

# Precision Marketing Strategy Based on the " User Portrait " Model

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**Keywords:** Big Data; User Portrait; Precision Marketing

**Abstract:** With the continuous advancement of information technology, marketers can capture the online behavior of consumers, and accordingly obtain a full sample of consumers, real-time updated behavioral big data. Through the calculation of big data, marketers have the ability to build a " user portrait " database. This paper uses data mining technology to generate consumer attribute tags; through the extraction of 2D static tags and 3D dynamic tags, combined with the self-tags generated by consumers on the network platform, a dynamic model of " user portrait " is constructed, and the establishment of low the idea of a condensed model of the " user portrait " of noise [1]. On this basis, it puts forward the marketing strategies of grasping user psychology, accurately pushing marketing information; matching user needs, accurately shaping brand positioning; focusing on user interests and accurately adjusting price strategies.

## 1. Introduction

Beginning in the 1980s, empirical research methods have been widely used in China' s marketing field, focusing on consumer behavior. However, with the in-depth research and the feedback from a large number of practical tests, researchers gradually found that the methods of obtaining data through questionnaire surveys and in-depth interviews were very low in reliability. In the process of being investigated, consumers will tend to hide their true thoughts in consideration of their own interests, leading to the distortion of the basic data of the investigation and the distortion of the empirical analysis results based on the research data. After that, the research method of psychoanalysis was introduced into the empirical research of marketing [2]. The method of psychoanalysis abandons the dependence of traditional empirical research on consumer interviews and questionnaires in data collection, and obtains more real data through the collection and analysis of consumer behavior trace data, helping companies to more accurately understand consumer psychology.

## 2. Establish a " User Portrait " Database

Marketing decisions rely on credible market data, which is traditionally obtained through in-depth interviews and market research. Both in-depth interviews and market research use small samples, and are affected by the flaws of the research technology itself, and their reliability is very low. With the popularization of e-commerce and the improvement of network technology, people have the ability to obtain a full sample of big data information. The real-time update feature of network data enables it to more timely and accurately reflect the real demand characteristics of consumers. Mining big data and extracting consumer characteristic "tags" based on this is conducive to the precise marketing of enterprises [3].

### 2.1 Data source

To accurately outline the " user portrait " requires mastering a large amount of real user information, which can be obtained by collecting and sorting out consumer traces on the Internet, consumption records, or purchasing professional database information. At the same time, the photos, videos, shared and reposted articles published by consumers on social media also reflect consumers' values, psychological appeals and other information from the side, and are very

important sources of " user portrait " data.

## 2.2 Select Data Storage System

Since " user portrait " is a full sample data collection, it has the characteristics of large data volume and real-time update. Therefore, the database management system that stores the data required by the " user profile " should have the characteristics of convenient operation, good scalability, and high integration with related software. At present, the SOL Server system launched by Microsoft is the most commonly used for data storage and analysis of " user profile " , which provides more secure and reliable storage functions for relational data and structured data[5].

## 3. Data Mining of " User Profile " in the Context of Big Data

With the advancement of science and technology, companies can obtain " full sample " big data of consumers. Companies need to analyze a large amount of complex data to find data that can reflect consumers' behavioral motives, and based on this, describe the true psychological activities of consumers and construct " user portraits. " This process of extracting key information from big data is called customer demand data mining[6].

### 3.1 Selection of Data Mining Method for " User Profile "

In the context of big data, there is a huge data base that companies can use in their marketing decisions. Companies need to accurately extract the required data from a large number of data and make accurate judgments accordingly. Therefore, the accuracy of data mining is directly related to the success rate of marketing decisions. Commonly used data mining methods in marketing practice include:

### 3.2 User Portrait Label Modeling

The first step in establishing a "user portrait" is to extract highly refined "tags" from user information that can summarize a certain characteristic or attribute of the user, such as technical man, house, cleanliness, shoveler, etc. Tags provide a convenient way for computers to process human-related information in a programmatic manner. User labels must have two characteristics: first, semantic, even if marketers can quickly understand the meaning of each label; second, conciseness, that is, each label can only express one meaning without ambiguity [4].

The label modeling of user portraits mainly depends on the " expert opinion " method. The expert opinion method, also known as the Delphi method, is a process of collective and anonymous thought exchange in the form of correspondence. That is, after clustering and analyzing the tags generated by users independently, find out the tags that frequently appear, and the survey organizer uses a back-to-back method to solicit the opinions of experts; after summarizing the opinions of multiple experts, they are sorted, summarized, and counted; then anonymous Give feedback to the experts, solicit opinions again, focus again, and then feedback until you get a consistent user label.

## 4. " User portrait " Model Construction

" User portrait " is based on the big data of the full sample, analyzes the data of each consumer, extracts a number of valid data, summarizes it into a number of representative tags, and uses the tag set to depict a virtual model of a real user the process of. The label can be understood as a dimension in the feature space, and the user portrait as the vector 'user portrait' in the feature space can help companies explain and describe consumers scientifically, and carry out precision marketing accordingly [7].

### 4.1 Construction of the Benchmark Model of 'User Portrait'

After the user portrait database is established, the collected user data needs to be further processed. By constructing mathematical models and different algorithms for determining data, user

data can be transformed into user tags.

In today's network environment, many social software and websites allow users to choose to generate tags. The label generated by the user is a description of the user's "self", which is a closer to factual explanation of their own characteristics and interests. User-generated labels are often considered by marketers to be more credible than database-generated labels, so they are often used to build a benchmark model of "user portraits".

#### 4.2 'User Portrait' Model Construction

Alan Coope, the father of interaction design: believes that user portraits are virtual images of real users, and a target user model based on a series of real data. The establishment of "user portrait" requires the collected scattered data of users to be converted into database language, that is, to assign specific attribute tags to each group of data. At the same time, mathematical modeling and algorithms are used to eliminate the possibility of result deviation caused by small probability events as much as possible [8].

On the basis of the "user portrait" benchmark model constructed by the user's self-generated tags, 2D static tags and 3D dynamic tags are used as supplements and corrections to form the "user portrait" model required for marketing decisions.

### 5. Precision Marketing Strategies Based on "User Portraits"

The "user portrait" established based on big data provides marketers with a way to accurately understand each consumer. Companies can match users with products or information according to the tags that constitute the user portrait, and pass product information that meets consumer needs through different Push channels to users to achieve better marketing effects.

#### 5.1 Grasp User Psychology and Accurately Push Marketing Information

E-commerce recommendation system is a more mature technology that uses data analysis to find out what users are most likely to like and recommend to users. The accurate recommendation algorithm based on "user profile" includes two methods: knowledge-based accurate recommendation and collaborative filtering-based accurate recommendation.

The operation method based on knowledge recommendation is simple, and the processing speed is fast, which is a relatively common recommendation method. However, because the recommendation rules are set by the marketers in advance, and limited by the marketers' personal level, the recommendation may not match the user's needs. Therefore, it is rarely used alone in marketing practice under the background of big data [9].

The user-based collaborative filtering algorithm is based on the "user portrait" model to find the similarity between users. When some of the similar users have taken the same purchase behavior, the possibility of the product transaction is recommended to the remaining similar users Sexual increase. Based on the user-based collaborative filtering accurate recommendation method, in actual calculations, all tags of a user are used as a vector to measure the similarity between users. After finding similar users, the user's behavior can be predicted based on other users' evaluations of the purchased products, and finally an item weight table is formed for accurate recommendation.

The commodity-based collaborative filtering recommendation algorithm can be simply understood as if two commodities are similar, if a consumer has browsed or purchased one commodity, he can recommend another commodity. Based on the collaborative filtering precision recommendation method of commodities, in actual calculation, all users' evaluations of a commodity are used as a vector to measure the similarity between commodities. After finding similar products, the user's preference for similar products can be predicted according to the user's preference for a certain product, and finally an item weight table is formed for accurate recommendation [10].

## 5.2 Aligning with User Needs and Accurately Shaping Brand Positioning

In the context of big data, enterprises use database and cloud computing technology to conduct effective market segmentation based on the characteristics and similarities of users' needs; determine the target market according to the size of each segment and market competition; target the needs of the target market. The characteristics and product characteristics of the company, and the targeted creation of attractive brand positioning "user portraits" provide the possibility for companies to deeply understand user needs and accurately shape brand positioning.

## 6. Conclusion

This research is based on the precision marketing strategy research based on dual-channel consumer behavior, and further research on consumer online behavior. The main result of this research is to propose a self-labeling benchmark model, a dynamic model of "user portrait" modified by 2D static tags and 3D dynamic tags, and based on this, a precise push of marketing information, precise brand positioning and precise adjustments are proposed. Price strategy Three types of precision marketing strategies. Because this research involves both computer application technology and marketing management disciplines, limited by research conditions and personal ability, the author only proposed a "user profile" theoretical model but could not be converted into a database algorithm. This is a major shortcoming of this research. Place. In the future, I hope to conduct research together with colleagues in computer science, and transform the results of this research into an operable database processing program as soon as possible, so as to truly realize marketing dynamic management with the help of big data. On the other hand, the "user profile" precision marketing solution with the help of big data is still at the stage of imagination. In the next research, the author will try to cooperate with companies, use real cases to test the research results, and modify and improve the model.

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