

+iDigiChat: Intelligent Digital Marketing Service Chatbot for Efficient Customer Service via Artificial Intelligence

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Abstract: Under the wave of digitalization, using intelligent technology to improve customer service efficiency has become a hot spot in industry research. Based on this background, this article clearly puts forward the research theme, that is, to explore how intelligent chat robots can help upgrade digital marketing services. This article focuses on the application of intelligent chat bot in the field of iDigiChat marketing services and its far-reaching impact. On the research method level, this article combines theoretical analysis with practical discussion, and discusses the design concept, technical architecture and intelligent interaction of intelligent chat robot. By simulating or based on the application examples of existing intelligent chat bots, the application potential of intelligent chat bots in different digital marketing scenarios is demonstrated. The research results show that the intelligent chat robot can improve the efficiency of customer service, shorten the waiting time of customers, provide personalized service experience and optimize the overall feeling of consumers. Its powerful data collection and analysis capabilities provide accurate data support for the formulation of digital marketing strategies, making marketing activities more targeted and effective.

1. Introduction

In today's digital age, intelligent digital marketing services are developing at an unprecedented speed [1]. With the continuous progress of technologies such as big data and artificial intelligence (AI), digital marketing is no longer limited to traditional advertising and channel expansion, but pays more attention to personalization, accuracy and intelligence [2]. Enterprises began to use data analysis to deeply understand consumer demand, optimize marketing strategy and achieve more efficient market expansion and customer service through intelligent algorithms [3].

In this context, improving customer service efficiency has become a key link in digital marketing services [4]. The traditional customer service model has the problems of slow response and low efficiency, and it is difficult to meet the needs of modern consumers for instant and personalized service [5]. Nowadays, using intelligent chat robot technology to improve customer service efficiency has become a new hot spot in the field of digital marketing.

This article will focus on the application of intelligent chat robot in digital marketing service. Through in-depth analysis of the working principle, functional characteristics and specific

application scenarios of intelligent chat robots in digital marketing, this article mainly reveals how intelligent chat robots can help enterprises improve customer service efficiency, optimize marketing strategies and achieve better market performance. By studying the application of iDigiChat in digital marketing service, it will provide new methods for digital marketing industry and promote the intelligent upgrade of digital marketing service.

2. Intelligent digital marketing service and customer service reform

2.1. The rise of digital marketing service

With the extensive penetration of the Internet and the rapid progress of technology, digital marketing service is increasingly showing its value. It has gradually become an indispensable part of modern marketing strategy [6]. Digital marketing service has quickly gained the favor of many enterprises by virtue of its remarkable characteristics-accurate target positioning, efficient communication mechanism and measurable evaluation system. Through this service, enterprises can gain a more accurate insight into consumers' needs and preferences and plan a marketing plan that is more in line with market demand. Digital marketing service can also promote the automation and intelligence of enterprise marketing activities and significantly enhance the marketing results. In this environment, digital marketing services continue to rise and become the key driving force to promote marketing innovation.

2.2. Challenges and opportunities of customer service

Under the background of increasingly fierce market competition and changeable consumer demand, customer service has encountered an unprecedented test [7]. The traditional customer service model has been unable to meet the expectations of modern consumers for instant and customized services due to slow response and poor service. Consumers want to get quick and accurate service feedback at any time and anywhere. This puts forward a higher standard for enterprise customer service ability. Customer service has also ushered in a huge development opportunity. With the help of modern scientific and technological means such as big data and AI, enterprises can dig deeper into consumers' needs and behaviors and provide more accurate and personalized services. This can enhance consumers' satisfaction and loyalty, and create more business opportunities and market share for enterprises.

2.3. The application of intelligent chatbots in customer service

As an important application of AI technology in the field of customer service, intelligent chat robot is gradually changing the face of customer service [8]. Intelligent chat robots can interact with consumers in real time and accurately by using natural language processing and machine learning technologies, answer consumers' questions and provide personalized service suggestions. Through intelligent chat robots, enterprises can realize automation and intelligence of customer service. This greatly improves the efficiency and quality of service. The intelligent chat robot can also collect and analyze consumers' feedback and opinions, and provide valuable reference for enterprises to improve their products and services. The application prospect of intelligent chat robot in customer service is broad. It is expected to become an important development trend in the future customer service field.

3. Design and function of intelligent chat robot

3.1. Design concept and goal

The design purpose of intelligent chat robot is to imitate human dialogue mode. It aims to provide a natural, smooth and efficient user interaction experience [9]. Its goal is not only to simply respond to users' questions, but also to gain insight into users' intentions, predict their needs and provide customized services based on this. Designers have conducted in-depth research on the complexity of human communication, and are committed to building a chat robot that can identify and adapt to different situations, emotions and expressions. In the design process, the ease of use and accessibility are also emphasized to ensure that both technical experts and novice users can easily get started. In a word, the design purpose and goal of intelligent chat robot is to create an intelligent interactive tool that can deeply understand and meet the needs of users.

3.2. Technical architecture and modules

The technical architecture of intelligent chat robot usually includes three parts: front-end interface, back-end processing system and database [10]. The front-end interface is a window for users to interact with the chat bot, which is responsible for receiving the user's input and displaying the reply of the chat bot. The back-end processing system is the "brain" of the chat robot. It is responsible for processing the user's input, understanding the user's intention and generating the corresponding reply. In this process, advanced technologies such as natural language processing technology, machine learning algorithm and knowledge map play a key role. The database is used to store the knowledge base, user information and conversation history of the chat robot to provide support for the back-end processing system. In addition, the intelligent chat robot also includes some specific functional modules, such as emotion analysis module, entity identification module, etc., to further improve its interactive ability and service quality. Figure 1 shows the technical architecture and key components of the intelligent chat robot:

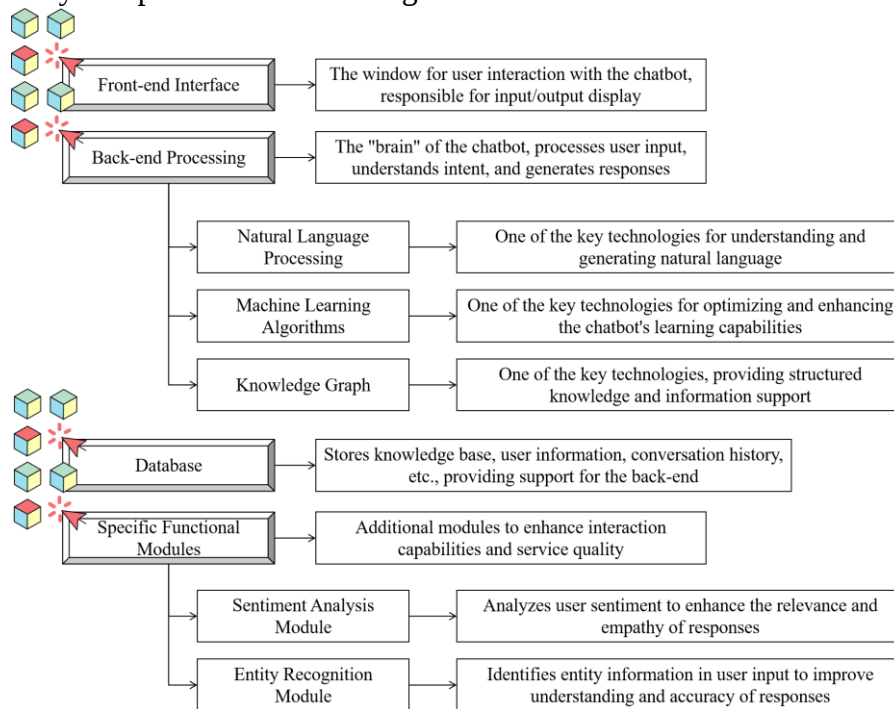


Figure 1 Overview of the technical architecture of intelligent chat robot

3.3. Intelligent interaction and user experience

The intelligent interactive ability of intelligent chat robot is the embodiment of its core competitiveness. With the help of natural language processing technology and deep learning algorithm, chat robots can analyze users' natural language input, identify users' intentions and needs, and generate appropriate contextual and logical responses accordingly. This interactive way is closer to nature and smoother, which can significantly improve the satisfaction of users. Intelligent chat bots are also committed to optimizing the user experience. For example, by constantly learning and perfecting the dialogue model, the robot can better adapt to the communication habits of users. By providing customized service suggestions and recommendations, robots can meet the individual needs of users. By monitoring and analyzing the dialogue process in real time, the robot can find problems and solve them in time, ensuring users to enjoy a high-quality service experience. Intelligent chat robot has become an important tool in the field of modern customer service because of its intelligent interaction ability and attention to user experience.

4. Practice of intelligent chat robot in digital marketing service

4.1. Application scenarios and effects

The application scenarios of intelligent chat robots in digital marketing services are increasingly rich. Its effect is becoming more and more obvious. On the e-business platform, the intelligent chat robot, as a customer service assistant, can respond to consumers' inquiries in real time and provide services such as commodity information, price comparison and inventory inquiry. This greatly shortens the waiting time of consumers and improves the shopping experience. On social media, intelligent chat bots play the role of brand ambassadors. It spreads brand ideas and enhances brand awareness through interaction with consumers. In addition, in customer service hotline, online reservation system and other fields, intelligent chat robots also show their unique advantages. These application scenarios prove the practicability of the intelligent chat robot. At the same time, it also shows its potential in improving the efficiency and quality of digital marketing services.

4.2. Improving the efficiency of customer service

The introduction of intelligent chat robot has greatly improved the efficiency of customer service. Table 1 compares the differences between traditional customer service mode and intelligent chat robot in terms of service time, response speed, understanding of consumers' intentions, service solution provision, consumer satisfaction, enterprise labor cost and overall efficiency of customer service.

Table 1 Comparison between Traditional Customer Service Model and Intelligent Chatbots

Item	Traditional Customer Service Model	Intelligent Chatbots
Service Hours	Limited, restricted by human customer service working hours	Available 24/7
Response Speed	Slower, affected by human processing speed	Real-time response
Understanding Customer Intent	Possible misunderstandings, limited by human judgment	Accurate understanding, through natural language processing technology
Service Solution Provision	May not be precise, affected by human experience	Provides precise service solutions
Customer Satisfaction	Potentially lower, due to slow response and imprecise service	Increased, due to efficient and accurate service
Corporate Labor Costs	High, requires a large number of human customer service agents	Reduced, less demand for human customer service agents
Overall Customer Service Efficiency	Lower, limited by human processing efficiency and time	Improved, due to automation and real-time response
Item	Traditional Customer Service Model	Intelligent Chatbots

The traditional customer service model relies on manual customer service, which has the problems of slow response and low processing efficiency. The intelligent chat robot can be online 24 hours a day, respond to the needs of consumers in real time, and shorten the service response time. Intelligent chat robots can also accurately understand consumers' intentions and needs through natural language processing technology and provide accurate service solutions. This efficient and accurate way of customer service improves the satisfaction of consumers, reduces the labor cost of enterprises and improves the overall efficiency of customer service.

4.3. Influence on the effect of digital marketing

The application of intelligent chat robot in digital marketing service also has a positive impact on digital marketing effect. Intelligent chat robot can collect and analyze consumer behavior data and preference information through interaction with consumers, and provide strong support for the formulation of digital marketing strategy. This data-driven marketing strategy is more accurate and effective, which can significantly improve the marketing conversion rate and ROI. Intelligent chat bots can also guide consumers to make purchase decisions through personalized service suggestions and recommendations, and increase sales and market share. The intelligent and convenient service mode of intelligent chat robot enhances consumers' brand loyalty and word-of-mouth communication effect. It brings more long-term value to digital marketing.

5. Conclusions

The application of intelligent chat robot in digital marketing service has greatly improved the efficiency of customer service and significantly enhanced the effect of digital marketing. Through advanced technologies such as natural language processing and machine learning, intelligent chat robots can accurately understand consumers' needs and provide personalized services, thereby optimizing consumers' experience and enhancing brand loyalty. At the same time, the data collection and analysis ability of intelligent chat robot provides strong support for the formulation of digital marketing strategy, making marketing more accurate and effective. Through the combination of theoretical analysis and practical cases, this study fully demonstrates the great potential of intelligent chat robots in digital marketing services.

IDigiChat can improve the response speed and processing efficiency of customer service. It guides consumers to make purchase decisions through personalized service suggestions. The data analysis ability of iDigiChat provides a strong basis for the optimization of marketing strategy, which makes marketing more in line with market demand. The successful practice of iDigiChat verifies the feasibility of intelligent chat bots in digital marketing services, and also provides useful experience for other enterprises. In the future digital marketing field, intelligent chat robots will play a more important role and bring new opportunities for enterprise marketing.

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