The Influence of Quantified Self Consciousness on Customer Participation Behaviour

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Abstract: Self-monitoring, collection and sharing of self-data is becoming more common among consumers, and quantified-self has become a big trend. However, existing researches focus more on quantified-self behaviour itself, and few research on its essence, namely quantified-self consciousness and its impact on customer participation behaviour. By exploring quantified-self consciousness and participation behaviour patterns of consumers in mobile social networks, we help enterprises better understand the connotation and action mechanism of people's quantified-self consciousness, successfully promote social network marketing activities, and attract more customers to participate in them.

1. Introduction

With the development of mobile communication technology and the Internet, mobile social networks have gradually penetrated into every aspect of consumers' lives. Compared with traditional social networks, mobile social networks have obvious advantages. They support "mobility", promote the development of the Internet towards a more open and social direction, and build closer and complicated social relations[1]. However, the popularity of wearable devices such as Apple Watch and Xiaomi Band as well as various network community platforms makes more and more people begin to use smart wearable devices or social application functions to monitor self-activities and share self-information and data in social network circles.

Quantified-self consciousness plays an important guiding role in consumer participation[2]. Moreover, mobile social networks have changed the game process between consumers and enterprises, and consumers are more active in the competition with enterprises. Therefore, enterprises need to rethink the marketing mode in mobile social networks, so as to improve the degree of customer participation and stimulate their participation behaviours, therefore, enhance the marketing effect. In addition, mobile social networks have also changed the way consumers spread information. They are in a diversified social network circle that can access massive amounts of information. Therefore, their quantified-self consciousness and behaviour choices will be greatly affected by the characteristics of the members of the circle. In combination with the above background, we will explore the influence of consumers' quantified-self consciousness on customer participation behaviour, as well as the moderating effect of the number of social network circle members, in order to help enterprises enhance their awareness of the importance of stimulating consumers' quantified-self consciousness and attract more customers to participate in corporate marketing activities.

2. Literature Review

2.1. Quantified-Self Consciousness

Since the concept of quantified-self was first proposed by Gary Wolf and Kevin Kelly in 2007, it has been widely concerned by the academic and business circles[3]. It refers to that consumers can monitor their own conditions and behaviours by using relevant tools. So as to realize self-understanding and reflection[4,5]. Most of the current research focuses on the impact of quantified-self

on health. For example, Chris pointed out that large organizations can obtain quantified-self data of employees through self-tracking equipment to track, intervene and improve their productivity and health behaviour, and these enterprise health strategies are often carried out in the form of encouraging employees to completely change their lifestyle and behaviour[6]. With the enrichment of research, the application scope of quantified self is increasingly wide, involving education[7], daily health promotion, chronic disease management, disease prevention and diagnosis, and out-of-hospital rehabilitation and other fields[8]. As more and more consumers participate in the quantified-self, the research on their willingness to participate has also become rich. For example, Zhang Yudong and Li Dongjin selected the grounded method to divide the barriers to consumers' participation in quantified-self into six dimensions: attitudinal barriers, data barriers, operational barriers, cognitive barriers, maintenance barriers and sharing barriers, which provided important enlightenment for improving the benefits of enterprises and showing the long-term utility of quantifying themselves[9]; Li Dongjin and Zhang Yudong confirmed through research that when faced with negative results, mastering goal orientation can more effectively improve consumers' willingness to participate in the quantified-self continuously than performance goal orientation[10].

No matter what field of quantified-self behaviour occurs, its foundation must be quantified-self consciousness. As some scholars have confirmed, consumers with quantified-self consciousness are often more willing to buy smartwatches than those who have never heard of them[2].

Based on the definition of quantified-self by the aforementioned scholars, this study defines quantified-self consciousness as the awareness of consumers to reflect on and optimize their behaviours by collecting, analyzing and sharing information about their physiology, physics, behaviour or environment, and to explore its mechanism.

2.2. Customer Participation Behaviour

The research on customer participation behaviour mainly focuses on the production and service industries, and most of them are expounded from a single perspective. As more and more enterprises bring consumer participation into their value creation, the research on customer participation behaviour also extends to product development process[11], service failure and recovery[12], etc. In Lovelock and Young's opinion, customer participation is one of the factors to improve production efficiency[13]. Groth believes that customer participation is an indispensable behaviour of expectations and requirements in service production, which refers to specific actions, substantive efforts, information and resources provided by customers for service production and delivery, including spiritual and material input[14]. In the field of consumer behaviour, the concept put forward by Zaichkowsky is most commonly used, that is, participation is the association of consumers based on their intrinsic needs, values and interests[15].

However, although the research on customer participation is increasingly enriched and the field is gradually expanded, the division of its dimensions has not yet been unified. Among them, Ennew and Binks are widely recognized and widely used, that is, customer participation is divided into three dimensions: information sharing, responsible behaviour and personal interaction[16].

Different scholars have put forward different views on the motivation and purpose of customer participation. For example, Parker believes that the motivation of customer participation includes asking for discounts and other rewards, improving the sense of control, saving time, and obtaining more diversified service delivery options[17]. In the view of Markley and Davis, the drivers of customer participation are more complex, including accepting benefits (such as getting coupons after participation), social harmony, reducing anxiety, obtaining additional benefits or compensation in the future (such as membership level), satisfaction, and making service practitioners happy[18]. In general, the motivation and purpose of customer participation can be roughly divided into economic, material, psychological and social aspects: economic and material motivation refers to the customer's desire to obtain economic benefits through participation and reduce the cost of time and energy; The psychological and social motivation mainly refers to the psychological state or social interests such as respect, communication, harmony and satisfaction. For high degree of participation behaviour, social and psychological factors have more obvious influence on customer participation than material

factors.

In fact, the rapid development of mobile social networks has greatly changed the consumption environment, promoting consumers' participation behaviour pattern is no longer limited to offline participation in the traditional environment, but presents a diversified development trend, that is, users have more choices in online and offline channels and participation strategies. This has brought profound changes to the connotation and influencing factors of customer participation behaviour. In this context, it is particularly important for enterprises to stimulate consumers' quantified-self consciousness and collect consumers' quantified data, so as to provide targeted products or services to meet their needs.

2.3. Number of Members

Network externality theory points out that the value brought to individuals by the value of network depends on the number of network members. The more members there are, the more value the network brings to individuals[19]. Based on this theory, Lin and Lu explored the influencing factors of users' continuous use of social networking sites and found that the number of friends in social networks had a positive impact on users' continuous participation in social networking sites[20]. Consumers and other users in the same network community constitute an organic community with strong aggregation and diffusion ability.

3. Hypothesis and Model

3.1. Quantified-Self Consciousness and Customer Participation Behaviour

Quantified-self consciousness of consumers has an important impact on their behaviour[2]. The data obtained through quantified behaviour essentially reflects consumers' perception of the real self, which can help consumers form a more comprehensive understanding of themselves and clarify their self-demands, while the analysis and thinking of individuals' own data represent their pursuit of the ideal self. In order to realize the above demands, consumers will choose to continue to participate in quantified behaviours or other social network activities, so as to optimize themselves and improve their behaviours[21]. And these continued engagement behaviours are based on quantified-self consciousness. Only when consumers have quantified-self consciousness, can they monitor their self-activities and decision-making effectiveness with quantified tools, so as to intervene in control and precise rational behaviour choice[6].

In mobile social networks, the popularity of mobile devices and the development of Internet technology provide convenience for users to participate in the online marketing activities of enterprises anytime and anywhere, and also provide users with rich information, enabling them to participate in various offline physical store activities through the acquisition of online information. Therefore, the following hypothesis is proposed in this study:

H1a: In mobile social networks, consumers' quantified-self consciousness will positively affect their online participation behaviour.

H1b: In mobile social networks, consumers' quantified-self consciousness will positively affect their offline participation behaviour.

3.2. The Moderating Effect of Number of Members

Given the theory of network externality, the more members in a circle, the stronger the interaction between members. If the number of members of the social network circle that the consumer is in has the quantified-self consciousness and is engaged in the quantified-self practice is larger, the individual will be affected more and will be more willing to participate in the quantified-self. Therefore, the following hypothesis is proposed in this study:

H2a: The number of circle members plays a moderating role in the influence of quantified-self consciousness on customers' online participation behaviour. The larger the number of circle members, the greater the influence of quantified-self consciousness on customers' online participation behaviour.

H2b: The number of circle members plays a moderating role in the influence of quantified-self

consciousness on customers' offline participation behaviour. The larger the number of circle members, the greater the influence of quantified-self consciousness on customers' offline participation behaviour.

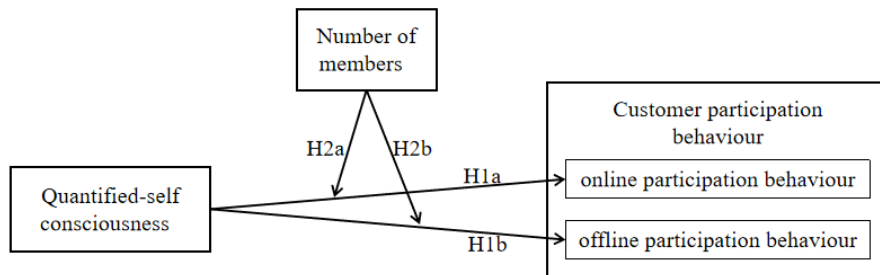The model constructed is shown in the figure below.

Figure 1 Research Model.

4. Research Method

The research methods used in this paper are mainly questionnaire survey and empirical research. First of all, use the existing mature scale for reference, and combine the actual situation of this study to design the questionnaire, distribute the questionnaire online and retrieve it through online and offline channels, eliminate the invalid data, test the reliability and validity of the valid questionnaire data, and carry out correlation regression analysis, and finally draw the research conclusion.

5. Conclusion

5.1. Research Conclusion

The strengthening of consumers' quantified-self consciousness provides enterprises with massive consumer data information, which is both an opportunity and a challenge for enterprises. Through research, we confirm the influence of consumers' quantified-self consciousness on customer participation behaviour, as well as the moderating effect of the number of circle members, which can provide reference for enterprises to attract customers to participate, carry out targeted marketing activities, and improve marketing effect.

5.2. Management Inspiration

First, create a good interactive environment for consumers who participate in quantified-self. When building a mobile network quantified-self community, enterprises can provide convenience for consumers to obtain their own quantified data and display themselves through convenient operation, simple and beautiful interface, clear data presentation, etc. At the same time, enterprises can stimulate consumers' quantified-self consciousness through various incentive systems such as points and rankings, drive consumers to share their own quantified data, and exchange information and experience with other community members at any time, create and maintain a positive interactive atmosphere, and enhance consumers' sense of participation in quantified-self.

Second, the number of circle members of the social network platform should be reasonably controlled. On the one hand, there should be active community members who can actively communicate with consumers, give full play to their influence, stimulate consumers' quantified-self consciousness, and further enhance consumers' willingness to participate; On the other hand, in order to ensure the quality of communication among members of each community, the number of participants in the social network platform must be limited to a certain range to avoid information overload affecting consumers' behaviour choices.

5.3. Research Limitations and Prospects

First, there is no in-depth research on the intermediary variables between quantified-self consciousness and customer participation behaviour. There may be intermediary variables in this path.

In the future, further research can be carried out to deepen the understanding of the mechanism of quantified-self consciousness affecting customer participation behaviour.

Second, the regulatory role of the characteristics of other circle members is not discussed. In fact, in addition to the number of members, the degree of trust and relationship strength among members may regulate the impact of quantified-self consciousness on customer participation behaviour. Further research can be done in the future.

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