

Intelligent Marketing System of Enterprise Brand Based on Data Transmission Link Model of Social Network

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Abstract: Based on the analysis of the characteristics of social network and its impact on consumer consumption patterns, this paper systematically analyses the advantages and disadvantages of social network marketing according to the data transmission link model of social network, and puts forward specific strategies for enterprises to carry out marketing through social network. The research finds that social networks are characterized by decentralization of power, interaction and sharing, community individualization and instant citizenship, which makes consumers' autonomy and influence of consumption remarkable, and their purchasing behavior more rational and decisive, thus forcing enterprises to pay more and more attention to marketing products through social networks. In the process of marketing, enterprises should adopt corresponding strategies to solve the shortcomings of social network marketing, such as lack of pertinence, controllability and difficulty in evaluation, and adopt various means to improve customer loyalty, marketing effect and optimize service quality.

Keywords: social network, data transfer, link model, corporate brand, intelligent marketing

1 Introduction

In recent years, with the rapid development of social networks such as Weixin and Weibo, it has become the main way for people to communicate, get information and publish information. This means that the status and influence of traditional media such as TV, radio and newspaper in people's daily life are gradually declining. Accordingly, in the process of marketing, enterprises should also comply with this historical trend and take the initiative to use social networks to achieve product publicity, sales and services. However, modern social networks are quite different from traditional media. Consumers' consumption patterns are undergoing fundamental changes. Therefore, enterprises should timely change their traditional marketing strategies to achieve the best performance. Based on the analysis of the attributes of social networks and the transformation of consumer consumption patterns, this paper proposes specific strategies for enterprises to carry out marketing in the era of social networks, so as to provide guidance and reference for enterprises' practice.

2 Model building

Hypothesis: No matter how many days after the service entered the game, there was no significant difference in its retention performance.

In fact, a few days after service into the game, for end-to-end swimming, the performance difference is obvious, follow-up examples will be used to illustrate.

The calculation method of U_x retention user:

First, the number of users entering the game on day N is defined as $P_n \cdot f(x-n)$ on day X .

Among them, $f(x)$ is the retention rate prediction function, which can be obtained by the least square method through the next day, the third day and the seventh day. The $f(x)$ calculated from the example data in this paper is a logarithmic function.

$$f(x) = \begin{cases} 0 & x < 1 \\ a \ln x + b & x \in [1, 70] \\ 0 & x > 70 \end{cases}$$

The total number of users retained on day X :

$$U_x = P_0 f(x-0) + P_1 f(x-1) + \dots + P_n f(x-n) \quad n = x-1$$

$$U_x = \begin{cases} \sum_{i=0}^n P_i f(x-i) & n = x-1 \\ 0 & n = x \end{cases}$$

Calculating method of precipitating user C_x :

Since we assume that after 70 days, the user becomes precipitation user, after 70 days of definition, the retained user becomes precipitation user, and after $70 + y$ days, the retained user becomes $P_n \cdot f(70) \cdot a^y$.

If $C = f(70)$ and $x = 70 + y$, the precipitation user formula is as follows:

$$C_x = a^{x-70} P_0 C + P_1 C + \dots + a^{x-70-n} P_n C$$

$$C_x = \begin{cases} \sum_{i=0}^n C a^{x-70-i} P_i & n = x-1, x > 70 \\ 0 & x \leq 70 \end{cases}$$

The calculation method of total number of users S_x :

Stipulate $n=x-1$

$$S_x = \begin{cases} P_{x-1} + c \prod_{i=0}^n a^{x-70-i} P_i + \prod_{i=0}^n P_i f(x-i) & x > 70 \\ P_{x-1} + \prod_{i=0}^n P_i f(x-i) & x \in [1, 70] \\ 0 & \end{cases}$$

3 Attribute analysis of social networks

Social network is a virtual community and network platform based on Internet technology and through related software, users can choose, edit, publish and exchange information independently. It includes two main bodies, one is the platform or software operator, which provides the corresponding carrier for the social network, and is responsible for the operation and maintenance of the platform. The other is the main body of social network, i.e. ordinary people, who are the producers, publishers, disseminators and sharers of platform information, as well as the consumers of platform or software^[1]. Compared with traditional media, social network has the following characteristics:

3.1 Decentralization of Power

Traditional social media is the producer and disseminator of information. As a media audience or consumer, ordinary people can only passively accept information. This means that under the traditional media, power mainly concentrates in the hands of the media. Individuals who want to disseminate information through the media not only face a higher threshold, but also need to pay a certain price. Under certain conditions, the cost is still very high. At the same time, the media also has the power of public opinion. It not only controls and influences the evaluation of specific events, but also has the power to create "stars". Therefore, people often call the media the third power besides government and money. Similarly, social networks, as modern media, have this power. But unlike traditional media, the power of social networks is highly decentralized. Virtual platforms and network operators only provide a low threshold carrier for social networking. Any individual has the power to manufacture, publish, share and evaluate information on social networks^[2]. At the same time, social networks also provide a platform for individuals to self-publicize. The rise of self-Media and Internet red is the best example. This means that under the condition of social networks, the power of traditional media has been highly decentralized, which is also the first characteristic of social networks which is different from traditional media.

3.2 Interaction and Sharing

Under the traditional media, because of the high concentration of power, the information transmission between the media and the audience is one-way. This one-way transmission is manifested in two aspects. On the one hand, the audience can not transmit to the producer or disseminator of information their views on the information or correct the wrong information. On the other hand, the audience can not transmit, share and evaluate information to other people

without restriction of time and space, which is closely related to the centralization of power in traditional media. However, in the highly decentralized social network, each individual is not only the producer and disseminator of information, but also the audience of information^[3]. Therefore, on the social platform, individuals can fully interact with each other. On the one hand, the receivers of information can feedback and evaluate information through messages, private letters and other ways. On the other hand, different information recipients can also feedback and evaluate each other, which makes social interaction under social networks highly democratic. Any information of personal interest can be shared on the social network, and any personal questions can be answered in the social network^[4]. This interaction and sharing is the second characteristic of social network which is different from traditional media.

3.3 Community Personalization

Under the traditional media, because of the high concentration of power and the unidirectionality of information dissemination, it is necessary to take into account the needs of different groups in the process of information manufacturing^[5]. Therefore, the information content of traditional media is often lack of personality, even if some programs are made for a certain group. However, due to the limitation of time, it is difficult to really meet the needs of individuals with such needs. However, in modern social networks, due to the decentralization of power and the full interaction and sharing of individual communication, it is easy for individuals to find topics of interest and individuals with the same interest in the network platform. Thus, such individuals can form a virtual community on the network platform to realize the full sharing and discussion of specific topics and information^[6]. More importantly, the information shared in a particular community is highly centralized, which greatly saves the cost and time spent by individuals in meeting their own needs. Individuals at different levels can find information suitable for their own needs. This personalized way of social communication greatly meets the individual's psychological demands and makes the social network popularize and popularize rapidly among the public. The speed and breadth of this popularization and popularization make the people and scale of the community expand continuously, and the cost of this expansion is extremely low, thus forming a virtuous circle. So community personalization is the third feature that distinguishes social networks from traditional media.

3.4 Civilian Instant

In the process of information manufacturing and dissemination, traditional media need to process and package information professionally. Therefore, it not only requires a high degree of professionalism, but also takes a long time to process information. Therefore, the dissemination of information is usually lagging behind. On the contrary, in social networks, due to the high decentralization of power and low platform threshold, many civilians have become information producers. These people do not have any professional technology, but it also enables the dissemination of information to achieve real-time, at the same time, real-time information dissemination is often the most authentic, coupled with interaction and sharing and community dissemination, the speed of information transmission has greatly improved. It should be noted that the popularity and instantaneity of the social network information dissemination has also created another feature of the social network, that is, opinion leadership. In the process of evaluating events, because everyone's knowledge structure and professional accomplishment

are different, opinions and opinions are also uneven. At this time, it is necessary for an individual to provide professional opinions through his own literacy and to be accepted by most individuals. Over time, individuals with professional qualities will become opinion leaders, which will have a greater impact in social networks. Therefore, the instantaneous civilian and opinion leadership are complementary, which constitute the fourth feature of social networks.

In short, social networks have four characteristics: decentralization of power, interaction and sharing, community individualization and instant citizenship. Under the influence of these four characteristics, consumers' consumption patterns are undergoing fundamental changes.

4 Analysis of consumer consumption patterns influenced by social networks

Under the condition of traditional media, consumers' consumption choices are usually influenced by media one-way advertisement, that is, to form their own consumption demand through advertisement and produce corresponding purchase behavior. After-sales behavior, such as information feedback, is formed between the buyer and the manufacturer after the purchase is completed. However, under the condition of social network, the consumer's consumption pattern is undergoing an important change.

Firstly, in the determination of purchase intention and motivation, from passive acceptance of advertisements to active search for information, which makes virtual community and sharing experience become important factors. Because of the exaggeration and untruthfulness of advertisements in traditional media, it is difficult for consumers to fully confirm their purchasing intentions through advertisements. But in social networks, consumers can get the most comprehensive and detailed information about the product through virtual communities or circles, especially the experience sharing of buyers, and then decide whether to buy the product. Therefore, in the determination of purchase intention, social network has a significant role, which is incomparable with advertising in traditional media. It should be noted that before entering the community and reading sharing, online search is a necessary stage for consumers to buy. Consumers can only find the corresponding circle and consumption experience through online search. Therefore, compared with the passive acceptance of advertisements in traditional media, consumers in social networks actively search for product information, which fundamentally changes the consumption pattern of consumers^[7].

Secondly, in terms of purchasing behavior, from comparing products of different brands to comparing user experience of products of different brands, the information is more real, comprehensive and objective, thus making purchasing decisions more decisive. In traditional media, there are only advertisements from sellers to buyers. Therefore, there is information asymmetry between manufacturers and consumers. Consumers can only decide whether to buy through the ratio of goods to three. But in the process of purchase, there is often a suspicious mentality, so the purchase behavior takes more time and energy. But in social networks, consumers evaluate goods through the actual experience of other consumers. Because consumers are in the same position, it greatly reduces the information asymmetry between consumers and manufacturers, which makes consumers' purchase decisions more decisive, and greatly reduces the time and energy spent in making purchase behavior. At the same time, consumers' purchasing behavior also makes some individuals in social networks become opinion

leaders, whose opinions are far more than advertisements in traditional media, which fundamentally changes consumers' consumption patterns.

Finally, in terms of after-sales evaluation, from manufacturer feedback to social circle feedback, the impact of consumers' after-sales behavior becomes more and more significant. In the traditional media, because of the high concentration of power, even if consumers buy bad products, it is difficult to expose them through the media, which makes the influence of consumers' after-sales behavior smaller, and it can only get corresponding help from manufacturers. But in social networks, this traditional consumption pattern has changed fundamentally. In the social network, due to full social sharing and instant citizenship^[8], every consumer can express their views on products in the virtual community. In particular, their bad experience of products will have an important negative impact on the sales of manufacturers^[9], which makes the after-sales behavior of consumers become very important, and indirectly forces manufacturers to change their sales behavior, so the after-sales behavior of consumers under social networks is undergoing a fundamental change, as shown in Figure 1.

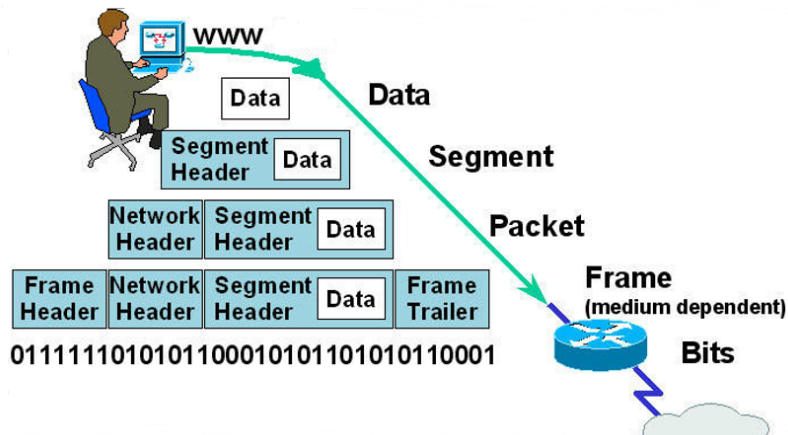


Figure 1 Social network data transmission link model
(Note: Made by myself)

In a word, in the social network, the traditional consumption pattern has changed fundamentally because of its characteristics of decentralization of power, interactive sharing, community individualization and instant citizen. Consumers' autonomy and influence of consumption have become remarkable, and their purchasing behavior has become more rational and decisive, which also forces enterprises to pay more and more attention to marketing products through social networks. However, there are both advantages and disadvantages in marketing through social networks, so enterprises should seek advantages and avoid disadvantages in the process of marketing through social networks^[10].

5 Strategic analysis of enterprises' marketing through social networks

The characteristics of social network and the change of consumer consumption mode under social network make enterprises need to use brand-new strategies in social network marketing. Based on the above analysis, the following suggestions are put forward:

5.1 Strategies to Resolve the Malpractices of Social Network Marketing

Firstly, while introducing enterprise APP, the search engine is used to increase the clicks of enterprises to attract consumers' attention. Click-throughput and attention are the core resources for enterprises to carry out marketing in social networks. To this end, enterprises should implement different strategies according to customer types to enhance the pertinence of enterprise network marketing. On the one hand, for users who have purchased products, they should be encouraged to use APP of enterprise products, and through the use of APP, they can get timely feedback from customers to further improve the user experience of consumers. On the other hand, we should make use of the powerful search function of the major search engines to improve their ranking in the search rankings as far as possible to attract the attention of potential consumers. Here we need to pay attention to that the APP of enterprise products should highlight the consumer orientation, with simple interface and clear function as the basic purpose, and in the search engine settings, it should be possible to highlight the features of products and consumer concerns, set up a number of keywords.

Secondly, set up the network marketing office to monitor and guide the effect of network marketing in real time. Because of the uncontrollability of network marketing, any negative evaluation of enterprise products may have a greater impact on enterprises, so enterprises should have a full sense of risk. It should be said that in the era of social networks, enterprises marketing through social networks is not only the inevitable choice to improve market share, but also the inherent requirement to avoid the decline of market share. Because consumers occupy the dominant position of information manufacturing in the era of social network, enterprises should timely guide the marketing direction of enterprises through real-time monitoring of relevant information in social network, and strive to overcome and guide consumers' dissatisfaction with products. The common problems reflected by consumers should be corrected in time. Meanwhile, the "navy" employed by competitors should be defamed by various means, and consumers with better experience of products should be encouraged to share their experience of using products on influential social networks. At the same time, the establishment of personalized communities, good interaction with consumers, timely solutions to consumer problems, so as to strive to control the development of social network marketing in a better direction.

Finally, the government timely promulgates social network marketing rules, eliminates fraud and malicious slander, and establishes a healthy social network marketing environment. On the one hand, we should stop the pyramid marketing, false marketing and bombing marketing in social networks, and provide a comfortable environment for users of social networks through legislation, as well as a healthy marketing environment for enterprises. On the other hand, the government should also regulate the false ranking behavior of social networking platforms. For enterprise product search ranking, it should be based on real consumer experience. It is

suggested that a third party group similar to consumer voluntary experience be introduced. Search products are ranked through the experience of consumers, while appropriate fees are taken to maintain the normal operation of social networks and to achieve normal profits. However, we should resolutely avoid using money as the ranking standard, so as to provide an orderly network competition environment for enterprises, and at the same time, make the network marketing effect of enterprises be accurately evaluated.

5.2 Strategies for Enterprises to Make Full Use of Social Network Marketing Advantages

First, make full use of a variety of carriers to carry out social network marketing. In addition to the traditional large-scale social network platforms such as Weixin, Weibo, QQ and so on, enterprises should make full use of the latest social network platforms for targeted marketing. For example, enterprises can use online games to carry out targeted marketing. The consumers of online games are mostly young consumers. Therefore, if the design of enterprise products is aimed at young people, they should use online games to carry out social network marketing. In addition, enterprises should make full use of mobile social network marketing. Compared with traditional network social marketing, mobile social marketing is a more extensive and effective marketing method. But in the process of marketing, enterprises should pay attention to the acceptability of consumers, such as not using long-term data-consuming marketing method. Of course, enterprises should also pay attention to the combination of online marketing and offline experience, through consumer experience to cultivate product opinion leaders, in order to guide consumer consumption.

Secondly, make full use of various forms of social network marketing. The key of social network marketing lies in attracting consumers' attention. In the process of network marketing, enterprises must seize consumers' psychology, conduct emotional marketing, and cultivate consumers' trust in product emotions. Especially, they should pay attention to telling a good story for consumers and giving them an emotional orientation. For example, to customize a specific lyric, portrait or heartfelt packaging box for consumers, and to collect packaging design with emotional activities as the theme, so as to effectively grasp the consumer psychology of consumers, thereby further improving consumer loyalty and cultivating a large number of potential consumers.

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