Research on the Impact Model of Online Community Experience Value on User Participation in Innovation

Chaofeng Ye, Yanxia Cheng [a]

School of management, Wuhan University of Technology, Wuhan 430070, China

[a]chengyanxia221@126.com

Abstract. User participation in innovation is an effective way for companies to meet user needs and achieve value co-creation. The construction of online communities in the context of the mobile Internet provides a complete platform system for users to participate in innovation. The research on the impact is not enough. Based on the self-determination theory and inspired by the S-O-R model, this paper takes the user experience value of the online community as the stimulus, and constructs a relationship model that influences the psychological needs of users and their willingness to participate in innovative behaviors.

Keywords: Online Community; Experience value; User Participation in Innovation; Psychological Needs Satisfaction.

1. Introduction

In today's highly interconnected world, users and businesses are more "transparent", and users are becoming more and more infiltrated by businesses, becoming the market leader. Studies have shown that 60% -80% of new ideas come from users Feedback opinions, suggestions, and ideas, of which 23% of the new ideas can be adopted for commercial purposes[1], so users are no longer a passive consumer role of receiving products or services, but actively take the initiative to the enterprise based on their own needs The subject of the claim. Users can share their actual ideas, opinions, and knowledge of using products or services in the community, and get feedback from other community members. This can not only meet personal needs for information and emotions, but also get interactive fun and knowledge-rich Such positive feelings motivate users to generate innovative ideas in the process of community participation and help enterprises create and develop innovative products and services. Foreign companies have achieved remarkable results in the development and use of user communities. Companies such as Starbucks and Dell have used user communities to promote innovation; domestically, Haier's HOPE open innovation platform and Xiaomi community are quite representative in promoting innovation. The community has built a platform for user innovation to output innovative ideas and preferences [2], which promotes the generation of corporate innovation. Therefore, this article takes the SOR (Stimulation-Organization-Response) model as the inspiration and uses the value of user experience as a stimulus factor. Taking psychological needs as the user's inner activity, the effect of the online community's experience value on users' willingness to participate in innovative behavior is studied.

2. Literature Review

2.1 Experience Value

Mathwick et al. [3] based on the theory of consumer value that "experience value" is the subjective feelings and relative preferences of products and services generated when consumers in different consumption environments interact with other factors, which are interactive and relative. As an active area formed by individuals with certain common characteristics, communities provide a more convenient way for users to interact with other subjects. Therefore, this article considers the value of experience to be the subjective feelings and relatives of users after interacting with other subjects the result of preference judgment. Many scholars usually divide the experience value into practical value and hedonic value. Sweeney et al. [4] divided the experience value into three dimensions of function, emotion and society according to the theory of demand hierarchy. This article attempts to combine

the "dichotomy" and "multidimensional dichotomy" to analyze the structure of experience value variables. Based on the value perception characteristics of users participating in online communities, this article divides experience value into two dimensions: practical value and emotional value. Practical value refers to the experience of users in participating in the community to obtain valuable content, including information value and economic value. Emotional value is the subjective feeling and cognition generated by users at the psychological level when they participate in the community.

2.2 User Participation in Innovation

Many scholars believe that the development of the current innovation model is more and more democratizing. Von Hippel [5] proposed the concepts of "user innovation", "leading users", "democratized innovation", and "innovation community" to describe users. He is an active innovation recipient and has a certain right to speak and participate. As an important carrier of user innovation, the community provides a good environment for users to interact with the enterprise and other users. The behaviors that generate user-generated content, such as sharing, co-creation, discussion, and modification when users participate in the community, belong to user participation in innovation. Compared with the traditional user participation, the behavior of the Internet shows a wider range of innovations, more difficult to control innovation activities, and richer innovation contributions. At present, many scholars have defined the concept of "user participation in innovation" based on personal perspectives, and have not yet formed a unified description. Fuller et al. [6] consider that the behavior of users in sharing innovation knowledge in online communities is "community-based innovation" and users participate in innovation Users who use a certain product or service based on their personal knowledge, experience, and skills, share their experience and knowledge on social media platforms, and propose ideas and improvements. Based on the opinions of previous scholars, this article summarizes the knowledge sharing, asking questions, participating in discussions, and making suggestions among users on various social media as "users participate in innovation".

2.3 Self-determination Theory

Self-determination theory is a psychological motivation theory proposed by psychologists Deci and Ryan [7], which refers to the individual's recognition of his own behavior in the process of activity. This theory provides a new perspective for systematically explaining people's psychological needs, motivation and behavior, and the relationship between the three. The three psychological needs are autonomous needs, ability needs, and relationship needs. Among them, self-requirement means that individuals can feel the existence of "I" and experience a sense of choice and psychological freedom in their activities; ability needs represent the desire of individuals to show effectiveness in the process of interaction with the environment; relationship needs mean individual expectations Feel the care and support of others and care for others [8,9]. Autonomous decision theory holds that when the environment provides individuals with autonomous support, the three basic needs of individuals are more easily met. Existing research shows that in addition to the external motivation to seek social status and chase economic benefits, user participation in innovation also includes satisfying spiritual needs such as curiosity, gaining identity, improving self-respect, and proving their creativity [10], The community plays an important role in providing autonomous support for users to participate in innovation. According to the self-determination theory, Roberts et al. [11] found that some open source software communities themselves do not set bonus rewards, but they support autonomy, competence, control, relationships, etc. Psychological needs strengthen the intrinsic motivation of users and enable the open source software community to flourish.

In summary, scholars' research on the value of experience has some literature that reveals the emotional experience and psychological changes that users get in the community, but there is little research on how to affect behaviors. Research on user participation in innovation has focused more on the way of participation, but about the research on how the community meets the user's psychological needs and promotes users 'innovative behavior is not rich enough. The current research focuses on user participation in product innovation. Online communities are an important platform for user experience enterprise services. The online community is used as a background to study users'

willingness to participate in innovation. It has great significance for enterprises to realize service innovation. At present, the SOR model paradigm has been widely used in the study of user psychology and behavior. The self-determination theory has been widely used as a theoretical guide at home and abroad in research centers on attitudes, emotions, and behaviors of groups or individuals. Produces a higher degree of theoretical fit. Therefore, based on the self-determination theory and the SOR model, this paper constructs an impact model of the experience value of online communities on user participation in innovation, and explores the effect of experience value on the satisfaction of users' psychological needs, and the effect mechanism of psychological needs satisfaction on user behavior.

3. Impact Relationship Analysis

3.1 The Impact of Practical Value on Psychological Needs Satisfaction

The value of information experience refers to the experience of users participating in the community to obtain valuable information. Lee S [12] and others proposed that the quality of information has a significant impact on user participation and sharing behavior. According to the self-determination theory, the satisfaction of employees' autonomous needs mainly comes from two aspects: the psychological freedom felt during the task completion process and the autonomous satisfaction felt during the process of listening to suggestions from others. When a user participates in an online community for information search under an initial drive, the community's open attitude towards information sharing and the comprehensive information recommendation system owned by the community will enable users to experience psychological freedom in the process of searching for information. And you can feel self-satisfaction when you get accurate and timely information as you wish and listen to the experience and suggestions provided by others.

Economic experience value refers to the experience of users participating in the community to obtain relevant benefits. Many research reports show that a person consciously participates in and identifies with a community, mainly because the community can bring practical benefits to it. According to the theory of self-determination, external rewards will be perceived by individuals as control, which will endanger the need for autonomy, but at the same time they will also be perceived as recognition of ability, so that ability needs are met. When users receive "non-task-based rewards" in the community, they will not have a sense of control and will not affect the satisfaction of autonomous needs; if they receive "task-based rewards", task-based rewards will give users strong control The reward based on participation in the task makes the user's perceived ability recognition information insufficient, so it will reduce the satisfaction of autonomous needs and ability needs; finally, the "performance-based reward" will issue rewards after the user completes a specific performance and control A stronger sense, but also shows a stronger ability to recognize information, so it can offset the negative effects of a sense of control.

3.2 The Impact of Emotional Value on Mental Needs Satisfaction

The value of contextual experience refers to users' perception and evaluation of the community's environment, atmosphere, and services. When users participate in online communities, the primary concern is not only the basic design of the functional modules of the community platform, but also the community's culture, personalized design, and high-quality Services, etc. According to the theory of self-determination, influenced by the environment and individual personality traits, individuals may feel that their willingness to participate in activities is internally autonomous. The online community's cultural construction, visual creative design, and humanized services modules help to build warm, comfortable, enjoyable, and enjoyable scenes, so that users have interest and preference in the context design of the community, and then stimulate the user's willingness to participate in autonomous behavior.

Emotional value is a series of complex emotional changes that occur when users participate in the community. From a neurobiological perspective, emotion affects human behavior by regulating brain activity in different environments. The user's subjective perception of experience value is mainly reflected in the change of the user's mental state. According to the theory of self-determination, users'

"being themselves" freely in community participation can enhance user autonomy. Communication and interaction between community members can help users to identify users and communities. When a user group with a high sense of identity is found, Users can develop personalization more freely, the emotional connection formed between individual users, so that users have a stronger sense of belonging, and then get a sense of satisfaction of relationship needs.

Social value refers to the user's perception of the utility of maintaining social relationships in the community. Self-determination theory emphasizes that the satisfaction of relationship needs mainly comes from others' appreciation of the individual's thoughts and opinions, as well as the close relationship between the individual and others. Participation in online communities is an extension of users' social identity. Users are willing to disclose their relevant information in the community, hoping to get the approval of other members and even other social groups. By sharing personal experiences and experiences, users provide ideas and suggestions for community innovation to better serve community users. At the same time, self-identification and self-realization expressed when sharing experiences are important forms of social value. The support, concern, and encouragement of other users and external groups provide strong environmental support for users to meet their relationship needs.

3.3 Psychological Needs

Deci et al. [8] proposed that when the individual's psychological needs are met, more internal driving force will be formed, and this internal opportunity will generate positive results related to individual activities, and the autonomous motivation can positively predict creative thinking. The core of the theory of self-determination is that the satisfaction of psychological needs can enable individuals to generate more internal driving forces, so that individuals can complete the corresponding work tasks driven by internal motivation [13]. Therefore, the positive impact of satisfying psychological needs on user participation in innovation can be reflected in three aspects. The first is that the generation of new ideas and methods is based on certain professional skills and knowledge [14]. The satisfaction of ability requirements provides the necessary knowledge base for users to participate in innovation, and can enhance users' confidence to continuously improve and develop themselves. Provide the necessary psychological basis for user innovation. Second, the satisfaction of relationship requirements not only facilitates mutual learning and sharing of explicit and tacit knowledge among users, facilitates the exchange and collision of new ideas among users, and provides the necessary relationship foundation for the implementation of users' innovative ideas. Third, leading users, as an important group of users participating in innovation activities, are pursuing creativity. They are more inclined to take autonomous needs as their leading needs. When leading users 'autonomous needs are met, they can increase their intrinsic motivation and promote their intrinsic motivation. Drive more active participation in innovation.

4. Influence Model Building

In summary, the practical value and emotional value of online communities will bring the satisfaction of psychological needs to users. Driven by autonomous needs, ability needs, and relationship needs, users will pursue higher levels of community participation, which will in turn lead to user participation in innovation. behavior. This article introduces the SOR model into the relationship between the impact of online community experience value on user participation in innovation, using the practical value and emotional value of online community as the stimulus felt by users after participating in the community, and the psychological needs as the inner activities of users. Influence users' willingness to participate in innovation, As shown in Figure 1.
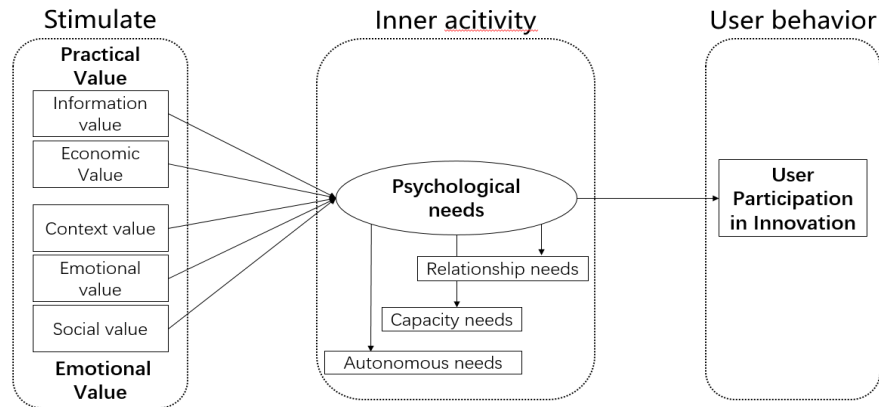
Figure 1. Influence model

5. Applications and Prospects

The user experience value of the online community, as the value perception obtained after the user contacts the community, plays a huge role in satisfying the user's psychological needs and is the key to attracting users to participate in innovation. The research results of this article provide the basic idea for attracting users to participate in innovation for the value construction of online communities, and it is clear that the community needs to start from the perspective of practical value and emotional value when producing value for users, in order to meet the psychological needs of users, and then Increase the user's willingness to participate in innovation, and ultimately achieve the purpose of building an innovation community and user-driven innovation. This article has only conducted a preliminary discussion on the willingness of users in online communities to participate in innovation from the perspective of satisfying psychological needs. In the future, more in-depth research can be conducted from other perspectives; only rational research is done, theoretical models are constructed, and future research will be Perform corresponding empirical research through scientific investigation methods and analysis tools to enhance the authenticity and reliability of the theoretical model.

6. Management Implications

In order to stimulate the willingness of users in the community to participate in innovation, there are three implications for community managers: 1) Improve the user's interest level in the community, and consider issuing "non-task-based rewards" when users propose valuable ideas Surprises to meet the user's ability needs; in daily operation management, in addition to meeting the user's basic functional needs, it is also necessary to pay attention to and meet the user's personalized needs in a timely manner, and to make positive and acceptable responses to user questions Respond by enhancing the user's sense of belonging by improving the experience and satisfying the user's relationship needs. 2) Emphasize the satisfaction of users' psychological needs, strengthen the satisfaction of users' autonomous needs, create a free and personalized communication environment in the community, stimulate users to exert their imagination, show their personalities, and promote the collision and burst of users' thought sparks to get matches Source of innovation for user needs. 3) Establish a supportive atmosphere in the community, where users learn from each other, encourage and recognize each other, meet the relationship needs of users, allow users to more confidently share knowledge and experience, put forward ideas and opinions, and drive user groups to the community Discussions and ideas for innovative activities.

Acknowledgments

Independent Innovation Project: Emotional Quantitative Research on Light Reviews of Online Users (No.2017VI016).

References

[1]. Franke N, Shah S. How communities support innovative activities: an exploration of assistance and sharing among end-users [J]. Research Policy, 2003, 32(1): 157-178.

[2]. LI M, KANKANHALLI A, KIM S H. Which ideas are more likely to be implemented in online user innovation communities? An empirical analysis [J]. Decision Support Systems, 2016, 84: 28-40.

[3]. MathWick C, Malhotra N, Rigdon E. Experiential value: conceptualization, measurement and application in the catalog and internet shopping environment [J]. Journal of Retailing, 2001, 77(1): 39-56.

[4]. Sweeney J C, Soutar G N. Consumer Perceived Value: The Development of a Multiple Item Scale [J]. Journal of Retailing, 2001, 77(2): 203-220.

[5]. VON HIPPEL E. Democratizing innovation: the evolving phenomenon of user innovation [J]. Journal FurBetriebswirtschaft, 2005, 55(1): 63-78.

[6]. Fuller J, Bart M, Ernest H, et al. Community based innovation: How to integrate members f virtual communities into new product development [J]. Electronic Commerce Research, 2006, 6(1): 57-73.

[7]. Deci E L, & Ryan R M. 2012. Overview of self-determination theory [M]. In R. M. Ryan (Ed), The Oxford Handbook of Human Motivation, Oxford Press, 2012: 85-107.

[8]. Deci, E.L., Ryan, R. M. The "What" and "Why" of Goal Pursuits: Human Needs and the Self-determination of Behavior [J]. Psychological Inquiry, 2000, 11(4): 227-268.

[9]. Broeck, A. V. D., Vansteenkiste, M., Witte, H. D., Soenens, B., Lens, W. Capturing Autonomy, Competence, and Relatedness at Work: Construction and Initial Validation of the Work-related Basic Need Satisfaction Scale [J]. Journal of Occupational and Organizational Psychology, 2010, 83(4): 1-22.

[10]. Fuller J. Why consumers engage in virtual new product developments initiated by producers [J]. Industrial Marketing Management, 2010, 39(8): 1376-1383.

[11]. Roberts J A, Hann I H, Slaughter S A. Understanding the motivations, participation, and performance of open source software developers: A longitudinal study of the Apache projects [J]. Management Science, 2006, 52(7): 984-999.

[12]. Lee S, Park D H, Han I. New Members' Online Socialization in Online Communities: The Effects of Content Quality and Feedback on New Members' Content-Sharing Intentions [J]. Computers in Human Behavior, 2014, 30(30): 344-354.

[13]. Deci, E. L., Ryan, R. M., Gagne, M., Leone, D. R., Usunov, J., Kornazheva, B. P... Need Satisfaction, Motivation, and well-being in the Work Organizations of a Former Eastern Bloc Country: A Cross-cultural Study of Self-determination [J]. Personality & Social Psychology Bulletin, 2001, 27(8): 930-942.

[14]. Amabile, T. M. Motivating Creativity in Organizations: On Doing What You Love and Loving What You Do [J]. California Management Review, 1997, 40(1): 39-58.