for customers lies in their capacity to offer instant responses and expedite access to crucial information, thus eliminating the need for human intervention. The utilization of artificial intelligence software, known as chatbots, has become pervasive in various domains. (Huseynov, 2023:46) This gives an impression of what is going through the customer's mind and facilitates the process of responding to him and influencing him.

One of the famous applications of Chabot is **CHAT GPT** “is an AI Chabot platform that uses natural language processing and machine learning to let people chat with machines, transforming how people interact with AI. Before this, most commercial AI tools were conventional bots or voice assistants with limited” (Rivas & Zhao,2023:375), Chat GPT is capable of real-time language processing, businesses looking to improve their operations will find this capability invaluable. It has The potential to transform how companies interact with their clients and customers, this digital transformation platform can be used to improve business processes, models, domains, organizational and cultural structures. This technology can automate processes such as customer relationship management and workflow enhancement (Singh & et.al, 2024:2). (Paul & et.al , 2023:4) explain the benefits of CHTGPT that concluded in figure (2) below :

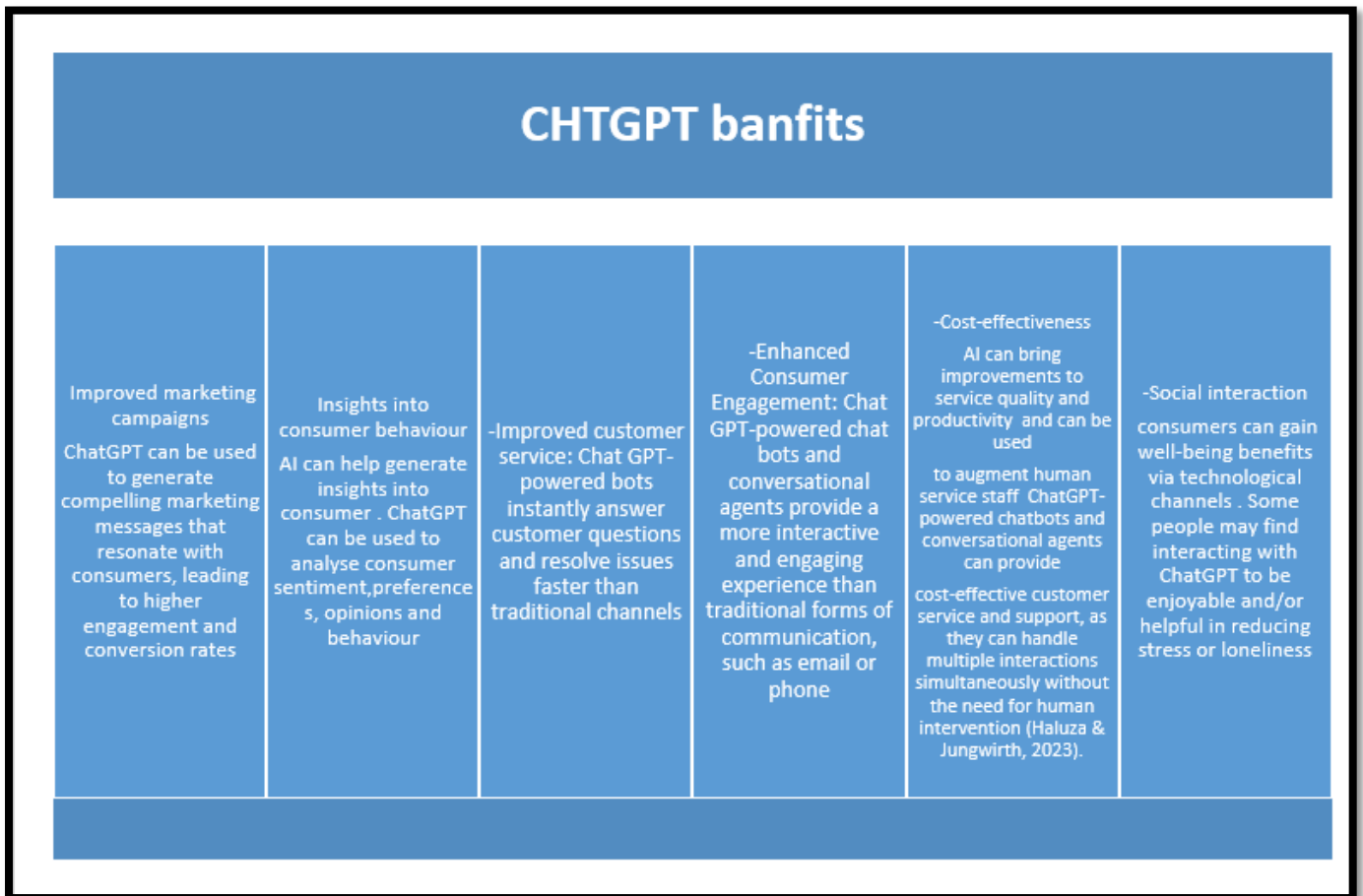


Figure (2) The benefit of using CHATGPT

Source: researchers

- 2- Semantic search has been demonstrated to facilitate the rapid identification of answers for users. Semantic search is a data searching technique that comprehends the user's intent and

contextual meaning of a search query rather than keywords. This process is facilitated by the utilization of artificial intelligence (AI), which employs sophisticated algorithms to decipher the semantic nuances embedded within search queries. This process entails identifying the relationships between words and phrases within a search query. Machine learning algorithms assist search engines in comprehending user needs by leveraging historical search data and user profiles. The incorporation of machine learning into search engines ensures a perpetual enhancement in the quality of the results obtained. (Nalini & et.al,2021:3164)

- 3- Content creation: AI-powered tools have the potential to enhance the efficiency and ease with which content creators operate. While the core of the content is derived from human creativity, the utilization of AI tools can optimize the efficiency of a content team by automating specific tasks such as email content, personalized reports/messages, or social media content curation. The employment of AI tools has been demonstrated to facilitate the generation of novel social media content, thereby enhancing user engagement. (Kumari, 2021:4)
- 4- Predictive marketing: Predictive marketing: This technology facilitates the delivery of customized content, marketing messages, and other forms of communication. It is imperative to consider the recommendations that have been provided. These recommendations are derived from an individual's preferences and behaviors, which are influenced by various sources, including social media, browsing history, and connections to The company's website or previous acquisitions. This information is crucial to developing effective Marketing strategies have been developed to target specific audiences, with the objective of creating personalized experiences for said audiences. The clientele. The application of artificial intelligence (AI) in this context is of particular relevance. AI can help marketers understand customers better, avoid tedious ads, and use website content to better respond to customer demand. (kagada, 2024: 152)
- 5- Target the right audience: In the context of online business, it is imperative to identify and target the appropriate audience at the optimal time, offering the appropriate product. Google Analytics, a tool that utilizes artificial intelligence, facilitates the segmentation of audiences based on various criteria, including geographical location, demographic characteristics such as age, gender, educational attainment, income level, and occupation, as well as psychographic attributes like interests, preferences, and attitudes. This capability enables the determination of the most suitable target audience for a given product or service. (Nalini & et.al,2021:3165).

3. Methodology and Results

3.1.Measures

- Knowledge of customer: The assessment of customer knowledge was determined by a scale developed by the following researchers (Taghizadeh et al., 2018), involve 12 statements, spread over three dimensions: (1) Knowledge from Customer, (2) Knowledge from Customer, and (3) Knowledge about Customer. Each of these dimensions has four questions.
- Artificial Intelligence: The assessment of customer knowledge was determined by a scale developed by the following researchers (Rivas & Zhao, 2023; Jain et al., 2023; Paul et al., 2023; Singh et al., 2024; Tafesse & Wood, 2024), and consisting of eight statements, formulated to suit users of the CHATGPT application.

3.1.1. Validity test

The marketing questionnaire items were presented to a scientific committee consisting of six experts in the field of marketing management. The items were modified and changes were made according to their valuable comments to appear in their final form in the research. The researchers conducted a test to determine the adequacy of the sample and the quality of the measurement through the Kaiser-Meyer-Olkin (KMO) and Bartlett's tests. The SPSS V.23 program was used to generate the results Table (1).

Table (1) KMO and Bartlett's tests

Variables	KMO test	Bartlett's test		
		Chi-Square	Df	Sig
Knowledge of customer	0.947	3160.442	66	0.001
Artificial Intelligence	0.898	1749.522	28	0.001

According to the results in Table (1), the measurement quality was achieved, since all values of (KMO) are higher than (0.05). In addition, Bartlett's test values are significant values less than (0.05). Since the scale was built and developed to suit the nature of the

study, an exploratory factor analysis must be conducted to determine the percentage of contribution of each paragraph in the scale, which should exceed (40%). Table (2) shows the results of this analysis.

Table (2) Component Matrix

Variables	Items	component
Knowledge from Customer	1	0.718
	2	0.794
	3	0.853
	4	0.831
Knowledge from Customer	5	0.818
	6	0.821
	7	0.865
	8	0.819
Knowledge from Customer	9	0.768
	10	0.786
	11	0.711
	12	0.732
Artificial Intelligence	13	0.770
	14	0.826
	15	0.787
	16	0.723
	17	0.824
	18	0.831

	19	0.759
	20	0.797

From the results of Table (2), it is clear that all the questionnaire paragraphs exceed the acceptable contribution rate. Therefore, all the paragraphs will be kept and confirmatory factor analysis will be conducted to determine the saturation of the questionnaire paragraphs, as shown in Figure 3.

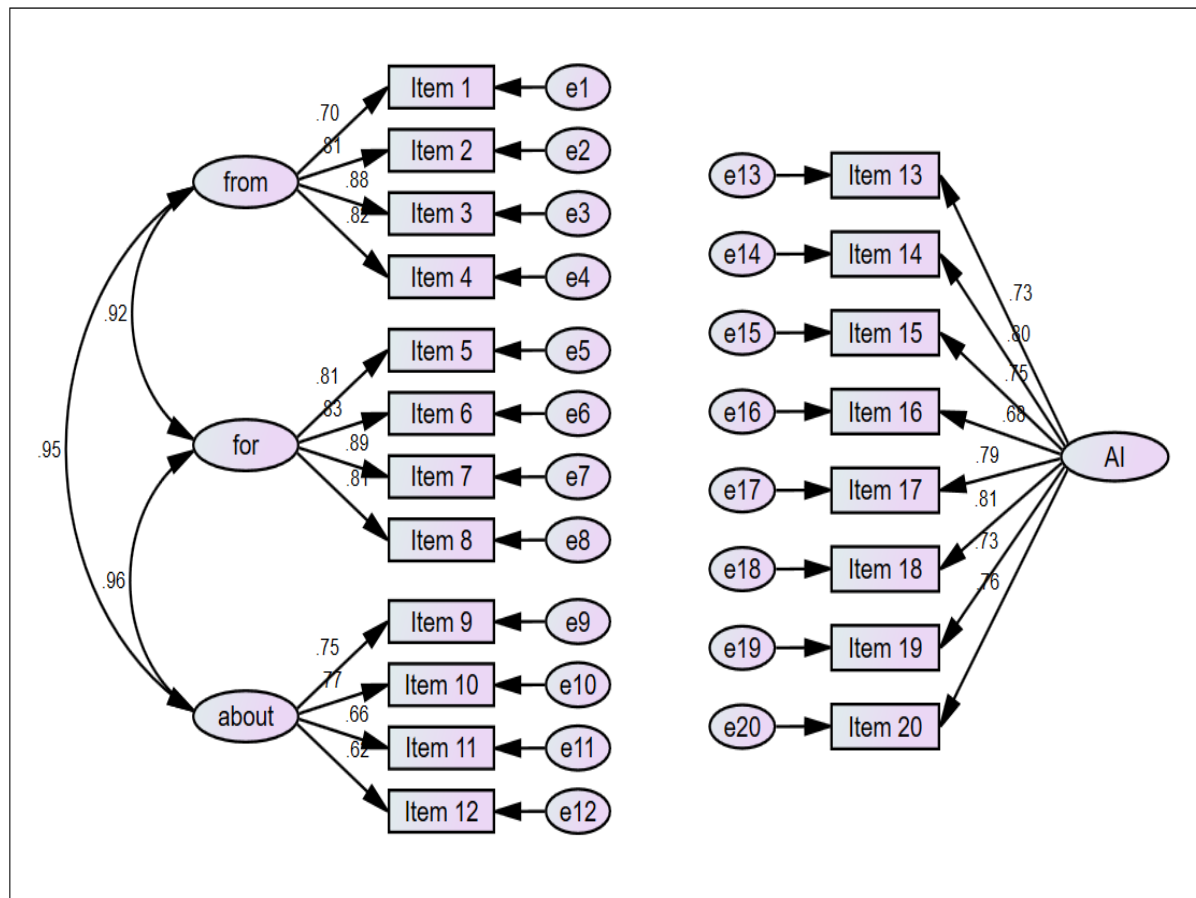


Figure (3) Confirmatory factor analysis of questionnaire items

According to the results of the confirmatory factor analysis of questionnaire items, it was found that all the items exceeded the minimum acceptable saturation limit, which is greater or equal to (0.40). Therefore, all the questionnaire items will be used in the upcoming statistical analysis tests without exclusion.

3.1.2. Reliability tests

Alpha Cronbach's coefficient was used to measure the consistency of scale statements. Its value needs to be greater than (70%) to be statistically accepted in administrative and behavioral research (Table 3).

Table (3) Reliability tests

Variables	Statements questionnaire	Alpha-Cronbach
Knowledge from Customer	1-4	0.878
Knowledge for Customer	5-8	0.901
Knowledge about Customer	9-12	0.802
Knowledge of customer	1-12	0.944
Artificial Intelligence	13-20	0.913
The entire questionnaire	1-20	0.960

The results in Table (3) show that all Alpha Cronbach values exceed the minimum acceptable value (0.70) and most are close to (1.00), indicating that the scale gives results very close to these results when the questionnaire was given to the same conditions of the same sample.

3.2. The research hypotheses

The main research hypothesis: knowledge of customer has an impact on artificial intelligence.

Based on this main hypothesis, the following sub-hypotheses are put forward:

- There is an impact of “knowledge from customer” on artificial intelligence.
- There is an impact of “knowledge for customer” on artificial intelligence.
- There is an impact of “knowledge about customer” on artificial intelligence.

3.3. Survey sample

The opinions of (364) ChatGPT users in Iraq were surveyed, and among their uses of the application was obtaining information related to various products and services. Table (4) shows some personal data of the individuals who participated in the survey.

Table (4) Personal data of survey individuals

Variables		Frequency	Percentage
Gender	Male	211	58%
	Female	153	42%
Variables		Frequency	Percentage
Age	Under 20 years old	64	18%
	Over 20 to 30 years	258	71%
	Over 30 to 40 years	30	8%
	More than 40	12	3%
Variables		Frequency	Percentage
Degree	Bachelor's	351	97%
	Master	8	2%
	Ph.D.	5	1%

4. Discussion of Results

4.1.View sample answers

Table (5) shows the answers of the research sample.

Table (5) Sample's answers

No.	Variables	Mean	S. D	C.V (%)
	Knowledge of customer	3.757	0.848	22.5

	Knowledge from Customer	3.822	0.921	24.1
1	I believe that successful organizations ask customers about the quality of current products and services.	3.928	0.968	24.6
2	I believe that successful organizations ask customers about the quality of competitors' products and services.	3.750	1.155	30.8
3	I believe that successful organizations ask customers about the products and services they need.	3.739	1.133	30.3
4	I believe that successful organizations develop their products and services by understanding customers' ideas.	3.870	1.040	26.8
	Knowledge for Customer	3.634	0.972	26.7
5	Successful organizations provide information about current products and services.	3.601	1.117	31.0
6	Successful organizations provide information about innovative and new products and services.	3.772	1.096	29.1
7	Successful organizations provide information about the benefits of innovative and new products and services.	3.642	1.080	29.6
8	Successful organizations help their customers make better decisions by providing information.	3.522	1.143	32.4
	Knowledge about Customer	3.815	0.831	21.7
9	Successful organizations gain insights into the background of their customers.	3.785	1.105	29.1
10	Successful organizations focus on the requirements	3.794	1.077	28.3

	and preferences of their customers.			
11	Successful organizations pay attention to customer complaints.	4.035	0.962	23.8
12	Successful organizations consider customer suggestions.	3.764	1.048	27.8
	Artificial Intelligence	3.830	0.796	20.7
13	Artificial intelligence applications provide valuable information about products and services.	3.755	1.030	27.4
14	Engaging in conversation with artificial intelligence applications allows me to explore the intricate details of products.	3.807	1.018	26.7
15	Posing the right questions to artificial intelligence applications enables them to diagnose my needs and desires.	3.722	1.061	28.5
16	Artificial intelligence applications assist me in making purchasing decisions.	3.673	1.085	29.5
17	Yes, Artificial intelligence applications are a reliable source of information, providing accurate analyses and recommendations based on data.	3.901	0.996	25.5
18	Artificial intelligence applications provide more accurate information than traditional research.	3.934	1.010	25.6
19	Artificial intelligence applications significantly enhance the customer experience.	4.005	0.930	23.2
20	Artificial intelligence applications have become an effective tool for indirect communication between organizations and customers.	3.846	0.940	24.4

Table (5) shows that all knowledge of customer components received high ratings based on the arithmetic mean. Regarding knowledge from customer, high ratings indicate that successful organizations are close to their customers and continually seek customer feedback, comments, and ideas about their own and competitors' products and services. These successful organizations also work to identify new customer needs and desires that emerge as a result of rapid technological developments. Therefore, it can be said that the secret to their success is a thorough understanding of customer perceptions. Regarding knowledge for customer, high ratings indicate that successful organizations are committed to communicating all information about their products and services, both existing and innovative, to customers, as this facilitates the purchasing decision process. Regarding knowledge about customer, high ratings indicate that successful organizations scientifically study customers' cultural backgrounds, lifestyles, and values, as this helps understand their purchasing behavior. They also listen to customer complaints, work to resolve these problems, and listen to their suggestions to achieve customer satisfaction, retain them, and ultimately achieve brand loyalty.

Table (5) shows that all artificial intelligence items received high ratings based on the arithmetic mean. These high ratings indicate that artificial intelligence applications, specifically Chat GPT, are now providing customers with accurate information about products and services from world-famous brands that are of interest to everyone. Conversations with these applications also provide an opportunity to learn the in-depth details of advantages, disadvantages, and usage methods, as well as pricing, quality, and sales outlets. The in-depth conversations that customers discuss with Chat GPT enable the application to understand the customer well and identify what they want. Consequently, many people have begun to resort to these applications, as they appear to have become a relatively reliable source of information and save them a lot of time. Therefore, it can be said that these applications have become a good advisor and consultant for customers, both before the purchase process regarding selection and after the purchase process regarding usage and problem handling. The accuracy of the information these applications have about distinctive brands is certainly the result of the efforts of these organizations in their quest to provide Internet databases with the necessary data and information about the products and services provided and the continuous work to update this data and information so that everything new reaches customers. Therefore, it can be said that these applications have become a channel for indirect communication between these

organizations and their customers, and they are also an effective way to convince customers of the feasibility of purchasing and using these products or services.

4.2. Testing Hypotheses

Figure (2) shows the relationships between the independent variable “Knowledge of customer ” and its three dimensions (Knowledge from Customer, Knowledge for Customer, and Knowledge about Customer) and the dependent variable “Artificial Intelligence”.

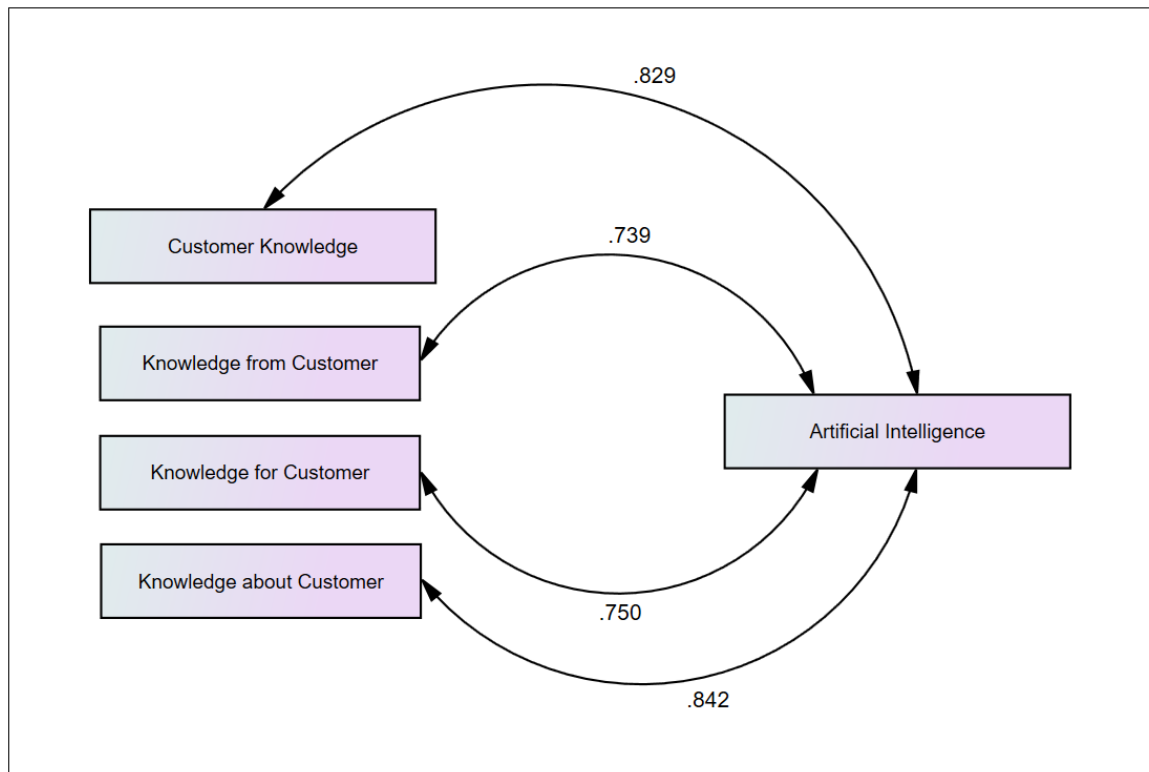


Figure (4) The correlation between the research variables

From Figure 4, it can be seen that there is a strong positive correlation between the independent variable and its dimensions and the dependent variable, show that the increase or decrease of one variable will be directly relative to the other variable

Table (6) Simple Linear Regression Equations

$Y = a + b(X)$					
Y	a	b	X	Sig	R ²
Artificial Intelligence	0.907	0.778	Knowledge of customer	0.001	0.687
Artificial Intelligence	1.388	0.639	Knowledge from Customer	0.001	0.545
Artificial Intelligence	1.597	0.615	Knowledge for Customer	0.001	0.563
Artificial Intelligence	0.752	0.807	Knowledge about Customer	0.001	0.709

as stated by the results in Table (6), all linear regression equations are significant, and for every unit increase in knowledge of customer, will increase artificial intelligence (0.778). also, adding a unit of “Knowledge from Customer” resulted in an increase in artificial intelligence (0.639). Artificial intelligence increases (0.615) for each additional unit of “Knowledge for Customer”. Finally, a one-unit increase in “Knowledge about Customer

Conclusion:

From the results it is clear that companies have a role in feeding artificial intelligence applications and that good knowledge of the customer means more accurate outputs for these programs, building knowledge of the customer helps companies in meeting the desires of their customers and knowing what information they need, and this requires companies to be more aware of this aspect and meet what it requires to enhance this aspect as it determines the information that the customer gets from the CHATGPT is the most common application for use at the moment for the general public, and companies also need to pay attention that these programs represent an important source of information about customers, what they want in

terms of characteristics in products and what are their questions about their favorite brands, which means that AI programs in all cases affect and are affected by knowledge of customer and build strong relationships between the company and its customers.

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