

Factors Influencing Customer Participation in Mobile SNS: Focusing on Wechat in China

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Abstract

WeChat is the most representative mobile socialization application in China as well as an important platform in enterprise publicity. The special transmission method of WeChat emphasizes the importance of user participation. Therefore, how to make effective use of the antecedent factors of user participation and user participation incentives appears to be particular significant. The research explores into the antecedent factors of user participation in WeChat from the perspective of users, and analyzes the effect mechanism of these factors on the two different dimensions of user participation (general participation and interactive participation) with examples. Empirical data shows that interaction frequency, preferential Incentive and information sharing exert significant positive effects on general participation. Interaction frequency and information sharing have positive effects on users' interactive participation. The research attempts to figure out the pattern of WeChat marketing of user participation theoretically through constructing the antecedent factors and effect mechanism of user participation in WeChat, as well as provides implications for user participation strategies when enterprises develop WeChat marketing platform.

Keywords: General Participation, Information Sharing, Interaction Frequency, Interactive Participation, Preferential Incentive, WeChat

1. Introduction

WeChat's uniqueness, convenience and diversity decide that it is more flexible and intelligent than microblog and other socialization networks. Therefore, once it is launched, it gains great popularity on the market. The appearance of WeChat breaks the marketing publicity in enterprises in the traditional sense. It provides a public account for firms as well as establishes user communication and interaction. Thus, WeChat is not only a popular mobile socialization tool at present, but also an important platform for enterprises to carry out publicity. Network marketing publicity based on computer is also yielding to "immediate WeChat marketing publicity" of mobile Internet.

Although WeChat application is newly emerging, it greatly affects people's life. It is not merely an immediate

network communication tool. Moreover, it is an all-round socialization and marketing platform. The momentary spreading of WeChat under the mobile Internet environment exceeds microblog and other community networks. WeChat emphasizes user participation. Relying on the diversity and strong socialization chain as well as the adhesion of user participation and accurate positioning, WeChat becomes another outstanding tool for governmental departments and enterprises in marketing publicity besides microblog at the current network innovation age. Some famous domestic enterprises and even governmental departments are even trying to begin mobile phone's WeChat marketing¹. Hence, the study on the antecedent factors of user participation in WeChat marketing and the effects is not only of great theoretical values and realistic significance, but also of certain urgency.

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2. Theoretical Background

2.1 Mobile Socialization Network

Till the end of December 2014, the number of Chinese mobile netizens has reached 557 million². With the development and universality of Internet, it has gradually integrated into people's work and life. In the virtual socialization network under the social network environment, socialization network is characterized with the openness of public participation³. It also enables enterprises to intervene with and carry out various marketing activities through virtual socialization network, and demonstrates huge potentials in changing interpersonal communications, community activities and other social life⁴. Social network has achieved huge success in terms of Internet, while it is still at the starting stage in terms of the application on the mobile platform at present. With the continuous perfection of wireless broadband technology and the rapid spreading of 3G network coverage, mobile SNS based on mobile Internet has become an inevitable trend.

Mobile Social Network Service (SNS) demonstrates different features compared with the traditional SNS based on PC Internet⁵. Users can find the information at any time, at any place and without limit. Thus, it enables the completion of interpersonal communication, life and work on one mobile communication platform in the future. What's more, it makes Internet more open, rapid and accurate.

Effects of mobile SNS. Foreign studies on mobile SNS platform mainly focus on specific application platforms, such as Facebook, You Tube mobile version and Canada's Kik, Japan's LINE, South Korea's Kakao Talk that are similar to WeChat. For example, as for the effects of Facebook that has the greatest influence on the international market with regard to the publicity activities, the current researches mainly emphasize the advertisement marketing and communication. After analyzing the advertising types of Facebook, Lipsman et al. pointed out that the advertisement on Facebook had important effects on improving enterprises' brand image, and stressed that Facebook made great contributions to enterprises' market communications⁶. In addition, the socialization network of Twitter based on mobile phones was obviously more rapid and precise than the previous socialization network based on computer⁷. Besides, the domestic mobile SNS represented by WeChat is different

from other Internet products and services in the spreading methods and socialization. Therefore, it is necessary to explore into and analyze the external influencing variables of WeChat.

2.2 Literature Review on User Participation Behaviors

Concept and form of user participation. The studies on user participation mostly concentrate on production and service industry, and expound on it from a single perspective. Now, more and more enterprises integrate user participation into development innovation. The studies on user participation also expand to product development⁸, service failure and recovery⁹. Cermak et al. raised that user participation was a kind of mental activity related to service production and delivery as well as a specific physical behavior. Moreover, it showed the degree and intervention of users' efforts¹⁰. File defined participation as the behavior and the level that buyers engaged in relevant service delivery and prospect that they were in pursuit of¹¹. Zaichkowsky put forward that participation was the most frequently used in the field of users' behaviors. In other words, participation referred to the correlation based on internal needs, values and interest¹². Larsson and Bowen claimed that some users preferred some positive service roles because they found that participation had interior attraction¹³. Firat et al. stated that users were willing to take part in the production or delivery of certain services so as to obtain three advantages, i.e., high service efficiency, effectiveness of service effects and emotional or spiritual joys¹⁴. There are also a few studies on user participation into virtual network. Richmond thought that the entertainment activities provided by shopping websites were helpful for increasing user participation and encouraging their purchase wills¹⁵. Youngdahl and Kellogg classified user participation into information collection, relationship building, information communication and intervention behavior¹⁶. Kellogg et al. adopted "key event analysis method" to find four forms of user participation: preparation, relationship building, information exchange behaviors and intervention behaviors¹⁷. Rodie and Kleine thought user participation was composed of physical participation, emotional participation and information input¹⁸. Wang and Fesenmaier classified virtual brand's community participation into general community participation and active contributive community

participation¹⁹. However, for WeChat, it was a mobile social network service under the mobile Internet environment. User participation in Wechat was different from production service enterprises. Its sociality and service orientation was also different from other network products and services. Then, whether the current user participation theories and connotations can be applied to directly explain user participation into WeChat publicity under the mobile network immediate communication environment is an important problem that should be further explored.

Motivation and dimension of user participation in the virtual network. Now, user participation in the virtual network is gaining more and more scholars' attention and studies. WeChat is an immediate mobile SNS communication application based on mobile phone. Therefore, the motivation features of user participation in WeChat are similar to general virtual community. In the studies on virtual community's participation motivation, Preece put forward that user participation's purpose was to exchange information²⁰. Teo et al. found in the investigation that user's surfing on the Internet was first out of the help for work. Second, it was because the Internet could bring happiness and convenience²¹. Claycomb developed nine scales to measure the degree of user participation, associated three dimensions, namely attendance, information providing and cooperation production²². Alison E. Lloyd proposed the three dimensions of user participation, respectively perceived effort, task definition and information-seeking²³. The above studies on the motivation features of user participation in virtual network could provide certain references for the researches on user participation factors in WeChat publicity. Nevertheless, compared with other virtual community, its immediate communication was consistent with mobile phones. Moreover, the applications, such as information sharing, communication, payment and finance had more secret participation bonds. It stressed customized services and rich user experience. Thus, for the approaches of WeChat publicity, the level of user participation was of peculiar significance.

3. Research Hypothesis

In existing studies, scholars study customer participation behaviors from different perspectives, so there are no consistent opinions on the concept and measurement of customer participation. The specific dimensions customer

participation contains still reach no consensus. Most of studies concentrate on specific service and production^{24,25}. Many scholars classify customer participation in parts of studies concerning virtual communities, as above-mentioned literatures. For example, Ridings et al., based on the study of Mathwick, divided participation behaviors of virtual communities into diving (inactive participation and interaction) and irrigation (active participation and interaction)^{26,27}. Barnatt divided consumer participation behaviors of virtual communities into non-interactive participation and interactive participation²⁸. However, WeChat differs from traditional marketing modes and general network virtual communities. The convenient and abundant functions, powerful social contact chains, and accurate viscous positioning make enterprises pay more attention to point-to-point interactive participation of users. Therefore, this study summarizes opinions of the above-mentioned scholars and divides consumer participation into interactive participation (frequent participation behaviors of exchanging and communicating with enterprises) and general participation (browsing information sent by enterprises and self-interest-oriented participation) in line with characteristics of WeChat.

3.1 Information Sharing Degree

Spread of social information is changed into "bilateral interaction" from traditional "unidirectional penetration", under the function of WeChat. WeChat spreads information in a friend circle. Such a way increases reliability of information. Under the increasing intense competitive environment, a more prominent difficulty for marketing activities lies in information content offered to users and how to provide information. One of the methods of coping with such a difficulty is to endow control power of information sharing to users and make them determine the time and sequence of information acquisition, or even information content²⁹. Thus, sharing degree of predictive information in this study will promote more customers to participate in WeChat propaganda of enterprises. The study plans to put forward the following hypotheses to inspect:

- H1: Information sharing degree in WeChat propaganda exerts a positive effect on customer interactive participation.
- H2: Information sharing degree in WeChat propaganda exerts a positive effect on customer general participation.

3.2 Interactive Frequency

Davis et al. indicated that user information system behaviors are impacted by external motivation and internal motivation simultaneously³⁰. Balianine et al., scholars thought that under the virtual network environment, stronger interaction makes customers inclined to purchase recommended products^{31,32}. Liu and Shrum defined interaction as the degree of interaction on each other, information media and information of both parties of information exchange³³. With the transformation from product-oriented logic to service-oriented logic, users are changed into co-creators of value from passive receivers. Correspondingly, interaction in virtual network also becomes more frequent and important^{34,35}. The studies of Choi et al. and Flore et al. found that customer interaction facilitates customer loyalty or customer interests^{36,37}. In virtual brand communities, users also interact a lot on interested topics in communities with moderators, for the sake of obtaining various values or contributing values³¹. If audiences perceive stronger social interaction of roles, they will be more inclined to be more loyal to media of roles and obtain more information from roles^{31,32}. To sum up, the study plans to put forward the following hypotheses to inspect:

H3: Interactive frequency in WeChat propaganda exerts a positive effect on customer interactive participation.

H4: Interactive frequency in WeChat propaganda exerts a positive effect on customer general participation.

3.3 Preferential Incentive

Generally speaking, the sum total of discount obtained from purchasing commodities or using services for customers is called as privilege or compensation³⁸. Preferential Incentive contains free products, integrals, discount cards and discount coupons, etc. In the process of giving a present through integrals and utilization, mutual relation between customers and enterprises can be formed. The other function of discount coupons is that they can improve brand loyalty by increasing product purchase rate³⁹. For instance, two-dimensional code scanning is one of important functions in the diversified operation mode of WeChat. An enterprise's O2O discount marketing (namely Online to Offline) can be realized through two-dimensional code scanning. WeChat can provide two-dimensional codes of enterprises. After scanning, member discount or merchant privilege can be obtained, namely the goal of real-time discount marketing

can be achieved. Based on the above-mentioned opinions, the study plans to put forward the following hypotheses to inspect:

H5: Preferential Incentive in WeChat exerts a positive effect on customer interactive participation.

H6: Preferential Incentive in WeChat exerts a positive effect on customer general participation.

4. Methodology

4.1 Investigation Research and Analysis Methods

The investigation targets of the study are mobile netizens, i.e., users who use WeChat. Therefore, the methodologies of sample selection and data obtainment of the project are based on user individuals in the micro sense.

In order to ensure the quality of development scale and different test items' discriminability, the reliability and validity of the initial scale's measurement items is analyzed through pre-test so as to ensure the structural validity of the development scale. The study selects samples at random, i.e., 60 WeChat users are chosen to fill in the questionnaires. After analysis, each measurement item of the initial scale is adjusted and checked. All the measurement items are reserved. Besides, the research adopts factor analysis, reliability and validity test, structural equation model and other methods for empirical analysis.

4.2 Variables and Measurement Methods

The variables that are mainly involved in the research include: antecedent factors of user participation (including interaction frequency, information sharing and preferential Incentive), general participation and interactive participation in user participation. The specific hypotheses among the variables and the following conclusions are drawn according to relevant theories and literature review: the interaction frequency variable refers to the concept and item revision proposed by Song and George³¹ and Liu and Shrum³³. In specific, it is composed of four measurement items. Information sharing variable refers to the concept revision proposed by Claycomb²² and Ennew and Binks⁴⁰. In specific, it is composed of four measurement items. With regard to preferential Incentive, it refers to the concept and item revision raised by Zeithaml and Bitner³⁸ and Tellis³⁹. In detail, it is composed of three measurement items. Customer participation and behavior refers to the concept and item revision put

forward by Ridings et al.²⁶ and Wang and Fesenmaier¹⁹. In specific, general participation is composed of three measurement items. Interactive participation is made up of five items. For the purpose of verifying the above hypotheses, the study designs the specific items of each variable on the basis of combining with prior research results. Likert 7-point scale is used to ensure the precision of investigation results from 7 options, ranging from “completely disagree with it” to “completely agree with it”. The questionnaire chooses samples at random. With regard to sample selection, ordinary WeChat users are chosen. Moreover, in order to ensure the reliability of questionnaire and accuracy of answers, the study only chooses consumers who take part in WeChat marketing to carry out questionnaire survey.

4.3 Data Collection and Demographical Characteristics

Visiting questionnaire and WeChat questionnaire are mainly deployed in the research to conduct random sampling survey. A total of 500 questionnaires are delivered. 452 valid questionnaires are collected. The valid collection rate reaches 90%. 50 invalid ones are eliminated. The rest 402 are used for empirical analysis.

The questionnaire respondents mainly age from 18 to 30 years old, males and females accounting for 51% and 49% respectively. A majority of respondents have the bachelor degree or higher degree. Students, personnel in governmental departments and public organizations, enterprise employees are the main targets. The monthly salary of the investigated users is about 1,000-5,000 Yuan. They have certain financial support.

5. Research Analysis and Hypothesis Verification

5.1 Reliability Analysis

This study, first of all, adopts Cronbach's α coefficient to conduct reliability analysis on various questions, in order to confirm inherent consistency between questions. In a strict sense, Cronbach's α coefficient should be greater than the criterion 0.70 recommended by Nunnally⁴¹ in social science research. If Cronbach's α coefficient is greater than 0.8, measuring questions of various research concepts are considered to have higher inherent consistency. In the study, it generally thinks that analysis results are shown in Table 1. Cronbach's α coefficient of all question concepts

are greater than 0.8, from 0.897 to 0.900, indicating that measuring questions of various research concepts have good stability and higher inherent consistency. Thus, its reliability is confirmed.

Table 1. Results of variables' reliability

Factors	Number of Items	Cronbach's α
Information sharing	4	0.898
Preferential Incentive	3	0.897
Interaction frequency	4	0.897
Interactive participation	5	0.897
General participation	3	0.900

5.2 Validity Analysis

This study uses Confirmatory Factor Analysis (CFA) through AMOS20.0 to inspect convergent validity of measurement models of each dimension, check entire measurement models and inspect discriminative validity, for confirming connotation structural relationship of potential attributive factors behind variables.

Convergent validity: generally speaking, if normalized factor loading value is greater than 0.5, convergent validity is good. Results of Confirmatory Factor Analysis (CFA) implemented in this study are shown in Table 2. Each question factor loading value from 0.528-0.941 is greater than the numerical value of over 200 samples proposed by Hair et al., and factor loading value at 95% of confidence level must be greater than the criterion 0.40, displaying good concentrated vitality; Moreover, the measurement model $\chi^2 = 315.242$ (df = 109, P = 0.000), NFI = 0.905, CFI = 0.935, TLI = 0.919, RMSEA = 0.069 also appears a satisfactory level. Results show that 5 component factors have no cross loads in the criterion of 0.5 loading value. Remarkable single dimensionality and excellent degree of fitting between various questions are presented, and the convergent validity is confirmed.

Discriminative validity: Anderson and Gerbing indicated that 95% of confident interval appears no 1, namely discriminative validity is identified as good validity. As a result, this study verifies that whether the relationship of 1 contains in 95% of confident interval is inspected. Computed result estimated value distributes between 0.207 and 0.513, so there is no relationship of 1 in 95% of confident interval in all component concepts. Thus, discriminative validity is confirmed. Furthermore, this study makes a comparison between respective square root of average variance extracted ($AVE = \sum \lambda^2 / n$) and correlation coefficients in two random potential factors. Results also display that correlation coefficients between

all factors are less than square root of AVE. Thus, its discriminative validity is also confirmed.

Table 2. Results of confirmatory factor analysis

Factors	Dimension	Items	Loadings	Standard Factor Loadings
Information sharing	IS1	1.000	0.724	-
	IS2	0.849	0.604	10.663
	IS3	0.903	0.698	12.138
	IS4	0.718	0.613	10.813
Preferential Incentive	PT1	1.000	0.729	-
	PT2	1.301	0.941	16.537
	PT3	1.027	0.758	14.863
Interaction frequency	IF1	1.000	0.705	-
	IF2	1.204	0.799	14.107
	IF3	1.234	0.797	14.087
	IF4	0.988	0.594	10.812
Interactive participation	IP1	1.000	0.779	-
	IP2	1.057	0.759	15.256
	IP3	0.903	0.710	14.165
	IP4	0.965	0.732	14.658
	IP5	1.003	0.703	14.010
General participation	GP1	1.000	0.528	-
	GP2	0.947	0.570	07.637
	GP3	1.575	0.665	08.231

The above-mentioned results show that reliability, convergent validity and discriminative validity of all measuring questions used in this study are confirmed.

6. Research Analysis and Hypothesis Verification

In order to inspect reliability of the research model, this paper uses AMOS20.0 to inspect the model's degree of fitting. All evaluation indices are χ^2 statistical magnitude ($\chi^2 = 445.817$, $df = 112$, $p = 0.00$). Generally speaking, when total samples surpass 200, chi-square value will be enlarged correspondingly, resulting in refusing hypothesis models. Consequently, when sample scale is larger, it is necessary to consider statistical magnitude of other fit measure to judge synthetically. The ratio between chi-square value and degree of freedom in this study is less than 4, indicating that entire degree of fitting for this model is good. Indices of fit measure display: GFI = 0.886, NFI = 0.866, CFI = 0.895, TLI = 0.873, and RMSEA = 0.072(<0.08). All indices are above 0.8 and exceed model fitting criterion recommended by Arbuckle and Wothe.

Integrity displays that this research model has good degree of fitting and has rationality statistically.

This study conducts structural equation analysis on the research model by using AMOS20.0 software and combines with maximum likelihood method to carry out statistical survey on relevant parameters involved by the research model, so that the rationality of each hypothesis of causal relationship and conceptual model is verified. Measuring results are shown in Table 3. This hypothesis model presents good degree of fitting. In addition, research hypotheses proposed in this paper are also verified.

Table 3. Hypothesis verification results and path coefficients

Research Hypothesis	Path	β	t	P
H1	Information sharing → Interactive participation	0.14	4.22	0.000
H2	Information sharing → General participation	0.35	5.86	0.000
H3	Preferential Incentive → Interactive participation	0.04	1.35	0.178
H4	Preferential Incentive → General participation	0.33	4.84	0.000
H5	Interaction frequency → Interactive participation	0.08	2.82	0.005
H6	Interaction frequency → General participation	0.25	3.98	0.000

$p < 0.05$.

7. Conclusion

From the perspective of our country's consumers, this study explored antecedent factors that impact WeChat marketing of customer participation, analyzed mechanism and influences on different dimensions (including interactive participation and general participation) in customer participation behaviors generated by these factors. Specific conclusions were drawn as follows: first of all, customer participation behaviors are slight different from production service industry under the WeChat propaganda. Enterprises should select reasonable means and methods to improve degree of user participation. Secondly, when conducting WeChat propaganda under the mobile internet environment, except preferential Incentive, information sharing and interactive frequency exert a positive effect on customer interactive participation. Thirdly, information sharing, preferential Incentive and interactive frequency promote and impact customer general participation behaviors positively.

This study combined with physical truth of Chinese customers, summarized theoretical framework of impact customer participation behaviors under the WeChat propaganda, confirmed influences and roles generated by antecedent factors of customer interactive participation and general participation, made enterprises apply the WeChat platform reasonably in line with different propaganda goals, and combined with strategic characteristics of user participation to select and balance WeChat propaganda methods, so as to reinforce propaganda ability of enterprises under the mobile internet environment.

Under the broad environment of our mobile internet, participation behaviors of users in different industries also have a certain difference. Scale development and inspection still needs to be further investigated and analyzed. Thus, future researches need to make a comparison between regulating effects of respondents in trust layers of different industries, different areas and diverse circles. Thus, our studies will have more pertinence and practicability. Meanwhile, another research topic that will be carried out is to combine and compare Chinese mobile social networking with other countries.

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