The Main Mechanisms and Characteristics of the Impart of Social Network on Consumer Behavior

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Abstract. Based on the contemporary social network environment, this paper discusses the practical significance of its impact on consumer behavior, and influencers as the main component of social network, this paper mainly take the mega-influencers and small influencers as the research object, through the analysis of the characteristics and application of the small-world network social network model to the micro-influencers, it is concluded that the influence of the mega- influencers on consumer decision-making is very important, but micro-influencers also play a subtle role in consumer behavior, which can be perceived as inseparable. At the same time, the application of small-world network model in economic management is a relatively new research field, which brings new ideas for economic management research and provides an effective technical tool. For example, this paper studies a new model of marketing through small-world network community, and innovates marketing strategy from two aspects of dominance and suggestion according to the different characteristics of mega-influencers and micro-influencers.

1 Introduction

Social networking refers to the networking of relationships between people, which is manifested on the internet by various social networking software, for example, Blog, Wiki, Tag, SNS, RSS and a series of core Web 2.0 applications to build social network services platform (SNS). The Internet has led to a new kind of human social organization and Survival Mode quietly entering in China, and has established a huge group outside the Earth space-the network group. Human Society in the 21st century is gradually emerging new forms and characteristics, the era of globalization of the network of individuals are gathering into a new social group. Consumer behavior refers to the various actions taken by consumers to acquire, use and dispose consumer goods, as well as the decision-making process that precedes and determines these behaviors. The impact of social networks on consumer behavior is in the channels of consumption, online marketing, online recommendations and other aspects.

At present, internet consumption occupies the main consumer market, so the influence of social network on consumer behavior is very important, this paper mainly studies the influence of micro-influencers and mega-influencers on consumer behavior, the application of small-world network model in the influence of social network on consumer behavior, and the credit problem.

2 Literature review

Social networks may have an impact on consumers' online buying behavior. Duri Munyaradzi Tatenda, the researchers used 96 study samples and used questionnaires to obtain answers, statistical data analysis using SPSS, and the researchers concluded that, social networks have a big impact on Chinese consumers' online buying behavior. The main social networking activities that have a significant positive impact on buying behavior are entertainment, interaction, and trends [1].

As for the influence of influencers on consumer behavior, firstly, the credibility, attractiveness and professionalism of influencers have positive effects on consumer perceived influencers credibility. In content attributes, authenticity, relevance, and popularity help to enhance consumers' perception of the usefulness of content. Consumers tend to have higher perceived content usefulness for content published by trusted influencers. Consumers' perceived influencer credibility and content usefulness both contribute to their perceived value of the products recommended by influencers.[2] Social network influences consumers' purchasing behavior through interpersonal trust, while the popularity of mobile terminals aggravates the “Social effect”. Firstly, the relationship degree concept is abstracted from the mechanism of social information transmission, and the model of “Social-trust-purchase” is established to describe the influence mechanism of social relationship closeness between friends on Commodity Trust network, finally, this study extend the model to the mobile internet by introducing the concept of “Mobility”. Simulation results show that social purchase has a cumulative effect, and social relationship has different effects on users with different social preferences and on products with different favorable ratings The use of

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mobile devices accelerates the delivery of social information, making purchases faster and bringing “Time value” [3]. The application of small-world network in economic management is a relatively new research field, which is a cross-disciplinary research between social science and physics. It brings new ideas and provides an effective technical tool for the study of economic management. Huang Haiqing briefly introduces the basic theory, Method and technology of small-world network, reviews the research results and significance of this new field, and puts forward the problems to be solved in the future [4]. Based on the small-world network model, Yingxin Kang, proves that the WeChat circle of users of all ages has the characteristics of small path length and large aggregation coefficient Yingxin Kang also through the experiment, the statistical data has established the computation weChat marketing breadth mathematical model, estimated wechat marketing breadth approximately in 1600 people, wechat marketing reprint timeliness and browsing timeliness were 12h and 26h. According to the above research, Yingxin Kang, draws a conclusion: WeChat user community in line with the “Acquaintance social” positioning, less marketing, targeted and reliable security, timeliness. If consumers want to improve the marketing effect, it should play the role of the central node, increase the number of the marketer's friends, and choose the right time [5]. Of course, internet celebrities and the resulting economic phenomenon as the object of study, with specific cases to cut into, from internet celebrities and audience two key subjects to consider, combining the theories and perspectives of communication, psychology, sociology and economics, Wu Xiaofei analyzes how internet stars come into being and how they produce content, how do influencers turn their content production capabilities into economic benefits, while exploring why audiences are attracted to influencers and what drives them to buy products recommended or sold by influencers [6]. In this paper, the influence of social network mega-influencers and micro-influencers on consumer decision-making behavior are analyzed, and combine the big data sample survey and small-world network model to analyze, for the social network era of marketing to provide new ideas.

3 Methodology and discussion

3.1 The influence of micro-influencers on consumer behavior

In the social networking world, micro-influencers are new media accounts with no more than 100,000 followers, with only 3.6% of those with more than 10,000 followers participating, according to research. The participation rate for influencers with 5,000 to 10,000 followers was 6.3%. Influencers with 1,000 to 5,000 followers had the highest participation rate, at 8.8% [7]. these micro-influencers, who are often not remembered by consumers and do not have marketing authority, are simply picked up by the public when big data recommends relevant videos or posts. In the case of Little Red Book, if people want to search for the right beauty products, people will see many" Micro-influencers" with a small number of fans who do not know their names, who will evaluate and recommend certain products, this kind of social network-based micro-influencer marketing often subtly changes consumer behavior because they are not specifically endorsing, taking ads and carrying goods, let the consumer think that this kind of marketing will be compared with the mega-influence to reduce the degree of interest, thus the high quality of the product to decide to buy.

In order to ensure the randomness of the sample selection, the questionnaire was delivered to Tencent, and the questionnaire was distributed and collected by Big Data Technology. A total of 500 questionnaires were recovered. Eliminating regular repetitive filling (n = 3), incomplete questionnaire (N=1), as well as in the distinction question" Will people consider Shiseido brand when purchasing cosmetics?". After 35 responses to "Absolutely not", 461 valid questionnaires were obtained, with an effective rate of 92.2% (100% of the target was female, mean age=28.4). From the results of 461 questionnaires, it was found that about 60.7% (N=280) of the total customers knew the product information and brand information through the internet popularity channel, and about 39.3% (N = 81) of the total customers knew the product information and brand information through the brand-owned channel. In the next open-ended question, respondents to the influencer channel were asked to write about influencers and apps they were interested in. The results showed that about 89 respondents said they did not remember the names of internet celebrities. It can be seen that the overall influence of micro-influencers is huge, but the stickiness of fans and emotional investment is not high.

In the third part, the respondents who chose the internet celebrity channel were asked to determine whether they were fans of internet celebrities. The results showed that only 27.9% (N=78) of the respondents believed that they were influenced by internet celebrities because of their trust, support or love for them. Only 8.2% (N=23) of internet celebrities were interested in watching the news about a particular brand or product. The remaining 63.9 percent were for more complex reasons, such as discounts, time-wasters, fashion upgrades, and Leisure Entertainment. In the fourth part, the respondents who chose the brand channel were asked to declare their emotional attitude towards the brand. Only 33.1% (N = 60) of the respondents considered themselves to be fans of the brand, and 43.0% (N=78) of the respondents admitted that they had received information for the purpose of buying at a discount but had no emotional investment in the brand itself. Visible at present, whether it is network celebrity or brand, the stickiness of fans and emotional input are insufficient. That is, the influence of micro-influencer on consumer behavior decision-making is significant, is imperceptible.

3.2 The influence of mega-influencers on consumer behavior

Mega-influencers have become trend-setters, also known as key influencers, whose influence can have a big impact in some hot areas. They can be divided into celebrity endorsers and Mega-influencers. The main consumer influence group of celebrity endorsers is the fans, who buy their products crazily in order to boost sales, and even exceed their abilities, the brand measures the commercial value of a spokesperson in terms of sales, so the brand is often willing to work with a number of high-traffic stars. When brands cooperate with Mega-influencers, the recommendation of mega-influencers will be more authoritative, so in live or video recommendations, many people are willing to order mega-influencers recommended products. Brands can be similarly influenced by influencers, as consumers often view celebrity endorsers and influencers as one of the most influential people on social media. Therefore, star spokesmen, big internet celebrities and brand cooperation can bring more considerable exposure for the brand.

Take celebrity endorsements. According to CBNDATA, the size of the fan-related industry will exceed 4,000 billion yuan in 2020,2023 to 6,400 billion yuan [8]. On the study of fan culture and fan economy, Li Kean (2015) believes that the development of entertainment industry has brought idol groups into the public eye and expanded the image of stars, thus giving birth to fan culture. On the other hand, the application of new media has set up a platform for fans to organize support and form groups. With the growth of the fan community and the development of the fan culture, the economic chain of fans has emerged as the times require, the operation of the fan club is becoming more and more commercialized. According to Cai Qi (2007), fans gain identity in the fan community because of the stars they like, and are willing to pay for the material consumption under the celebrity gimmicks created by the businessmen, this economic chain promotes the prosperity of the fan economy. The analysis of consumers in 13 areas of Jiangsu province by random sampling and stratified sampling shows that two-thirds of consumers have concerns and cognition about stars, and 20% of them are fans, of these, 74% buy endorsements because they like the stars. All along, the brand side and the spokesperson have maintained the relationship of “All rise and fall together”. Shares in Hongkong-based Prada, which had been with the company for just eight days, fell immediately after the Kris Wu incident and ended the day down 1.70 per cent, while shares in fine goods were down about 5 per cent the day after the crash.

Taking mega-influencers as an example, the main way to influence consumer behavior is live streaming with goods, researchers recruited 378 female college students (average age-22.3 years) who were interested in cosmetics through the Japanese student exchange group. In order to further control the deviation of the experimental subjects due to the emotional attitude toward the Shiseido brand (extreme love or extreme dislike), the Shiseido brand emotional attitude questionnaire (using the foreign maturity scale) was distributed earlier, twenty-four participants who had strong feelings about the brand in advance were excluded. Then 354 subjects were divided into a, B two groups, the experimental period is exactly “Double eleven” promotion period. Subjects in Group A were asked to watch at least three live webcasts of internet celebrities for more than half an hour each time during the “Singles Day” period, while subjects in Group B were asked to watch at least three live broadcasts of internet celebrities. Participants were asked to fill out a questionnaire after the “11/11” promotion. The results were as follows:

Group A1, who watched the live stream and had a crush on the celebrity hosts: 19.9%.

Group A2, who watched the live stream, but did not feel happy or bored with the celebrity. hosts: 29.8%.

Group B1, who had watched the live stream and had feelings of liking the brand hosts: 10.2%

Group B2, watched the live broadcast, but did not feel or be bored with the brand anchors: 40.1%

Purchase intentionality: Group B>Group A

Recommended intentionality: Group B>Group A

Purchase intentionality: Group 1>Group 2

Recommended intentionality: Group 1>Group 2

Referring to the dimension of Internet celebrity analysis in previous literature, this paper constructs an econometric model with four independent variables: attractiveness, professionalism, interaction and brand influence. The form is as follows: Y = C + BX1 + BX2 + BX3+BX4, where y represents the dependent variable recommendation intention, X-X represents four explanatory variables, C is a constant term, and mountain is a random perturbation term. Using SPSS Software for regression analysis, the results are shown:

Constant: 8.686 (+-1.222 standard error)

Charisma: 0.457 (+-0.235 standard error)

Professionalism: 0.200 (+-0.209 standard error)

Interactivity: 0.177 (+-0.116 standard error)

Brand influence: 1.431 (+-0.207 standard error)

From the results, the influence of the brand itself is the most significant, followed by the charm and interaction of the Internet celebrity, and finally the professional degree of the Internet celebrity. The final result is:

$$Y=8.686+0.457X1+0.200X2+0.177X3+1.431X4 \quad (1)$$

3.3 Small social network

Society is a network, and from the perspective of the network of social phenomena, such as analysis and research, it has become a useful idea. The small-world phenomenon is an important discovery in this way of thinking. In 1967, the American sociologist Stanley Milgram famously" Tracked the shortest paths in American social networks [9]. Milgram randomly selected 296 participants and identified a stockbroker who lived near Boston as a participant in the study. The participants were required to have no knowledge of the participant, the participants were asked to pass a message (- a letter) to the participants through their social circle, each pass goes like this: the participant finds one person he knows who he thinks is most likely to know the participant, and passes on the information to him, asking him to follow a similar route, finally the information is passed to the participant. A small-world network is a mathematical graph. In Figure 1, most nodes are not adjacent to each other, but the neighbors of any given node are likely to be adjacent to each other, and most arbitrary nodes can access other nodes with fewer steps or jumps.

Fig. 1. Application of small-world network community [9].

Take micro-influencers on Weibo as an example to explore their connections to small-world online communities. As of May 2011, Tencent's microblog had more than 200 million users. In Tencent's Weibo, “Celebrities” receive more “Attention” than “Grassroots”, so they play a more important role in the spread of information and “Online public opinion”, the microblog users chosen for this article are all “Celebrities” who “Follow” more than 4 million people. This time the sample was “Snowballed” by randomly identifying a “Celebrity” Weibo user who “Follows” more than four million people, look at the people they “Follow,” and they will be recorded by users who “Follow” more than 4 million people, resulting in a number of “-". Group user information; repeat this process for each user in this group to get the next-group user information. According to the above method, the information of three groups of users can be obtained, consisting of a total of 91 users from the mainland, Taiwan and Hong Kong, involving enterprises, media, literary and artistic circles and academia, etc.

The social graph of the communication network within the microblog community, by observing the records, shows the relationship between the 91 users who “Follow” and those who are “Followed” as a 91X91 adjacency matrix Z. Since “Follow” is a one-way relationship, the row of the matrix represents the follower, the column represents the follower, and the direction of the line is from the follower to the follower, if another user appears in a user's focus, the element value of the corresponding row and column is 1, otherwise the element value is 0, resulting in a binary matrix. The adjacency matrix Z is imported into the social network analysis software UCINET6.2, and then the community map of the communication network within the microblogging community is drawn using the drawing software tool Netdraw from UCINET. There are three main reasons why user a “Pays attention” to user B: 1 user B is a friend or acquaintance in user A's real social network, and the “Paying attention” relationship between user A and user B is usually two-way; User B is a well-known social figure, whose words and deeds have a wide range of social impact, for example, the popular micro-blog quote “Has more than 1.4 million followers; in the latter two cases, the “Attention” relationship is usually one-way. If user a “Follows” user B, the line in the community graph is A → B, and the line of communication is B → A.

Through this phenomenon, micro-influencers can change consumer preferences through small-world social networks, playing a role in marketing promotion and guidance.

The participation of micro-influencers is one of the key attractions. For global influencers with about 200 million followers, the study expect participation to be no more than 5%, while for smaller influencers, the study hope the odds will double. Setting a 10% participation rate is a good starting point, and many people can track direct sales of AD series through custom urls and use UTM parameters to further measure Roi [10].

Another way to measure roi is to calculate how much consumers pay for coverage and conversions through social advertising, and then apply those numbers to, the coverage and transformation people get from the micro influencer campaign.

Budget control good influencers will naturally want to be paid, but if the marketing budget is limited, make a conscious choice. Micro influencers are unlikely to be as expensive as mega-influencers, and consumers can pick up influencers' voices on blogs, websites, or newsletters and offer them the product for free.

Optimizing the micro-impact to increase trust in professionalism, authority, and credibility is what really resonates today, with two-thirds of consumers saying they trust influencers' information about their brand, a higher level of trust than a company has in its own brand's advertising. So, companies need to establish their own micro-impact.

4 Conclusion

This article explores the impact of social networks on consumer behavior, mainly from mega-influencers (also divided into celebrity endorsers and Big Internet celebrity hosts), micro influencers and small-world network models and the influence of micro influencers on consumer behavior in small-world online communities. It is found that the big influence has an obvious and direct influence on consumer decision-making, but the small influence person can play a silent influence role through the small-world network, which is an indispensable key link in marketing, it's also one of the many nodes of the small-world network. This research applies the small-world network model to the research of marketing, and analyzes the characteristics of the small-world network model and marketing, it is concluded that marketing has the characteristics of small-world network model in the process of communication, that is to say, the characteristics of short communication path and wide communication range of marketing accord with the characteristics of short average path and large aggregation coefficient of small-world network. However, this study also lacks the impact of trust in social networks on consumers' decision-making behavior, and explores how brands can improve their credibility from the perspective of consumers' subjective trust, there is also a lack of substantive solutions and recommendations.

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