Original Research Article

The Change and Opportunity of Marketing in the Age of Artificial Intelligence

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Abstract: The application of artificial intelligence technology in the field of marketing brings convenience to enterprises, but also brings privacy issues, user burnout and other challenges, how to rationally use artificial intelligence technology to help enterprises optimize marketing activities has become the focus of increasing attention of enterprises. By using the literature research method, this paper further analyzes the connotation, change trend and opportunity of artificial intelligence marketing through combing the previous literature, in order to provide useful reference for the optimization and upgrading of marketing activities of enterprises.

Keywords: Artificial intelligence; Intelligent marketing; Transform; Opportunity

1. Introduction

With the rapid development of artificial intelligence technology, more and more enterprises apply artificial intelligence technology to their daily production and operation activities. A report by Narrative Science and the National Institute of Business found that while only 38 percent of companies said they were using AI in 2016, that number jumped to 61 percent in 2017. At the same time, the application of artificial intelligence technology in the field of marketing is becoming more and more extensive. In the retail industry, artificial intelligence can add labels to consumers and depict user portraits through self-learning. In online consumption scenarios, intelligent human assistants can help marketers answer user questions online in a timely manner.

The application of artificial intelligence makes the interaction between consumers and enterprises more frequent, which also brings problems such as privacy disclosure, excessive marketing, user burnout and so on to the marketing activities of enterprises. How to correctly deal with the application of artificial intelligence technology in the field of marketing has become the focus of increasing attention of scholars. Previous studies have analyzed the technical basis, concept and privacy concerns of artificial intelligence marketing. This paper will sort out and study the connotation, trend and challenge of artificial intelligence marketing, hoping to have a more comprehensive understanding of marketing under the situation of artificial intelligence and provide valuable references for enterprises to deal with problems in artificial intelligence marketing activities.

2. Marketing in the Context of AI

2.1. The Connotation of Intelligent Marketing

Intelligent marketing is a new marketing concept accompanied by the development of artificial intelligence applications. Intelligent marketing is not equivalent to electronic marketing. It is an intelligent operation mode based on integrated technologies such as big data, artificial intelligence and cloud computing (Wang Tao, 2014), and it is a process that can imitate part of the behavior activities of marketers. With the application of artificial intelligence technology in the field of marketing, intelligent equipment has completed part of the work needed

by marketing personnel through simulation, thinking, action and other modes, which has profoundly changed the marketing thinking and way. As a new product under the condition of intelligent economy, scholars have not formed a consistent concept definition of intelligent marketing. However, with the gradual in-depth understanding of artificial intelligence, the industry has gradually formed a consensus that it is an innovative new marketing concept of various new thinking, new methods and new tools for enterprises to carry out marketing activities with the help of intelligent technologies such as computer networks and mobile Internet (Chang Yaping, 2018), which includes intelligent identification, intelligent storage, intelligent execution and many other aspects.

2.2. The Technical Basis of Intelligent Marketing

The rise of artificial intelligence marketing cannot be separated from the support of technology. According to the research of previous literature, the technical basis of the development of intelligent marketing can be roughly classified into three aspects:

First of all, mobile Internet and 5G technology provide the guarantee of massive data sources for the development of intelligent marketing. Data is an important basis for the development of intelligent marketing, and continuous and reliable data acquisition is one of the core technologies required for intelligent marketing. With the development of mobile Internet and 5G technology, marketing activities have extensively penetrated into consumers' daily behavior activities such as work, entertainment, life and consumption with the help of virtual reality technology, simulation technology and artificial biological intelligence technology, and recorded consumers' behavior data in an all-round way, providing a massive source of data information for the subsequent analysis and processing of intelligent marketing.

Secondly, cloud computing helps intelligent marketing complete complex data calculation and processing analysis. In the era of mobile Internet, the development of big data makes the network data grow exponentially. How to calculate, process and analyze these massive data has become an important problem that must be solved for the development of intelligent marketing. With powerful data computing power, cloud computing technology solves the problem of massive data processing in the application process of artificial intelligence technology well, and realizes the interconnection of everything through the connection of multi-dimensional data, so that the interactive experience of consumers and smart devices is more perfect, and the marketing scene is more intelligent due to timely and accurate data analysis.

Finally, the commercial application technology of artificial intelligence provides a network application environment for the development of intelligent marketing. Deloitte's 2019 White Paper on Global Artificial Intelligence Development shows that the current artificial intelligence technology has entered the full commercialization stage, and predicts that the global artificial intelligence market will experience phenomenal growth in the next few years (Qian Minghui 2019). China has also introduced corresponding policies to support the development of commercial applications of artificial intelligence, and the number of enterprises engaged in artificial intelligence business in China ranked second in the world in 2019. The development environment of artificial intelligence commercialization and the support of artificial intelligence commercialization application technology have created a good external network application environment for the development of intelligent marketing.

2.3. The Application of Artificial Intelligence in Marketing

The application of artificial intelligence technology in marketing has made marketing activities reflect new characteristics, such as: visual, auditory, tactile and other forms of new interaction, personalized demand prediction and so on. According to the different process stages of marketing activities, the application of artificial intelligence in marketing can be analyzed from four aspects.

2.3.1. Marketing research phase

Marketing research is the starting point of marketing activities, through advance research enterprises can understand the market share, consumer willingness, the needs of target consumer groups and other important information. The application of big data technology and artificial intelligence technology has greatly improved the efficiency of marketing research in the early stage of enterprise marketing activities. Consumers will leave their own traces and use information in various life consumption scenarios. Artificial intelligence technology will help enterprises classify massive user data, such as account data, transaction data, browsing data, etc., and use these data to carry out user portraits, so as to accurately analyze consumers' daily consumption preferences, consumption patterns and other information. Help marketers get the first hand disaggregated data after marketing research.

2.3.2. The development stage of marketing strategy

Artificial intelligence technology intelligently captures relevant data from the whole network for analysis, and intelligently analyzes the latest heat concerns, helping marketers complete the search for innovative points to attract consumers, and getting rid of the limitations of relying only on marketers' own experience and judgment and small-range marketing research results. At the same time, with the help of simulation technology, biometrics and other technologies, the "artificial brain" created by artificial intelligence technology can complete part of the thinking work in the process of marketing strategy development, such as creative screening, optimization and so on.

2.3.3. Marketing execution phase

In the past, marketing promotion activities required marketers to select publicity media in advance and send a large number of personnel to cooperate with the field, which was limited by external factors such as location and funds. According to the analysis of network heat data, artificial intelligence technology selects the network platform suitable for enterprise product promotion by itself, calculates the appropriate marketing time point and frequency according to the user's preference data, and personalized pushes the marketing plan that meets the user's demand characteristics when the user visits the relevant network. For example, Himalaya will automatically push relevant listening book resources and purchasing activities according to the user's age, gender, listening history, etc. 4. Evaluation stage of marketing effect. In the past, the effect evaluation of marketing activities needed to be monitored afterwards. However, the application of artificial intelligence technology helps enterprises realize real-time monitoring. The system automatically captures and analyzes the data of relevant content in the whole network, and timely feedbacks the monitoring effect to marketers, so that marketers can modify the marketing plan in time according to the reactions of consumers. Reduce the impact of emergencies on enterprise marketing activities.

3. The Change and Opportunity of Marketing in the Age of Artificial Intelligence

The application of artificial intelligence technology in the field of marketing has profoundly changed the marketing thinking and marketing methods of enterprises, and also made marketing management activities have new development. The new changes and opportunities of marketing management brought by artificial intelligence can be understood from the following aspects:

3.1. Technology Drives Change in Marketing

Intelligent technology will become a new support for the next generation of marketing changes. At present, the initial use of simulation technology and artificial biological intelligence technology has been able to help smart devices to carry out some of the thinking problems in marketing work. Marketing expert intelligent system can realize the transfer and learning of professional knowledge, under the training of marketing experts, the intelligent system will increase the knowledge needed to solve the problem, and provide users with solutions to the problem. The electronic automatic ordering system will automatically analyze the online and offline sales data of the enterprise, intelligently identify best-selling products and unsalable products, and automatically exchange order information according to the actual situation, reducing the time cost of marketing personnel in understanding the sales status and consumer preferences and other information. The application of artificial intelligence technology has brought about changes in marketing concepts, methods, means, tools and other aspects. How to make good use of artificial intelligence technology to help enterprises carry out marketing activities in the future is the focus that marketers need to pay attention to.

3.2. Diversification of Marketing Methods and Mass Customization of Marketing Recommendations

The application of artificial intelligence technology has brought great changes to marketing methods. New marketing methods such as short video marketing and live marketing make enterprise marketing activities no longer limited to traditional offline and online page advertisements. This diversified intelligent marketing method can obtain various usage data information of consumers more extensively and deeply, such as Tiktok small video will automatically push related product promotion videos according to user attention information. Intelligent marketing methods make mass customization possible, enterprises can use intelligent technology and data processing technology to achieve accurate identification and record of each user, so as to recommend relevant information for its personalized marketing, to achieve personalized batch automatic production.

3.3. Cross-scene Marketing Brought by "AI+" Smart Marketing

"AI+ short video" marketing, "AI+KOL" fan marketing and other different marketing strategies, with the support of artificial intelligence technology, each play their strengths, applied to all aspects of marketing activities. The use of "AI+" enhances consumers' sense of interactive experience and realism, such as VIpshop's intelligent trial function can help consumers achieve online virtual experience, greatly improving the efficiency of consumers from "see" to "buy", and shortening the purchase conversion time. In the era of mobile Internet, the consumption scene is fragmented and the consumption behavior is mobile. The use of artificial intelligence technology can help enterprises deal with complex consumption data, systematically integrate the multidimensional behavior data of consumers in different scenarios, so as to accurately identify the differentiated needs of different consumers in different consumption scenarios, and combine the real-time scenarios of consumers. Provide consumers with cross-scene marketing services in a timely manner, break through the

restrictions of circles and scenes, expand the scope of marketing promotion, and improve the brand publicity of enterprises.

3.4. Online and Offline Integrated Smart Marketing Based On Intelligent Recognition, Voice Interaction and Other Technologies

According to the latest artificial intelligence application industry report, at present, artificial intelligence technology can be applied to the whole chain of retail, both online user portrait and accurate personalized recommendation, but also offline intelligent logistics, intelligent location, optimization of consumer behavior analysis and commodity operation links, such as online and offline integrated smart marketing. It needs the support of complete artificial intelligence technology system. By analyzing information such as consumer trajectory data, body data of wearable smart devices and data of social consumption platforms, and using technologies such as synchronous transmission of online and offline information and face recognition, artificial intelligence can timely capture consumer behavior and psychological needs and achieve accurate matching.

4. Conclusion

The application of artificial intelligence in the field of marketing is still in the initial development period, and enterprises must treat artificial intelligence technology rationally when applying artificial intelligence technology. We should not only see the convenience of data analysis and accurate identification brought by artificial intelligence to enterprise marketing, but also see the technical traps and user privacy issues brought by artificial intelligence applications. Of course, the application of artificial intelligence technology in the field of marketing will have further development in the future, and enterprises should also conduct timely exploration and research.

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