



A Study on the Impact of Quantified-Self Awareness on Users' Information Sharing Behavior in the Mobile Social Network

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Abstract

Background/Objectives: In this study will explore the impact of quantified-self awareness on consumer information sharing behavior in the mobile social network environment. **Methods/Statistical analysis:** In this study will confirm the impact of consumers' quantified-self awareness on their information sharing behavior in the mobile social network environment through experimental research and questionnaire survey. **Findings:** Based on the theory of self discrepancy and through literature review, this study believes that consumers sense the difference between realistic self and ideal self, society realistic self and society ideal self will make them produce quantified-self awareness and willing to share information. To a certain extent, this study enriches the research on the influencing factors of consumers information sharing behavior. It is of certain significance for enterprises to improve consumers' quantified-self awareness and carry out marketing activities. **Improvements/Applications:** In the mobile social network, consumers' quantified-self awareness is gradually popularized and strengthened. It is of certain significance to explore how quantified self awareness can produce information sharing behavior for consumers.

Index Terms

Quantified-Self Awareness, Self-Discrepancy, Information Sharing Behavior.

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I. INTRODUCTION

With the continuous development of social media and social ways, mobile social network has gradually become an important place for consumers to obtain, exchange and share information. According to the 47th statistical report on Internet development in China released by China Internet Network Information Center, as of December 2020, China has 989 million Internet users, including 986 million mobile Internet users, accounting for 99.7% of the Internet users.

Mobile social network has become an indispensable part of people's production and life. With the development of information technology, social media and digital content are integrated. More and more consumers begin to recognize themselves and change their behavior through data[1].

With the wide application of wearable devices such as Snail Sleep, Pilot and Apple Watch, as well as social platforms such as Xiaomi community and Wechat sports. Consumers' quantified-self awareness is gradually popularized and strengthened.

More and more consumers are willing to re-examine and think about themselves, know themselves confidently and participate in the action of quantified-self, so as to make their behavior more rational. With the advent of Web2.0 era and the technology driven of Web3.0, the carrying capacity of network information is further improved. Consumers who participate in self quantification are no longer limited to obtaining their own quantitative data, but sharing information in social media, cultivating interpersonal relationship and getting community identity[2].

At present, the research on quantified-self is very scarce in academic circles. Foreign scholars' research on quantified-self mainly focuses on the quantitative processing of data and the construction of theoretical model in the fields of health and education[3,4].

While domestic scholars' research on quantified-self is still in its infancy, mainly focusing on the connotation and motivation of quantified-self. Only a few scholars have studied the effect of quantified-self on consumers' willingness to participate in the field of consumer behavior[5], but failed to explore its essential characteristics, that is, the impact of quantified-self awareness on consumers' participation behavior. Therefore, based on the theory of self discrepancy, this study will explore the impact of quantified-self awareness on consumer information sharing behavior in the mobile social network environment.

II. LITERATURE REVIEW

A. Self discrepancy theory

According to the theory of self discrepancy, self is composed of three parts: realistic self, ideal self and ought to self[6]. It is difficult for users to fully realize or express ideal self and ought to self in realistic environment. The research direction of this paper mainly focuses on realistic self and ideal self.

The realistic self is the representation of the characteristics that the individual or others think that the individual actually has, which points to the real state. The ideal self is the representation of the characteristics that the individual or others hope that the individual should have, which can achieve positive results through their own efforts. In the theory of self-concept, other people's perception of self attributes can also be called social self and ideal social self[7].

The theory of self discrepancy holds that the realistic self is not always able to achieve the ideal self requirement, that is, if there is no realization of one's wishes or ideals, there will be differences between the ideal self and the realistic self. Relevant studies have found that self discrepancy has its specific function and positive significance in the virtual network environment. It helps to examine the self from a new perspective and find the weaknesses and defects of the self.

Consumers can develop and improve themselves through the actual network activities, so as to narrow this difference. For example, for women with low self-esteem, watching product ads using slim mannequins will stimulate their perception of the realistic-ideal self discrepancy of their own body shape, and then lead to their dissatisfaction with their own body shape, resulting in a sense of self motivation[8].

Secondly, in the study of social self and ideal social self, social self refers to the real state or image of an individual in the eyes of others. The ideal social self is how individuals expect others to see themselves. With the rise of social networks, the external constraints of the virtual world are reduced, consumers are eager to enhance their personal attractiveness in social networks, and the satisfaction of using social networks is also on the rise [9].

Others and the surrounding environment are not only the reference standard of self construction, but also an important driving force to promote self promotion. Consumers want to convey and show their altruism and social value to others. Therefore, in order to obtain community identity in the group, reducing the difference between social self and ideal social self will become a favorable motivation for consumers to motivate themselves and participate in quantitative activities.

B. Quantified-self awareness

The concept of quantified-self was first put forward by Wolf, who is an editor in chief of Wired magazine. He thinks that quantified-self is like a real mirror, which can effectively control self and achieve the purpose of self optimization[10]. Later, quantified-self is defined as a kind of movement that uses wearable devices and sensor technology to collect personal data from different aspects of people's daily life, and obtains self cognition through self exploration and self reflection[1].

With the continuous implementation of quantified-self activities and concepts, it has gradually become an important way for people to solve or improve specific daily life problems (such as improving the quality of sleep, weight loss, etc). Society is gradually developing towards quantitative direction.

With the development of information technology and social networks, more and more people use quantitative tools not only to record their own data indicators, but also begin to pay attention to the quantitative situation of others. Quantified-self is no longer limited to the individual level, but to the group and social[11]. Some scholars understand the connotation of quantified-self from the perspective of the combination of individual and community, and define it as the process of consumers' reflection and optimization of self behavior by collecting, analyzing and sharing self data[12].

People can find interested partners and shape social image by sharing sports data on we media. They can also share health records with their relatives and friends. Friends' praise and information feedback can further encourage individuals to maintain healthy living conditions and develop good living habits.

Consumers track their self data anytime and anywhere. This tracking process is more likely to arouse consumers' self-awareness and bring about changes in consumer behavior. To occurrence of quantified-self behavior, consumers must have quantified-self awareness. Consciousness is a unique cognition that responds to internal and external stimuli, which is the basis of driving individual behavior.

Combined with the above scholars' definition of quantified-self, this study defines "quantified-self awareness" as the awareness that consumers want to reflect and optimize their own behavior by collecting, analyzing and sharing the physiological, physical, behavioral or environmental information about themselves.

According to the previous studies, few scholars have studied how quantified-self affects consumer participation behavior from the perspective of consumer behavior, and failed to deeply explore its essential characteristics, that is, the impact of quantified-self awareness on consumer participation

behavior. The gradual strengthening of consumers' quantified-self awareness is also an important driving factor for consumers to participate in quantitative activities and other participation behaviors.

C. User information sharing behavior

With the rapid development of Web2.0, people's life has been inseparable from the network. "information sharing" has become the main form and important reason for people to use and participate in the network. People will become the disseminator and receiver of information unconsciously. The dissemination and reception of these information bring value to the enterprise and even the society. With the development of social networks, the importance of information sharing has become more and more prominent, which has been concerned and discussed by many scholars.

The academic community has also made rich research results in the motivation and influencing factors of user information sharing behavior. Rioux is the first scholar to put forward the theory of information acquisition and sharing in the network environment. He thinks that information sharing refers to the behavior that network users find useful information that can attract other people's attention and share it with others[13].

Cheng conducted a comprehensive study on the factors influencing information sharing behavior in professional virtual community from the aspects of individuals and situations, and pointed out that the former factor covered perceived usefulness and comparative advantage, while the latter factor covered reciprocity norms and interpersonal trust[14].

In the research of knowledge sharing in virtual community, Wasko and Faraj pointed out that "improving reputation" was an important factor for people to share information. When the behavior of sharing information can help them improve their reputation and reputation in the community, they will be more inclined to share information[15].

Zhang Yinyu and others utilize satisfaction theory to build the model, the results show that self-identity and social interaction are important factors affecting Wechat sharing behavior[16].

To sum up, in the network environment, self-identity and social-identity are important factors of users' information sharing willingness and behavior. Therefore, based on the theory of self discrepancy, this study explores the impact of quantified-self awareness on consumers' information sharing behavior under the mobile social network from both individual and group aspects.

III. RESEARCH HYPOTHESIS AND MODEL CONSTRUCTION

A. Self discrepancy and quantified-self awareness

The difference between realistic self and ideal self indicates that they have not reached their ideal state, and reflects the negative psychological situation of “positive results do not appear”. This negative psychology is more likely to mobilize consumers' self-efforts to reduce the psychological discomfort of cognitive dissonance caused by this[17].

When consumers experience the greater the difference between realistic self and ideal self, they will consciously want to change themselves, and their quantified-self awareness can be enhanced to optimize their behavior and approach their ideal self. Similarly, in social interactions. In order to enhance their image in the minds of others, consumers perceive the greater the difference between social self and ideal social self, the stronger their quantified-self awareness.

In short, this study believes that the greater consumers' self discrepancy, the stronger their quantified-self awareness. Therefore, the following hypotheses are put forward:

H1: In mobile social network, the difference between consumers' realistic self and ideal self has a positive impact on their quantified-self awareness.

H2: In mobile social network, the difference between consumers' social self and ideal social self has a positive impact on their quantified-self awareness.

B. Quantified-self awareness and information sharing behavior

In quantified-self community and mobile social networks, consumers will make a series of behaviors to make up for the differences between realistic self and ideal self, society realistic self and society ideal self so as to obtain self-identity and social identity. Quantified-self awareness will affect the change of consumer behavior and attitude[18].

Information sharing may be one of the ways for consumers to achieve their ideal self and ideal social self. Based on this, this study believes that consumers with stronger quantified-self awareness are more willing to participate in information sharing. Therefore, the following hypothesis is put forward:

H3: In the mobile social network consumers' quantified-self awareness will positively affect their information sharing behavior.

This paper proposes the following research model, as shown in Fig 1.

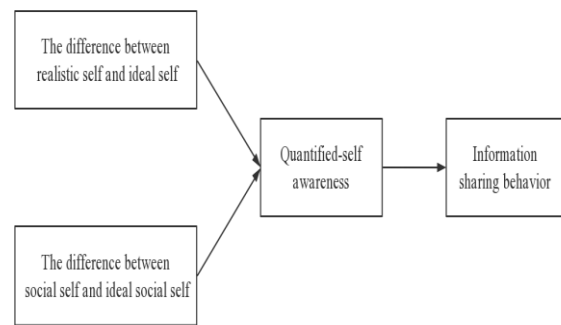


Fig. 1 Research model

IV. RESEARCH METHODS

In the future, this study will confirm the impact of consumers' quantified-self awareness on their information sharing behavior in the mobile social network environment through experimental research and questionnaire survey. First of all, through the experimental way of setting the control group to verify that consumers' self discrepancy will have an impact on their quantified-self awareness. Secondly, the questionnaire is issued to consumers with quantified-self awareness, and the measurement variable of the questionnaire is consumers' motivation to share information in the mobile social network. Finally, the statistical software is used to analyze the data and draw a conclusion.

V. CONCLUSION

More and more consumers begin to recognize themselves by quantitative way and are willing to share quantitative data into the community. It is more important to understand their essential characteristics to quantified-self awareness.

Most scholars in the past have only focused on the impact and significance of quantified-self behavior, but not fully explore its essential characteristics, namely, quantified-self awareness. Few scholars have explored the impact of quantified-self awareness on consumer information sharing behavior from the perspective of consumer behavior.

Based on the theory of self discrepancy, this study explores the impact of quantified-self awareness on consumer information sharing behavior in mobile social network environment.

To some extent, it enriches the research on the influencing factors of consumer information sharing behavior and has certain significance for enterprises to improve the consumers' quantified-self awareness and carry out marketing activities.

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